SPEC

Concrete Repair

Flooring

Coatings

Joint Sealants

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Concrete Repair

Cement based materials and surface treatments to reinstate defective concrete

Cementitious

- **SPECbuild** SC
  Single component, cementitious skim mortar
- **SPECbuild** SG15
  Single component, high strength, cementitious structural repair mortar
- **SPECbuild** LWC50
  Single component, high technology lightweight cementitious repair mortar
- **SPECbuild** MC500
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Epoxy

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  Liquid curing membranes

SpECbuild SC

CEMENTITIOUS SKIM COAT

DESCRIPTION

SpECbuild SC is a pre-bagged, one part, cementitious mortar. The product is designed to be applied as a skim coating to provide a fair faced finish to rough and uneven concrete or masonry surfaces.

TYPICAL USES

SpECbuild SC is designed to improve the smoothness and regularity of concrete and masonry surfaces as in the following situations:-

- Reinstating concrete surface defects such as blowholes.
- To provide a uniform surface over repaired surfaces.
- Correcting errors with respect to line and level.

ADVANTAGES

- Pre-bagged to ensure constant high quality.
- Easy to use. Needs only the addition of clean water
- No need for a primer or a curing agent in normal conditions.
- Excellent adhesion to concrete.
- Resistant to shrinkage cracking.
- Free from chloride additives.

TECHNICAL DATA

Typical results @	***20 °C***	***30 °C***
Working Life	45 mins	30 mins
Setting time	45mins - 1.5hrs	30mins - 1hr
Fresh wet density	2000 kg/m³	

Compressive Strength (ASTM A 109)

28 days	32 N/mm²

APPLICATION

Preparation

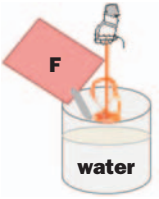
It is essential that adequate preparation is carried out prior to the application of **SpECbuild SC.** Grit blasting is recommended to ensure the removal of all laitance, grease and oil. The resulting surface should be dust free.

Prior to the application of the product the prepared substrate should be thoroughly soaked with clean water. When application commences the substrate should be saturated without standing water on the surface.

Mixing

SpECbuild SC is a one-part cementitious mortar.

6.5 to 7.0 litres of water is required for each 25kg bag of **SpECbuild SC**.



The product should be mixed in a forced action mixer or in an appropriate sized metal or plastic drum using a slow speed drill and a spiral paddle. The water should always be placed into the mixing vessel before the addition of the **SpECbuild SC**.

The entire contents of the bag of **SpECbuild SC** should be emptied into the vessel whilst mixing is in progress. Mixing should continue for 3 to 5 minutes until a uniform, lump free consistency is produced.

Application

SpECbuild SC may be applied in one layer as a thin section render up to 3mm thick. The product may also be used for filling blow holes up to 10mm deep.

The material must not be over worked and should be left to partially set before final finishing. This finishing may be improved by flicking on a very small amount of water prior to troweling.

Curing

SpECbuild SC is resistant to shrinkage cracking however the material should be protected from extreme conditions such as hot winds or freezing conditions. **SpECcure AC** or **SpECcure WE** may be sprayed on to reduce the rapid drying out of the surface. In cold conditions the material should be protected from freezing.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using water as, on hardening, the material may only be removed mechanically.

APPLICATION TEMPERATURE RANGE

Minimum 5°C
Maximum 35°C

At temperatures above this range the material should be stored in shade and cool water used for mixing.

PACKAGING & YIELD

A single 25kg bag of **SpECbuild SC** will provide approximately 12.5 litres (0.0125m³) of mixed material.

At 3mm thick a 25kg bag will provide sufficient mixed material for 4.2m².

STORAGE & SHELF LIFE

SpECbuild SC has a shelf life of 12 months when stored in original containers in a cool dry environment.

HEALTH & SAFETY

SpECbuild SC contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing. Gloves, goggles and a dust mask must be worn.

Eye Contact

Rinse with copious amounts of clean water and seek medical attention.

Skin Contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

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SpECbuild SG15

HIGH STRENGTH, ONE-PART POLYMER MODIFIED REPAIR COMPOUND

DESCRIPTION

SpECbuild SG15 is a pre-bagged, one part cementitious repair compound. After the addition of clean water a high strength, non-shrink mortar is produced.

TYPICAL USES

SpECbuild SG15 is designed to provide a structural grade repair mortar particularly in situations where abrasion resistance and low permeability are required, such as:

- Repairs to structural concrete elements, e.g. reinforced beams and columns
- Highly trafficked surfaces, particularly transition strips adjacent to mechanical bridge joints
- Repairs in marine environments or other situations where concrete is in contact with chloride or sulphate solutions

ADVANTAGES

- High bond strength to concrete substances.
- Good abrasion resistance.
- High compressive strength.
- Coefficient of thermal expansion similar to host concrete.
- Compensated for plastic and long-term shrinkage
- Low permeability providing protection against the ingress of chlorides and carbon dioxide

TECHNICAL DATA

Typical results @ 20 °C

Compressive strength (BS 6319-2)	
3 days	50 N/mm²
7 days	56 N/mm²
28 days	60 N/mm²
Flexural strength (BS 6319-3)	
28 days	12 N/mm²
Fresh wet density	2200 kg/m³
Coefficient of thermal expansion	11.2 x 10^{-6}/°C
Water absorption (ISAT) (BS EN 1881-208)	
10 minutes	0.2 ml/m²/sec
30 minutes	nil
Linear Shrinkage (ASTM C531-00)	
7 day	0.063%

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECbuild SG15**. This preparation should ensure the removal of all grease, oil and loose material.

The area to be reinstated using **SpECbuild SG15** should be cut back to a depth of at least 10mm. To avoid "feather edging", it is advisable to neatly delineate the repair boundary by saw cutting to a depth of 10mm.

All corroded steel should be completely exposed including the rear of the bar to enable thorough cleaning. It is recommended that grit blasting be used to clean the reinforcing steel and particular attention should be paid to the rear of the bar to ensure all corrosion products have been removed. Once the reinforcing steel has been cleaned it should be coated immediately with one coat of **SpECcoat Zn25**.

Substrate Priming

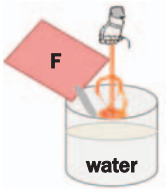
For most situations, the substrate should be primed with **SpECbuild Primer S1**. Initially the surface should be thoroughly saturated without standing water prior to the primer being applied by brush, ensuring intimate contact with the substrate. This is best achieved by using a circular scrubbing action. **SpECbuild SG15** can be applied as soon as the primer becomes tacky.

To provide an exceptionally high strength, sealed bond to the substrate (e.g. to repair chloride induced corrosion damage), **SpECbuild Primer E1** epoxy resin bonding agent may be used. One coat should be applied and allowed to gel. A second coat should then be applied and used to provide the bond.

Where **SpECbuild SG15** is applied by spray, then sharp sand may be broadcast into the surface of the second coat of **SpECbuild Primer E1** and be allowed to dry.

Mixing

SpECbuild SG15 is a one-part cementitious repair compound.



For mixing a single bag, a 25 litre steel pail is suitable, using a slow speed electric drill (350/600rpm) fitted with a **SpECbuild** Mixing Paddle. Where larger quantities of material need to be mixed at one time a compulsory mixer is required. Do not attempt to use free-fall mortar mixers as they do not impart sufficient shear to adequately mix the repair compound.

Place 2.75 litres of clean water in the mixing vessel and slowly add the contents of the bag with the mixer running. The product should be mixed for a minimum of 5 minutes. Do not attempt to use the product if it has not been mixed for the minimum time, as a loss in the performance of the product is likely which could result in failure of the repair.

Application

The material should be applied by a gloved hand to ensure thorough compaction around the reinforcement and against the edges of the reinstatement area. The repair is then trowel finished.

The product can be applied up to 15mm in thickness in vertical, unsupported situations and up to 40mm in recessed, supported repairs. The product can be applied in 100mm layers in the horizontal plane. The material should not be applied at less than 10mm thick.

Curing

SpECbuild SG15 should be cured using a **SpECcure WE**. In extreme drying conditions a second coat should be applied immediately the first coat has dried.

PRODUCT TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above this range the material should be stored in shade and cool water used for mixing.

EQUIPMENT CLEANING

SpECbuild SG15, **SpECbuild Primer S1** and **SpECcure WE** should be cleaned from equipment using water immediately after application.

SpECcoat Zn25 and **SpECbuild Primer E1** should be cleaned from equipment using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

SpECbuild SG15

25kg bags	1.1m² @ 10mm thick (12.6 litre of mixed product)

SpECbuild Primer S1

1 & 5 litre tins	5 - 6 m²/litre

SpECbuild Primer E1

1 & 5 litre tins	5 m²/litre

SpECcoat Zn25

1, 2.5 & 5 litre tins	7 - 8 m²/litre

SpECcure WE

200 litre drum	5 m²/litre

STORAGE & SHELF LIFE

SpECbuild SG15 has a shelf life of 12 months when stored in original containers in a cool, dry environment.

HEALTH & SAFETY

SpECbuild SG15 contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing. Gloves, goggles and a dust mask must be worn.

Eye contact

Rinse with copious amounts of clean water and seek medical attention.

Skin contact

Rinse with copious amount of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

FLAMMABILITY

SpECbuild SG15, **SpECbuild Primer E1** and **SpECbuild Primer S1** are not flammable.

SpECcoat Zn25 and **SpECtop Cleaning Fluid** are flammable, do not expose to naked flames or other ignition sources.

FLASH POINT

SpECcoat Zn25	>60°C
SpECtop Cleaning Fluid	>40°C

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SpECbuild LWC50

LIGHTWEIGHT CEMENTITIOUS REPAIR COMPOUND

DESCRIPTION

SpECbuild LWC50 is a one component, pre-packed, polymer modified cementitious repair mortar. The product incorporates a blend of selected cements and aggregates, which includes a lightweight filler, giving the product unique high-build characteristics while achieving compressive strengths in the range expected from medium strength concrete.

TYPICAL USES

SpECbuild LWC50 can be used in a range of applications such as:

- The replacement of debonded, cracked or damaged concrete
- To repair concrete structures or buildings suffering from carbonation or chloride attack
- The reinstatement of "honey combing"
- Reprofiling concrete and masonry
- Overhead and vertical situations where the product is particularly suited

ADVANTAGES

- Provides excellent application and performance characteristics in hot climates
- Pre-packaging and quality raw materials ensure constant performance
- Fast and easy to use, needing only the addition of clean water
- Extremely low permeability thus inhibiting the ingress of carbon dioxide, and chloride ions
- High bond strength to concrete substrates using **SpECbuild Primer E1** or **Primer S1**
- Contains additives to compensate for shrinkage
- Chloride free
- Compatible with the thermal expansion properties of typical structural concrete
- High build properties with excellent compressive strength

TECHNICAL DATA

Typical results @ 20 °C

(25kg bag + 4.25 litres of water)

Compressive strength (BS 6319-2)	
1 day	15 N/mm²
3 days	30 N/mm²
7 days	33 N/mm²
28 days	36 N/mm²
Flexural strength (BS 6319-3)	
28 days	7 N/mm²
Tensile strength (BS 6319-7)	
28 days	3 N/mm²
Water absorption ISAT(BS EN 1881-208)	
30 minutes	nil
Setting time (BS EN 196-3)	
Initial	3.5 hours
Final	4.5 hours
Linear shrinkage (ASTM C531-00)	
7 days	0.033%

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECbuild LWC50**.

The boundary of the repair area should be cut using a concrete saw to provide a neat edge to the repair with no feather edging. It is recommended that the saw cut be approximately 10-12mm deep. The area to be repaired may then be broken out up to the prepared boundary.

The resultant surface should be cleaned thoroughly to ensure the complete removal of dust, reinforcement corrosion products, oil and grease. The prepared surface should be protected if any delay is anticipated prior to the application of the repair compound.

All reinforcement, which shows signs of corrosion must be fully exposed to an adequate depth behind the bar to allow ease of application of the repair compound. The steel should be grit blasted to bright metal immediately prior to the application of **SpECcoat Zn25** zinc rich protective coating. Apply one coat of **SpECcoat Zn25** to the cleaned steel ensuring full coverage. Allow to dry before commencing the next step.

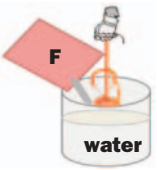
Substrate Priming

For most situations, the substrate should be primed with **SpECbuild Primer S1**. Initially the surface should be thoroughly saturated without standing water prior to the primer being applied. **SpECbuild Primer S1** should be applied by brush ensuring intimate contact with the substrate. This is best achieved using a circular scrubbing action. **SpECbuild LWC50** can be applied as soon as the primer becomes tacky.

To provide an exceptionally high strength sealed bond to the substrate (e.g. to repair chloride induced corrosion damage) **SpECbuild Primer E1** epoxy resin-bonding agent may be used. One coat should be applied and allowed to gel. A second coat should then be applied and used to provide the bond.

Mixing

SpECbuild LWC50 is a one-component cementitious repair mortar.



For mixing a single bag, a 25 litre steel pail is suitable, using a slow speed electric drill (350/600rpm) fitted with a **SpECbuild Mixing Paddle**. Where larger quantities of material need to be mixed at one time, a compulsory mixer is required. Do not attempt to use free-fall mortar mixers as they do not impart sufficient shear to adequately mix the repair compound.

Place the accurately measured clean mixing water into the container and slowly add the contents of the bag of repair compound while the mixing paddle is running. To ensure complete and thorough dispersal, of the product must be mixed for 5 minutes minimum. Mixing of part bags is not recommended.

The mixing water used must be in the range of 3.75 litre to 4.2 litre. The quantity used will depend on the type of application and the skill of the applicator.

This product cannot be mixed by hand.

Application

The mixed material should be applied immediately after mixing is completed.
The material should be applied by a gloved hand to ensure thorough compaction around the compaction around the reinforcement and against the edges of the reinstatement area. The repair is then finished by trowel.

The application thickness' will depend on the repair configuration however, as a general rule thickness' of 40mm may be achieved in an overhead situations and 75mm in large vertical repairs. Repairs incorporating supporting formwork may be applied up to 120mm thick. The product must not be applied under 10mm in thickness.

Applications in excess of the thickness quoted above may be achieved by "keying" the compacted layer and then applying **SpECcure WE** as a curing coat. Once this layer has reached sufficient strength, **SpECbuild Primer S1** may be applied as a primer coat and application proceeds as before.

Curing

The reinstated area must be protected immediately after the completion by the spray application of a suitable curing membrane such as **SpECcure WE**. This is of extreme importance at temperatures in excess of 30°C and secondary protection should also be considered to completely seal the repair area against drying conditions, which would render the repair completely ineffective.

APPLICATION TEMPERATURE RANGE

5°C to 35°C

At temperatures above 35°C the pot life of the material will be reduced.

EQUIPMENT CLEANING

SpECbuild LWC50, **SpECbuild Primer S1** and **SpECcure WE** should be cleaned from equipment using water immediately after application.

SpECcoat Zn25 and **SpECbuild Primer E1** should be cleaned from equipment using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

Product	*Packaging*	*Coverage*
SpECbuild LWC50	25kg bags	1.6m² @ 10mm thick (16 litre of mixed product)
SpECbuild Primer S1	1 & 5 litre tins	5-6m²/ litre
SpECbuild Primer E1	1 & 5 litre tins	5m²/ litre
SpECcoat Zn25	1 & 5 litre tins	7-8m²/ litre
SpECcure WE	200 litre drum	5m²/ litre

STORAGE & SHELF LIFE

SpECbuild LWC50 has a shelf life of 12 months when stored in original containers in a cool, dry environment.

HEALTH & SAFETY

SpECbuild LWC50 contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing.

Gloves, goggles and a dust mask must be worn. If skin contact occurs, wash with plenty of soap and water. Contact with the eyes should be treated by immediately washing with copious amounts of clean water followed by medical attention.

FLAMMABILITY

SpECbuild LWC50, **SpECcure WE**, **SpECbuild Primer E1** and **SpECbuild Primer S1** are not flammable.

SpECcoat Zn25 and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flames or other sources of ignition.

FLASH POINT

SpECcoat Zn25	>60°C
SpECtop Cleaning Fluid	>40°C

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SpECbuild MC500

HIGH FLUIDITY MICRO-CONCRETE

DESCRIPTION

SpECbuild MC500 is a one component, pre-packed, micro-concrete. On the addition of the specified quantity of clean water, the product produces a highly fluid micro-concrete, suitable for the repair of concrete structures. **SpECbuild MC500** incorporates additives, which control shrinkage and reduce water demand.

TYPICAL USES

SpECbuild MC500 is designed to reinstate large concrete sections, or to be used where access is difficult or congestion of reinforcement limits the use of traditional materials. The product may be used to provide repairs in a variety of situations, such as:

- Structural repairs to columns
- Replacing sections of concrete beams
- Making good areas of honeycombed concrete

ADVANTAGES

- No compaction required
- Low permeability inhibits the ingress of chlorides and carbon dioxide
- Excellent bond strength to adequately prepared concrete substrates
- May be placed by concrete pump
- Chloride free

TECHNICAL DATA

Typical results @ 20°C

Compressive strength (BS 6319-2)	
1 day	22 N/mm²
3 days	55 N/mm²
7 days	65 N/mm²
28 days	80 N/mm²
Flexural Strength (BS 6319-3)	
28 days	9 N/mm²
Tensile strength (BS 6319-7)	
28 days	3 N/mm²
Water absorption ISAT (BS EN 1881-208)	
10 minutes	0.025 ml/m²/sec
30 minutes	nil
Setting time (BS EN 196-3)	
Initial	2.0 hours
Final	4.0 hours
Linear shrinkage (ASTM C531-00)	
7 days	0.060%
Fresh wet density	2290 kg/m³
Coefficient of Thermal Expansion	5 x 10^{-6}/K

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECbuild MC500**.

The boundary of the repair area should be cut using a concrete saw to provide a neat edge to the repair with no feather edging. It is recommended that the saw cut be approximately 50mm deep. The area to be repaired may then be broken out up to the prepared boundary.

Repairs using **SpECbuild MC500** should be generally at least 50mm as a minimum depth with a maximum of 200mm, although greater depths may be applied depending on the design of the structure being repaired. The substrate should be cleaned thoroughly to ensure the complete removal of dust, reinforcement corrosion products, oil and grease. The prepared surface should be protected if any delay is anticipated prior to the application of the repair compound.

All reinforcement, which shows signs of corrosion must be fully exposed to an adequate depth behind the bar, to allow ease of access for the fluid repair compound. The steel should be grit blasted to bright metal immediately prior to the application of **SpECcoat Zn25** zinc rich protective coating. Apply one coat of **SpECcoat Zn25** to the cleaned steel ensuring full coverage, and allow to dry before commencing with the repair application.

Substrate Priming

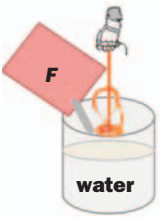
Normally, it will only be necessary to pre-soak the substrate with clean water for a period of at least one hour, prior to the application of the repair compound. All water should be drained from the formwork prior to commencing the application of the repair material.

SpECbuild MC500 should be applied while the substrate remains damp.

Where it is deemed necessary to seal in chlorides, which could not be removed during the preparation stage, the use of **SpECbuild Primer E1** is recommended. **SpECbuild Primer E1** is a high-build epoxy primer, which completely seals the substrate. The product is applied at a dry substrate as a two-coat system, the second coat being applied as soon as the first is tack-free. Subsequent application of **SpECbuild MC500** must be carried out while the second coat of primer is still tacky.

Mixing

SpECbuild MC500 is a one-component micro concrete product.



For mixing of single bags, it is acceptable to use a 25 litre steel pail as a mixing vessel, and mixing carried out using a slow speed electric drill (350/600 rpm) fitted witha **SpECbuild** Mixing Paddle. Where larger quantities of material need to be mixed at one time, a compulsory mixer is required. Do not attempt to use free-fall mortar mixers as the shear imparted is insufficient to adequately mix the repair compound.

Place the accurately measured 3.3 litres of clean mixing water into the mixing vessel and slowly add the contents of the bag of repair compound, while the mixing paddle is running. To ensure complete and thorough dispersal, the product must be mixed for 5 minutes

minimum. Mixing of part bags is not recommended.

The mixing water addition should be exactly 3.3 litres.

This product cannot be mixed by hand.

Application

The mixed material should be applied immediately after mixing is completed to obtain the full benefit of the fluidity provided. Placement by pump requires the usual pre-grouting of the pump line prior to pumping the repair compound.

Curing

Any exposed areas not protected by formwork must be cured using a proprietary curing compound, such as **SpECcure WE**. Once the formwork is removed, the total repair area should be cured by the same process.

This is of extreme importance at temperatures in excess of 30°C and secondary protection should also be considered to completely seal the repair area against drying winds, which could render the repair completely ineffective.

EQUIPMENT CLEANING

SpECbuild MC500 should be cleaned from equipment using water immediately after application.

SpECbuild Primer E1, SpECcure WE and **SpECcoat Zn25** should be cleaned from equipment using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

SpECbuild MC500
25 kg bags
@ 12.3 litre of mixed product (0.0123 m^3)

SpECbuild Primer E1
1 litre & 5 litre tins
@ 6 m^2/litre

SpECcoat Zn25
1 litre & 5 litre tins
@ 7 - 8 m^2/litre

SpECcure WE
200 litre drums
@ 5 m^2/litre

STORAGE & SHELF LIFE

SpECbuild MC500 has a shelf life of 12 months when stored in original packaging in a cool, dry environment.

HEALTH & SAFETY

SpECbuild MC500 contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing.

Gloves, goggles and a dust mask must be worn. If skin contact occurs, wash with plenty of soap and water. Contact with the eyes should be treated by immediately washing with copious amounts of clean water followed by medical attention.

FLAMMABILITY

SpECbuild MC500, SpECcure WE and **SpECbuild Primer E1** are not flammable.

SpECcoat Zn25 and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flames or other sources of ignition.

FLASH POINT

SpECcoat Zn25	16°C
SpECtop Cleaning Fluid	40°C

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SpECbuild S10

POLYMER MODIFIED DRY SPRAY REPAIR MORTAR

DESCRIPTION

SpECbuild S10 is supplied as ready to use blend of dry powders, which is formulated for application using the dry spray process. The material is based on cement, polymer modified with graded sands, silica fume and chemical additives.

TYPICAL USES

SpECbuild S10 is designed for large area repairs such as:

- Bridges
- Tunnels
- Retaining walls
- Dams

ADVANTAGES

- Low rebound
- Rapid strength gain
- Low water absorption
- High resistance to carbon dioxide penetration
- Excellent bond to the concrete substrate
- Single component - ready to use
- No added caustic accelerators
- Contains no chloride admixtures

TECHNICAL DATA

(0.132 water/powder ratio)

Compressive strength
(BS 6319: Pt 2 1985)

1 day	18 N/mm²
3 days	37 N/mm²
7 days	60 N/mm²
28 days	70 N/mm²

Flexural strength
(BS 6319:Pt 3 1990)

28 days	8.3 N/mm²

Tensile strength
(BS 6319: Pt 7 1995)

28 days	3.8 N/mm²

Water absorption ISAT
(BS 1881:Pt 208 1996)

10 minutes	<0.032 ml/m²/sec
30 minutes	<0.015 ml/m²/sec
1 hour	<0.003 ml/m²/sec
2 hours	nil

Setting time
(BS 4550:Pt 3 1978)

Initial	2.5 hours
Final	4.5 hours

Linear shrinkage
(ASTM C531:1995)

7 days	0.043%

Thermal expansion
Coefficient
(ASTM C531:1995) $10.5 \times 10^{-6}/°C$

Build

vertical	up to 150mm
overhead	up to 90mm
minimum	10mm

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECbuild S10**. This preparation should ensure the removal of all grease, oil and loose material.

The area to be reinstated using **SpECbuild S10** should be cut back to a depth of at least 10mm. To avoid "feather edging", it is advisable to neatly delineate the repair boundary by saw cutting to a depth of 10mm.

All corroded steel should be completely exposed including the rear of the bar to enable thorough cleaning. It is recommended that grit blasting be used to clean the reinforcing steel and particular attention should be paid to the rear of the bar to ensure all corrosion products have been removed.

Once the reinforcing steel has been cleaned it should be coated immediately with one coat of **SpECcoat Zn25**.

Substrate Priming

Normally, it will only be necessary to pre-soak the substrate with clean water for a period of at least one hour, prior to the application of the repair compound. Obviously all water should be drained from the formwork prior to commencing with the application of the repair material.

Application

Exposed steel reinforcing bars should be firmly secured to avoid movement during the application process as this will affect mortar compaction, build and bond.

SpECbuild S10 should be emptied from the bags directly into the hopper of the dry spray process machine. The amount of water added should be controlled by the nozzleman. too little water will increase rebound and dust emission, too wet a mix will slump.

If sagging occurs during application to vertical or overhead surfaces, the **SpECbuild S10** should be completely removed and re-applied at a reduced thickness on to the correctly reprimed substrate.

Finishing

SpECbuild S10 is finished by striking off with a straight edge and closing with a steel float. Wooden or plastic floats, or damp sponges may be used to achieve the desired surface texture. The completed surface should not be overworked.

Curing

SpECbuild S10 must be cured immediately after finishing in accordance with good concrete practices using wet hessian or polyethylene sheet.

EQUIPMENT CLEANING

SpECbuild S10 should be cleaned from equipment using water immediately after application. Cured material can be removed mechanically.

SpECcoat Zn25 should be cleaned from equipment using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

SpECbuild S10	25kg bag @ typically 12.5 litre of mixed product depending on added water at nozzle
SpECcoat Zn25	1 litre & 5 litre tins @ 7 - 8 m²/litre

STORAGE & SHELF LIFE

SpECbuild S10 has a shelf life of 12 months when stored in original packaging in a cool, dry environment.

HEALTH & SAFETY

SpECbuild S10 contains cement powders, which when mixed or become damp, release alkalis, which can be harmful to the skin. Avoid inhalation of dust and contact with skin and eyes. Gloves, goggles and a dust mask must be worn. If skin contact occurs, wash with plenty of soap and water. Contact with the eyes should be treated by immediately washing with copious amounts of clean water followed by medical attention. Do not induce vomiting.

FLAMMABILITY

SpECbuild S10 is not flammable.

SpECcoat Zn25 and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flames or other sources of ignition.

FLASH POINTS

SpECcoat Zn25	16°C
SpECtop Cleaning Fluid	34°C

Issue 3: 01/2011

QA-054

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SpECbuild EM

HIGH STRENGTH, THREE COMPONENT EPOXY MORTAR

DESCRIPTION

SpECbuild EM is a solvent free, three-component epoxy mortar with high strength and abrasion resistant characteristics. The product has been developed for repairing and resurfacing concrete floors, or where spalled concrete needs to be permanently repaired. The material may be applied in vertical situations in thinner layers.

TYPICAL USES

SpECbuild EM is designed to provide repairs to surfaces subjected to mechanical and chemical attack in areas such as, industrial floors,warehouses, acid tanks, sewage lining and sea walls. **SpECbuild EM** is also suitable as a transition strip against mechanical joint systems.

ADVANTAGES

- High mechanical strength.
- Early strength gain to minimize disruption.
- Resistant to aggressive chemicals.
- Highly impervious.
- Slip resistant.
- Waterproof.
- Non-toxic surface (after full cure).

TECHNICAL DATA

Compressive strength (BS 6319-2)	63 N/mm² @ 7 days
Flexural strength (BS 6319-3)	35 N/mm² @ 7 days
Tensile strength (BS 6319-7)	16 N/mm² @ 7 days
Pot life @ 25°C	40 - 50 mins
Initial hardness	1 day
Full cure	7 days

CHEMICAL RESISTANCE CHART

10% Nitric Acid	Good
Saturated sugar solution	Very Good
50% Phosphoric Acid	Very Good
10% Lactic Acid	Very Good
10% Citric Acid	Excellent
25% Hydrochloric Acid	Excellent
10% Tartaric Acid	Excellent
50% Sodium Hydroxide	Excellent
100% Petrol/Diesel	Excellent

APPLICATION THICKNESS

SpECbuild EM may be applied horizontally in layers of 50mm maximum and 5mm minimum. In vertical situations where the use of formwork is not possible, the maximum layer thickness is 10mm. **SpECbuild EM** is not recommended for overhead application.

Preparation

It is essential that adequate surface preparation is carried out prior to the application of **SpECbuild EM**.

Grit blasting is recommended to ensure the removal of all laitance, grease and oil. The resulting surface should be dry and dust free.

The repair boundary should be cut back to a depth of at least 10mm to avoid feather edging.

All corroded steel should be completely exposed including the rear of the bar to enable thorough cleaning. The steel should be cleaned to bright metal immediately prior to the application of **SpECcoat Zn25** zinc rich protective coating. Apply one coat of **SpECcoat Zn25** to the cleaned steel ensuring full coverage, allow to dry before commencing the next step.

Priming

The prepared surface should be primed with **SpECtop Primer F1.**

The contents of the curing agent should be emptied into the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10 - 15 m^2/litre.

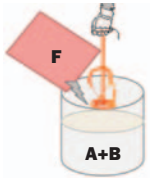
If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack free.

Allow the primer to become tacky prior to the application of **SpECbuild EM**.

Mixing

SpECbuild EM is supplied as a three-component kit consisting of a base component, a curing agent and a bag of selected, graded aggregate.

The two resin components should be stirred separately before mixing the two together to a homogeneous consistency.



The entire quantity of the resin is placed into an appropriately sized forced action mixer and the aggregate is slowly added to the resin with the mixer running. Continue to mix for a further 3 to 5 minutes until all the components are thoroughly blended. The mixing of part packs should not be undertaken.

Application

Apply the mixed product firmly onto the tacky primer using a trowel to build the required thickness and use a wooded float to ensure complete compaction and a secure bond. Where access to the substrate is difficult such as around steel reinforcement a gloved hand may be used for placing. The application is always completed by closing the surface of the mortar with a steel trowel before it sets.

Application in excess of the thickness quoted previously may be achieved by scratch-keying the previous layer. Subsequent layers should then be applied within 10-12 hours. If this time is exceeded the surface should be reprimed prior to the succeeding applications.

Overcoating

Where **SpECbuild EM** is used in a hygienic situation then it may be overcoated with a suitable epoxy resin coating such as **SpECtop ARE125**.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At ambient temperatures above 35°C the pot life of the material will be reduced.

EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

SpECbuild EM is supplied in 12 litre (0.012m³) packs. Each pack gives 2.4m² at 5mm thick.

SpECtop Primer F1 is supplied in 1, 5 and 15 litre packs. The coverage is approximately 10-15 m²/litre.

STORAGE & SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH & SAFETY

Contact with skin and eyes should be avoided when using **SpECbuild EM**, **SpECtop Primer F1** or **SpECtop Cleaning Fluid**. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilized.

FLAMMABILITY

SpECtop Primer F1 and **SpECtop Cleaning** are flammable. Do not expose to sources of ignition.

FLASH POINT

SpECbuild EM	>150°C
SpECtop Primer F1	>60°C
SpECtop Cleaning Fluid	>40°C

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QA-054

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SpECbuild MRA

MOULD RELEASE AGENT FOR CONCRETE

DESCRIPTION

A chemical treatment for concrete formwork to ensure quick, easy release.

TYPICAL USES

SpECbuild MRA can be applied to timber, steel and plastic-faced formwork.

SpECbuild MRA reacts chemically with the immediate surface layer of concrete ensuring quick and clean release from the concrete. The product is non-staining.

ADVANTAGES

- Improved release performance when compared to oils and emulsions
- Reduces the incidence of blowholes
- Economical - 40 - 70m² per litre
- Prevents rusting of steel moulds
- Produces good fair-faced concrete
- Reduces formwork-cleaning costs
- Non-staining property enables use in white cement

TECHNICAL DATA

Appearance	Pale yellow amber clear liquid
Specific gravity	0.83 at 20°C
Chloride content	Nil
Freezing Point	-10°C

APPLICATION

SpECbuild MRA should be sprayed on to the formwork using a knapsack spray unit. The nozzle of the spray head should be set to produce a fine, even mist.

On small sections of the formwork the product may be applied using a fine-haired paint brush. With both methods of application, it is essential that ponding is avoided and that any excess is removed with a dry cloth or sponge. The product should be applied before the first casting and between subsequent castings, preferably immediately after stripping and cleaning the mould but preferably as close to the next use of the formwork to avoid dust and airborne contaminants settling on the prepared formwork. Timber moulds will progressively improve in performance as they become impregnated with the release agent.

EQUIPMENT CLEANING

Equipment may be cleaned using **SpECtite Cleaning Fluid**.

PACKAGING & YIELD

200 litre drums
40-70m² per litre

STORAGE & SHELF LIFE

Store in the shade preferable in a covered store.

SpECbuild MRA has a shelf life in excess of 24 months if stored in dry, cool conditions.

HEALTH & SAFETY

SpECbuild MRA should not be allowed prolonged contact with the skin. Avoid contact with the eyes.

When applying in an enclosed environment provide adequate ventilation.

FLAMMABILITY

SpECbuild MRA is flammable.

FLASH POINT

SpECbuild MRA	65°C
SpECtite Cleaning Fluid	>40°C

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QA-054

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SpECcure AC

HIGH EFFICIENCY, RESIN BASED CURING MEMBRANE

DESCRIPTION

SpECcure AC curing membrane is acrylic resin based.

When applied to fresh concrete, the product dries to form a continuous coating inhibiting moisture loss from the concrete thus improving the hydration process and providing increased durability and a decrease in potential shrinkage of the concrete.

SpECcure AC also acts as a primer layer for most subsequent coatings therefore the need for complete removal of the curing membrane is avoided in most cases except in areas, which will be subject to traffic where proper surface preparation must be employed.

TYPICAL USES

- As a membrane for concrete to provide adequate and effective curing
- As a primer/sealer to subsequent coatings

ADVANTAGES

- More effective cement hydration providing more durable concrete
- May be applied by simple knapsack spray units
- In some cases, subsequent coatings can be applied directly over the membrane without the need for expensive surface preparation
- Minimizes surface cracking and dusting
- Reduces shrinkage and improves permeability
- Non degrading
- Compatible with **SpECbuild** repair products

APPLICATION

Preparation

SpECcure AC may be spray applied onto the surface of fresh concrete provided no surface water is present. The nozzle of the knapsack spray unit should be kept at approximately 0.5 metre from the concrete surface. Ensure complete and even coverage of the area being treated.

The membrane should not be disturbed until the concrete has gained sufficient strength to accept light foot traffic.

Where **SpECcure AC** is applied to newly demoulded concrete, it is advisable that the concrete is pretreated with a water spray to avoid absorption of the membrane once applied. Application to dry surfaces may result in unsightly surface staining.

EQUIPMENT

Any type of knapsack spray unit is acceptable providing the spray produced is in the form of a mist.

EQUIPMENT CLEANING

Tools and equipment may be cleaned using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

SpECcure AC is supplied in 1 litre, 5 litre and 200 litre drums with a coverage rate of 4.0 to 4.5 m²/litre.

STORAGE & SHELF-LIFE

12 months when stored in original unopened containers in normal warehouse conditions.

HEALTH & SAFETY

SpECcure AC should not be swallowed or permitted to contact eyes or skin. Avoid inhalation and ensure good ventilation.

Eye Contact

Rinse with copious amounts of clean water and seek medical attention.

Skin Contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENT

Ingestion

Seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECcure AC is flammable. Do not expose to naked flame or other sources of ignition.

FLASHPOINT

SpECcure AC	>60°C

DISPOSAL

Spillages of **SpECcure AC** should be cleaned using absorbent material and stored in sealed containers.

Disposal should be as required by local legislation.

Issue 8: 01/2011

QA-054

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SpECcure WE

WATER BASED CONCRETE CURING COMPOUND

DESCRIPTION

SpECcure WE is a low viscosity wax emulsion incorporating a special alkali "trigger" which breaks the emulsion in contact with an alkaline surface to produce a non-penetrating continuous film on contact with a cementitious surface. This film prevents excessive water evaporation resulting in more efficient cement hydration, reduced shrinkage and increased durability.

SpECcure WE is available in two grades. **SpECcure WE** clear is for all applications in temperate climates and **SpECcure WE** white pigmented grade is recommended in hot climates due to its light reflectance properties minimizing solar heat gain.

TYPICAL USES

- As a spray applied membrane to retain moisture in concrete for effective curing
- Suitable for all general concreting applications and particularly suited for large area concrete surfaces, such as bridgeworks, airport runways and roads

ADVANTAGES

- Control of moisture loss improves surface quality, reducing permeability, producing a hard wearing, dust-free surface and minimizing the potential for surface cracking and shrinkage
- Improved durability
- Non-flammable
- Available in white pigmented grade - minimizing solar heat gain
- Spray application reduces labour costs and eliminates the need for alternative curing systems

TECHNICAL DATA

	Clear	White Pigmented
Colour	White	White
Dry Film	Clear	White
SG @ 20°C	0.98	1.0

RELEVANT STANDARDS

SpECcure WE clear - curing efficiency in excess of 75% as required by BS 8110 when tested in accordance with DTp Specification for Highway Works Clause 1027.

Complies with ASTM C309 - Type 1D curing membrane.

SpECcure WE white - curing efficiency in excess of 75% when tested in accordance with DTp Specification for Highway Works Clause 1027.

Complies with the water retention and light reflectance requirement of ASTM C309 as a Type 2 curing compound.

APPLICATION

SpECcure WE should be spray applied to the surface of newly placed concrete. The compound should be applied as soon as possible after the concrete is free from surface water. The spray nozzle should be held approximately 500mm from the concrete surface and should be passed back and forth to ensure complete coverage. The pump pressure should be maintained at a sufficient level to produce a fine spray.

SpECcure WE can be applied by various types of praying equipment e.g. knapsack units or P8 plastic spray units. All equipment should be thoroughly cleaned with water after use.

The clear or opaque film produced by **SpECcure WE** will begin to degrade after 25 - 30 days however proper preparation techniques including the removal of the membrane, must be used prior to the application of subsequent surface treatments.

EQUIPMENT CLEANING

Clean all equipment with water.

PACKAGING & YIELD

25 and 200 litre containers. Typical coverage of 4.5 to 5.5m² per litre.

STORAGE & SHELF-LIFE

SpECcure WE should be stored at temperatures below 35°C in unopened containers. Protect from frost. **SpECcure WE** has a shelf life in excess of 24 months when stored as above.

HEALTH & SAFETY

SpECcure WE does not fall into the hazard classification of current regulations, however, it should not be swallowed or allowed to come into contact with skin and eyes either in bulk or spray form.

Suitable protective gloves and goggles should be worn. Splashes on the skin should be removed with water. In case of contact with eyes rinse with plenty of water and seek medical attention immediately - DO NOT induce vomiting.

FLAMMABILITY

SpECcure WE is water based and non-flammable.

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Flooring

Floor surfacing products designed to improve the performance and characteristics of both new and existing floors

Epoxy

- **SPECtop** WDE100
  Water dispersed epoxy coating
- **SPECtop** ARE125
  High performance epoxy coating
- **SPECtop** ARE300
  High performance epoxy coating
- **SPECtop** SRE500
  Solvent free, high build epoxy coating
- **SPECtop** LFE2 & LFE4
  Flow applied epoxy topping
- **SPECtop** TE5
  Heavy duty trowel applied screed
- **SPECtop** PE5
  High build, hard wearing pitch epoxy surface topping
- **SPECtop** EU
  Epoxy underlay levelling screed

Decorative Flooring

- **SPECtop** Terrazzo Epoxy
  Epoxy resin terrazzo finish

Polyurethane

- **SPECtop** UV
  UV stable polyurethane sealer coat
- **SPECtop** PU500
  Flexible polyurethane coating
- **SPECtop** CPD System
  Car park decking system
- **SPECtop** SL
  Flow applied polyurethane topping
- **SPECtop** MF
  Flow applied polyurethane topping
- **SPECtop** HF
  Heavy duty trowel applied screed

Cementitious

- **SPECtop** LFC
  Self-levelling cement based flooring compound
- **SPECtop** CRM
  Cementitious reinstatement mortar for concrete pavement floors

- **SPECtop RSR**
  Cementitious rapid hardening concrete floor repair material

- **SPECtop Armourite Series**
  Monolithic, dry shake floor hardener

Surface Sealers/Hardeners

- **SPECtop A100**
  Acrylic resin sealer coat

CONSTRUCTION
CHEMICALS

SpECtop WDE100

WATER DISPERSED EPOXY RESIN, FLOOR & WALL COATING


Traffic & mechanical wear


Chemical Resistance


Slip Resistance


Hygiene


Impact Resistance


Waterproof


VOC Free


Cleaning& Maintenance


Colour Shades

DESCRIPTION

SpECtop WDE100 is water dispersed epoxy coating consisting of two component parts for mixing on-site. The coating, once cured, produces a strong semi-flexible layer with good adhesion to cementitious substrates. It is available in matt or gloss finishes.

SpECtop WDE100M - Matt finish
SpECtop WDE100G - Gloss finish

TYPICAL USES

SpECtop WDE100 may be used in industrial and commercial environments to provide a hard wearing coating to floors and walls, such as:

- Potable water tanks and reservoirs
- Storage areas
- Kitchens
- Food production areas
- Abattoirs
- Showrooms
- Warehouses - light traffic

ADVANTAGES

- High durability, requires low maintenance
- Solvent free, odourless, non-toxic and non-flammable
- Resistant to a wide range of chemicals (see Chemical Resistant Chart)
- Easy to clean, hygienic finish
- Variable slip resistance available
- Available in a range of colours to demarcate areas and provide an attractive light reflective floor.

RELEVANT STANDARD

B.S. 6920 - Effect on water quality

TECHNICAL DATA

Typical results @	***20 °C***	***30 °C***
Pot life	3 hrs	1½ hrs
Intercoat time (min)	6 hrs	3 hrs
Intercoat time (max)	24 hrs	16 hrs
Initial hardness	24 hrs	16 hrs
Immersion in water	14 days	10 days
Tack free time	5 hrs	3 hrs
Exposure times		
Foot traffic	24 hrs	12 hrs
Vehicular Traffic	48 hrs	24 hrs
Chemicals	10 days	7 days
Typical system thickness	100µm	

CHEMICAL RESISTANCE CHART

50% Phosphoric Acid	Very good
50% Sulphuric Acid	Very good

Saturated Urea Solution	Very good
White Spirit	Very good
Oils	Very good
Petrol	Very good
Diesel	Very good
Greases	Very good
Xylene	Very good
10% Ammonia	Very good
50% Caustic soda	Very good
Chlorinated water	Very good
Skydrol	Good
Saturated sugar solution	Good

Note:

- If chemical spillage occurs, immediately remove the spillage and wash down with water to prevent any attack or discolouration

APPLICATION

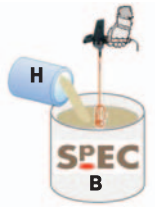
Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop WDE100**. Light sweep blasting is strongly recommended to ensure the removal of all laitance, grease and oil. Etching with dilute hydrochloric acid may be carried out in very light traffic environments **providing the floor is neutralized, wet vacuumed and allowed to dry prior to application**.

Mixing

SpECtop WDE100 is supplied in a two-component pack consisting of a base component and a pigmented curing agent.

Both of components should be briefly stirred to ensure that any settlement products are fully suspended.



The entire contents of the base component should be emptied into the hardener component ensuring that the sides of the base component tin are carefully scraped to remove all the material.

The product should be mixed until uniform, using a slow-speed, heavy-duty drill and mixing paddle, for at least 3 minutes.

Application

The mixed product may be applied by brush or paint roller. The recommended consumption rate is 14.0 m^2/litre per coat (0.014m^3), applying a minimum of two coats.

The quantity of material used per coat and the number of coats may vary, dependent upon the porosity of the substrate and the surface profile.

The application of excessive volumes of product should be avoided as this will result in water entrapment affecting the subsequent performance of the coating.

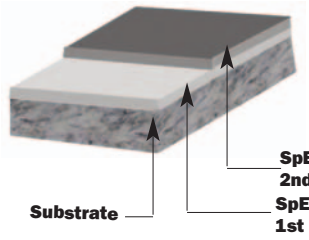
Slip Resistant Finish

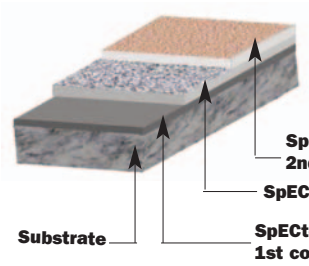
If a slip resistant finish is to be provided, then **SpECtop NS Grains Medium** is required.

SpECtop NS Grains Medium are supplied in pre-weighed bags.

For a slip resistant profile, the first coat of **SpECtop WDE100** is completely blinded with the chosen grade of **SpECtop NS Grains Medium**. This should be carried while the first coat is wet.

When the first coat has reached its initial cure (12 hours @ 20°C), the excess aggregate should be removed by vacuum from the surface. The top coat is then applied by medium pile roller.





EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using water.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above the quoted maximum the pot will be reduced.

PACKAGING AND YIELD

SpECtop WDE is supplied as a two-part system with the following recommended coverage rate.

SpECtop WDE100

4.5 litre and 15 litre

@ 70µm wft:	14.0 m²/litre per coat (0.014m³) (minimum of 2 coats)

SpECtop NS Grains		25kg bags @ 2kg net/m²
Size	Medium	0.4 - 0.7mm

NB. When ordering, please specify matt or gloss finish.

STORAGE AND SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided.

Eye Contact

Rinse with copious amounts of clean water and seek medical attention.

Skin Contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS.

Ingestion

Seek immediate medical attention.

DO NOT INDUCE VOMITING.

FLASHPOINT

SpECtop WDE100	>150°C

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QA-054

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SPECtop ARE125

HIGH PERFORMANCE EPOXY FLOOR COATING


Traffic & mechanical wear


Chemical Resistance


Slip Resistance


Hygiene


Impact Resistance


Waterproof


Cleaning & Maintenance


Colour Shades

DESCRIPTION

SpECtop ARE125 is a high performance solvent based epoxy coating consisting of two components for mixing on-site. The coating, once cured, provides a strong layer with good adhesion to cementitious and steel substrates.

TYPICAL USES

SpECtop ARE125 may be used in industrial and commercial situations to provide a hard wearing, acid resistant coating to floors, such as:

- Production areas
- Dairies
- Beverage production and bottling plants
- Car parks
- Kitchens
- Electro-plating shops
- Processing plants

ADVANTAGES

- High durability, requires low maintenance
- Excellent resistance to a wide range of chemicals
- Easy to clean, hygienic finish
- Available in a range of colours to demarcate areas and provide light reflectance

TECHNICAL DATA

Typical results @	***20°C***	***30°C***
Pot life	4 hrs	2 hrs
Intercoat time (min)	10 hrs	5 hrs
Intercoat time (max)	30 hrs	24 hrs
Tack free time	6 hrs	3 hrs
Exposure times		
Foot traffic	24 hrs	12 hrs
Vehicular Traffic	48 hrs	24 hrs
Chemicals	10 days	7 days
Full cure @ 30°C	7 days	
Typical system thickness (dft, excluding NS Grains)	125µm	

CHEMICAL RESISTANCE CHART

10% Lactic Acid	Excellent
15% Lactic Acid	Excellent
10% Citric Acid	Excellent
50% Phosphoric Acid	Excellent
50% Hydrochloric Acid	Excellent
50% Sulphuric Acid	Excellent
10% Nitric Acid	Excellent
Concentrated Bleach	Excellent
Saturated Sugar Solution	Excellent
Saturated Urea Solution	Excellent
White spirit	Excellent

Oils	Excellent
Petrol	Excellent
Diesel	Excellent
Greases	Excellent
Xylene	Excellent
10% Ammonia	Excellent
50% Caustic Soda	Excellent
Skydrol	Good

Notes:

- **SpECtop ARE125** should not be subjected to chemicals until fully cured (min 7 days @ 30°C)
- If chemical spillage occurs, immediately remove the spillage and wash down with water to prevent any attack or discolouration

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop ARE125**.

Concrete

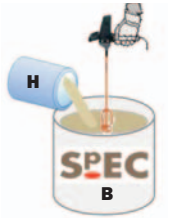
Light sweep blasting is strongly recommended to ensure the removal of all laitance, grease and oil.

Additional information available in Technical Note 009.

Mixing

SpECtop ARE125 is supplied in a two-component kit consisting of a pigmented base component and a curing agent.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.



The entire contents of the curing agent should be emptied into the base components ensuring that the sides of the curing agent tin are carefully scraped to removal all of the material.

Application

The mixed product may be applied by brush or roller.

The quantity of material used per coat and the number of coats may vary depending on the porosity of the substrate and the surface profile.

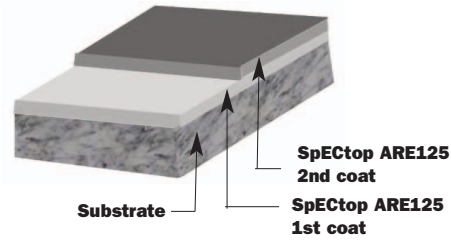
The application of excessive volumes of product should be avoided as this will result in solvent entrapment affecting both surface finish and the subsequent performances of the coating.

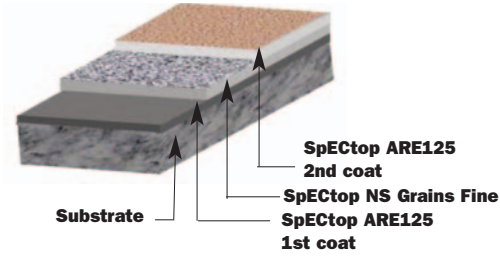
Slip resistant finish

If a slip resistant finish is to be provided then **SpECtop NS Grains Medium** will be required (contact our Technical Department for further information). **SpECtop NS Grains Medium** are supplied in pre-weighed bags.

For a slip resistant profile the first coat of **SpECtop ARE125** should be completely blinded with **SpECtop NS Grains Medium**. This should be carried out while the coating is still wet. When the first coat has reached its initial cure (12 hours @ 20°C), the excess aggregate should be removed and the

surface vacuumed to remove any residue. The topcoat is then applied.





EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above the quoted maximum the pot life will be reduced.

PACKAGING AND YIELD

SpECtop ARE125 is supplied in the pack sizes given below with the following recommended coverage rate.

SpECtop ARE125

4.5 litres and 15 litres

@ 100µm wft: 10 m²/litre per coat (minimum 2 coats)

SpECtop NS Grains	25kg bags @ 2kg net/m²
Size	Medium 300µm

STORAGE AND SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel should avoid inhaling the vapours produced. If working is necessary in confined areas it is strongly recommended that sealed respiratory equipment is utilized.

Eye Contact

Rinse with copious amounts of clean water and seek medical attention.

Skin Contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water. DO NOT USE SOLVENTS

Ingestion

Seek immediate medical attention. DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop ARE125 and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flames or other sources of ignition.

FLASHPOINT

SpECtop ARE125	>60°C
SpECtop Cleaning Fluid	>40°C

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QA-054

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SpECtop ARE300

SOLVENT BASED, HIGH BUILD EPOXY RESIN FLOOR COATING

Traffic & mechanical wear | Chemical Resistance | Slip Resistance | Hygiene | Impact Resistance | Waterproof | Cleaning & Maintenance | Colour Shades

DESCRIPTION

SpECtop ARE300 is a two-component solvent based epoxy resin coating. The product forms an extremely hard and durable coating, which is easily cleaned.

TYPICAL USES

SpECtop ARE300 provides a coating, which is extremely durable and hardwearing. It also has a high resistance to chemical attack. It is particularly suited to application in areas which are heavily trafficked where maintenance-free life is important. It is suitable in most industrial applications such as dairies, beverage plants, showrooms, kitchens, assembly areas in production units, covered car parks and aircraft hangers.

ADVANTAGES

- Range of colours
- Excellent chemical resistance
- Impermeable surface ensuring ease of cleaning
- Extremely hard wearing enabling long periods between maintenance work

TECHNICAL DATA

Tack free time	3 - 5 hours at 20°C
Pot life	3 hours at 20°C
Time between coats	16 - 24 hours at 20°C
Initial hardness	24 hours
Full cure	7 days at 20°C
Typical system thickness	300µm (dft)

CHEMICAL RESISTANCE

10% Lactic Acid	Very good
15% Lactic Acid	Very good
10% Citric Acid	Very good
50% Phosphoric Acid	Very good
50% Hydrochloric Acid	Very good

50% Sulphuric Acid	Very good
10% Nitric Acid	Very good
Concentrated Bleach	Very good
Saturated Sugar Solution	Very good
Saturated Urea Solution	Very good
White spirit	Very good
Oils	Very good
Petrol	Very good
Diesel	Very good
Greases	Very good
Xylene	Very good
10% Ammonia	Very good
50% Caustic Soda	Very good
Skydrol	Good

Note:

- If chemical spillage occurs, immediately remove the spillage and wash down with water to prevent any attack or discolouration

APPLICATION

Preparation

SpECtop ARE300 must only be applied to adequately prepared substrates, which should be clean and dry to ensure high adhesion properties.

The floor should be at least 28 days old prior to application and the retained moisture should be below a reading of 75% on a hygrometer. The surface should then be acid etched or lightly grit blasted to remove laitance on new floors and contamination, such as oil and grease, from older floors.

It is appropriate to prime very porous floors with **SpECtop Primer F1**.

Mixing

SpECtop ARE300 is supplied in a two-component kit consisting of a curing agent and a pigmented base component.

Both components of **SpECtop ARE300** should be thoroughly stirred prior to being mixed to ensure full dispersion of the suspended material. The total contents of the hardener component should be added to the base tin and mixed for a full 3 minutes using a slow speed electric drill fitted with a mixing paddle.

Application

The mixed product should be applied using a stiff brush or a lambswool roller ensuring that the area is covered uniformly avoiding the formation of areas with a wet film thickness in excess of 250 micron. This is best done by the use of a wet film gauge. The final coat may be applied once the first coat has become dry to the touch - typically 16-24 hours at 20°C.

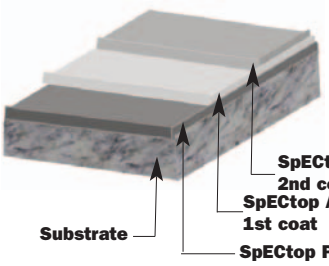
If a slip resistant profile is required, the first coat is completely blinded with the chosen grade of **SpECtop NS Grains Medium**. This

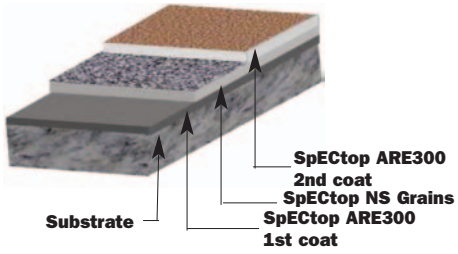
should be carried out while the coating is still wet.

When the first coat has reached its initial cure (12 hours @ 20°C), the excess aggregate should be removed by vacuum from the surface

The top coat is then applied again by a medium roller. Where a smooth finish is required, the top coat is applied as per the first coat.

For slip resistant floors the topcoat of **SpECtop ARE300** should provide a continuous film of material and also completely seal the surface of the **SpECtop NS Grains**. The consumption rate of materials for this type of application will be heavier for the top coat due to the increase in the effective area to be coated.





EQUIPMENT CLEANING

SpECtop ARE300 should be cleaned from tools and equipment immediately after use using **SpECtop Cleaning Fluid**.

PACKAGING AND YIELD

SpECtop ARE300 is supplied in the pack sizes given below with the following recommended coverage rates:

SpECtop ARE300	4.5 litres and 15 litres
@ 225µm wft:	4.0 m²/litre/coat (0.04m³) (minimum 2 coats)
SpECtop NS GRAINS	25kg bags @ 2kg net/m²
Size	Medium 0.4 - 0.7mm

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

STORAGE AND SHELF LIFE

SpECtop ARE300 has a shelf life of 12 months when stored in unopened packs in temperatures between 10 and 30°C and away from sources of heat and naked flame. If stored at higher temperatures the shelf life will be reduced.

HEALTH & SAFETY

SpECtop ARE300 & **SpECtop Cleaning Fluid** should not come into contact with skin or eyes or be swallowed. Avoid inhalation of vapour or spray. Use only in well ventilated areas.

If working in confined spaces, suitable

respiratory protective equipment must be worn. Wear suitable protective clothing and eye/face protection, barrier creams or additional skin protection.

FLAMMABILITY

SpECtop ARE300 and **SpECtop Cleaning Fluid** are flammable. No smoking.

In the event of fire, extinguish with CO_2 or foam. Do not use spray.

FLASHPOINT

SpECtop ARE300	>60°C
SpECtop Cleaning Fluid	>40°C

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QA-054

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SpECtop SRE500

SOLVENT-FREE HIGH BUILD, EPOXY FLOOR COATING

Traffic & mechanical wear | Chemical Resistance | Slip Resistance | Hygiene | Impact Resistance | Waterproof | VOC Free | Cleaning & Maintenance | Colour Shades

DESCRIPTION

SpECtop SRE500 is a two-part epoxy resin system which produces a high build, hard wearing, chemically resistant floor coating. Where required **SpECtop NS Grains Medium** may be included to produce a slip resistant surface.

TYPICAL USES

SpECtop SRE500 may be used in industrial and commercial situations to provide an abrasion resistant finish in areas subjected to traffic, chemical attack and surface water, such as:

- Car parks
- Loading bays
- Walkways
- Chemical production facilities
- Dairies
- Beverage production units
- Wet working areas

ADVANTAGES

- Abrasion resistant
- High build and therefore requiring low maintenance
- Resistant to a wide range of chemicals (see Chemical Resistance Chart)
- Solvent free to minimise disruption

- Slip resistance to suit site conditions
- Available in a range of colours to demarcate areas and provide a light reflective floor

TECHNICAL DATA

Typical results @	*20°*	*30°C*
Compressive strength (BS 6319)	70 N/mm² @ 7 days	
Flexural strength (BS 6319)	45 N/mm² @ 7 days	
Pot life	80 mins	40 mins
Intercoat time (min)	12 hrs	6 hrs
Intercoat time (max)	36 hrs	18 hrs
Exposure times		
Foot traffic	24 hrs	12 hrs
Vehicular traffic	48 hrs	24 hrs
Chemicals	7 days	4 days

Solids content	100%
Typical system thickness (dft, excluding NS Grains)	400µm

CHEMICAL RESISTANCE CHART

10% Lactic Acid	Excellent
10% Citric Acid	Excellent
10% Nitric Acid	Excellent
10% Acetic Acid	Excellent
50% Hydrochloric Acid	Excellent
50% Sulphuric Acid	Excellent
5% Bleach	Excellent
Saturated Sugar Solution	Excellent
Saturated Urea Solution	Excellent
Petrol	Excellent
Oil	Excellent
Kerosene	Excellent
50% Sodium Hydroxide	Excellent
10% Ammonia	Excellent
50% Phosphoric Acid	Good
25% Nitric Acid	Good
Butanol	Good
Skydrol	Good
Industrial Methylated Spirit	Good

Note:

- If chemical spillage occurs, immediately remove the spillage and wash down with water to prevent any attack or discolouration

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop SRE500**.

Grit blasting is recommended to ensure the removal of all laitance, grease and oil. The resultant surface should be dry and dust free. Cracked and damaged areas must be made good with appropriate repair materials.

Priming

SpECtop SRE500 may be applied to properly prepared concrete without the use of a primer providing:

- The moisture level of the concrete is less than 75% when tested in accordance with BS8203 Annex 4.
- The wet film thickness for the first coat does not exceed 250µm. It is essential that a wet film thickness gauge is used to monitor average thickness during application.

Otherwise use **SpECtop Primer F1** or **SpECtop Primer FX** as follows:

The contents of the curing agent should be emptied into the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10-15 m²/litre.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack-free.

It is essential that the primer is tack-free prior to the application of the topping. The application of **SpECtop SRE500** should commence between 8-24 hours after priming. If this period is exceeded, then the surface of

of the primer should be lightly abraded and a fresh priming coat applied.

Mixing

SpECtop SRE500 is supplied in a two-component kit consisting of a curing agent and a pigmented base component.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended. Empty the entire contents of the curing agent into the base component. To ensure that all material is extracted, the insides of the tins should be scraped. The curing agent and the base component should be mixed with a slow speed, heavy duty electric drill and a spiral mixing paddle for at least five minutes and until the material appears uniform in colour and consistency.

Application

The first coat of **SpECtop SRE500** is applied by a medium pile roller at a desired wet film thickness.

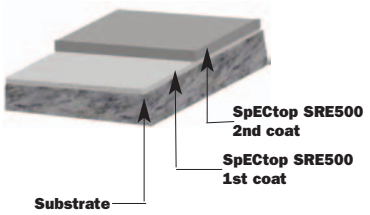
The quantity of material used per coat and the number of coats may vary dependant on the porosity of the substrate and the surface profile.

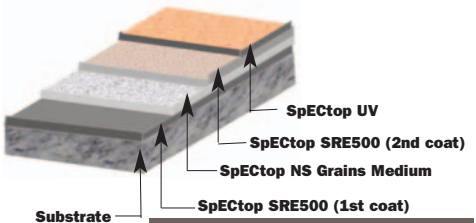
If a slip resistant profile is required, the first coat is completely blinded with **SpECtop NS Grains Medium**. This should be carried out while the coating is still wet.

When the first coat has reached its initial cure (12 hours @ 20°C), the excess aggregate should be removed by vacuum from the surface.

The top coat is then applied again by a medium pile roller. Where a smooth finish is required, the top coat is applied as per the first coat.

For slip resistant floors the topcoat of **SpECtop SRE500** should provide a continuous film of material and also completely seal the surface of the **SpECtop NS Grains Medium**. The consumption rate of materials for this type of application will be heavier for the top coat due to the increase in the surface area to be coated. Where UV resistance is required, use **SpECtop UV**.





EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

PACKAGING AND YIELD

SpECtop SRE500

4.5 litre and 15 litre units

@ 200µm wft: 1st coat - 5.0 m²/litre
2nd coat - 5.0 m²/litre (smooth finish)
2nd coat - 4.0 m²/litre (slip resistant)

SpECtop NS GRAINS 25kg bags @ 2kg net

Size Medium 0.4 - 0.7mm

SpECtop Primer F1

@ 10-15 m²/litre 1 litre pack gives 10-15m²
5 litre packs gives 50-75m²

SpECtop Primer FX

@ 5 m²/litre 1 litre and 5 litre pack gives 5m²

SpECtop UV

4.5 litre and 15 litre

@ 100µm 1st coat - 10.0 m²/litre
2nd coat - 10.0 m²/litre

The rates indicated are for guidance only. The consumption of material will be dependent on the porosity and the condition of the substrate.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

STORAGE AND SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact

Rinse with copious amounts of clean water and seek medical attention.

Skin contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion

Seek immediate medical attention.
DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop SRE500 is non-flammable. **SpECtop Primer F1, SpECtop Primer FX, SpECtop UV** and **SpECtop Cleaning Fluid** are flammable.

Do not expose to naked flame or other sources of ignition.

FLASHPOINT	
SpECtop SRE500	>150°C
SpECtop Primer F1	>60°C
SpECtop Primer FX	>150°C
SpECtop Cleaning Fluid	>40°C

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SpECtop SRE500GF

HIGH BUILD EPOXY COATING REINFORCED WITH GLASS FLAKES

DESCRIPTION

SpECtop SRE500GF is a two-pack, high solids epoxy, reinforced with glass flakes.

TYPICAL USES

SpECtop SRE500GF is typically used in:

- Underground car parks
- Ramps
- External traffic deck
- Concrete balconies
- Parking bays
- Pedestrian walkways

*Note: Where exposed to ultra-violet light the coating should be overcoated with **SpECtop UV***

ADVANTAGES

- Excellent resistance to impact and abrasion
- All round protection against corrosion
- Available in a range of colours

TECHNICAL DATA

Typical Results @ 20°C	
Solids (vol. %)	80
Tensile strength	11 N/mm² @ 7 days
Elongation @ break	15.00%
Tear resistance	25 kN/mm @ 7 days
Pull-off strength	2.80 N/mm²

CHEMICAL RESISTANCE

Flexibility	Good
Water resistance	Excellent
Abrasion resistance	Excellent
Solvent resistance	Excellent
Chemical resistance	Excellent

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop SRE500GF**.

Grit blasting is recommended to ensure the removal of all laitance, grease and oil. The resultant surface should be dry and dust free. Cracked and damaged areas must be made good with appropriate repair materials.

Priming

SpECtop SRE500GF may be applied to properly prepared concrete without the use of a primer providing:

- The moisture level of the concrete is less 75% when tested in accordance with BS8203 Annex 4.
- The wet film thickness for the first coat does not exceed 250µm. It is essential that a wet film thickness gauge is used to monitor average thickness during application.

Otherwise use **SpECtop Primer F1** or **SpECtop Primer FX** as follows:

The contents of the curing agent should be emptied into the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10-15 m²/litre.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack-free.

It is essential that the primer is tack-free prior to the application of the topping. The application of **SpECtop SRE500GF** should commence between 8-24 hours after priming. If this period is exceeded, then the surface of the primer should be lightly abraded and a fresh priming coat applied.

Mixing

SpECtop SRE500GF is supplied in a two-component kit consisting of a curing agent and a pigmented base component.

If a slip resistant finish is to be provided then **SpECtop NS GRAINS** is required. **SpECtop NS GRAINS** are supplied in pre-weighed bags.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.

Empty the entire contents of the curing agent into the base component. To ensure that all material is extracted, the insides of the tins should be scraped. The curing agent and the base component should be mixed with a slow speed, heavy duty electric drill and a spiral mixing paddle for at least five minutes and until the material appears uniform in colour and consistency.

Application

SpECtop SRE500GF can be spray, brush or roller applied in two or three coats depending on the volume of traffic expected.

The first coat of **SpECtop SRE500GF** is applied by a medium pile roller at a nominal thickness of 200µm. A theoretical coverage of approximately 5.0 m²/litre.

If a slip resistant profile is required, the first coat is completely blinded with **SpECtop NS Grains**. This should be carried out while the coating is still wet.

When the first coat has reached its initial cure (12 hours @ 20°C), the excess aggregate should be removed by vacuum from the surface.

The top coat is then applied again by a medium pile roller. Where a smooth finish is required, the top coat is applied as per the first coat.

For slip resistant floors the topcoat of **SpECtop SRE500GF** should provide a continuous film of material and also completely seal the surface of the **SpECtop NS Grains**. The consumption rate of materials for this type of application will be heavier for the top coat due to the increase in the surface area to be coated.

EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

PACKAGING AND YIELD

SpECtop SRE500GF

4.5 litre and 15 litre units

@ 200µm wft: 1st coat - 5.0 m²/litre
2nd coat - 5.0 m²/litre (smooth finish)
2nd coat - 4.0 m²/litre (slip resistant)

SpECtop NS GRAINS 25kg bags @ 2kg net

Size 0.4 - 0.7mm

SpECtop Primer F1

@ 10-15 m²/litre 1 litre pack gives 10-15m²
5 litre packs gives 50-75m²

SpECtop Primer FX

@ 5 m²/litre 1 litre and 5 litre pack gives 5m²

The rates indicated are for guidance only. The consumption of material will be dependent on the porosity and the condition of the substrate.

APPLICATION TEMPERATURE RANGE

Minimum	+10°C
Maximum	+35°C

STORAGE AND SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact

Rinse with copious amounts of clean water and seek medical attention.

Skin contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion

Seek immediate medical attention.
DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop SRE500GF is non-flammable. **SpECtop Primer F1, SpECtop Primer FX, SpECtop UV** and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flame or other sources of ignition.

FLASHPOINT

SpECtop SRE500GF	>150°C
SpECtop Primer F1	>60°C
SpECtop Primer FX	>150°C
SpECtop Cleaning Fluid	>40°C

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QA-054

Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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SpECtop LFE2 & LFE4

FLOW APPLIED EPOXY BASED FLOOR TOPPINGS

Traffic & mechanical wear | Chemical Resistance | Hygiene | Impact Resistance | Waterproof | VOC Free | Cleaning & Maintenance | Colour Shades

DESCRIPTION

SpECtop LFE2 & LFE4 are pre-packed, three component self smoothing toppings, which consist of a graded filler in epoxy binder.

TYPICAL USE

SpECtop LFE2 & SpECtop LFE4 may be used in industrial and commercial situations to provide long lasting finishes in particular where an impervious, abrasion resistant and easy to clean floor is required. **SpECtop LFE4** is designed for use in abrasion or impact loading situations.

SpECtop LFE2 & SpECtop LFE4 are designed to be used in a variety of situations, such as:

- Engineering, production and maintenance areas
- Warehousing
- Food production, for example dairies, bakeries, fruit/vegetable processing and canning plants
- Beverage production and bottling facilities
- Medical and Pharmaceutical factories, for example in production areas and laboratories
- Kitchens, laundries and canteens
- Showrooms and demonstration areas

ADVANTAGES

- Impact and abrasion resistant
- Resistant to a range of acids, alkalis and industrial chemicals
- Hygienic and easy to clean finish
- Will not support the growth of bacteria, fungi and micro-organism
- Seamless
- Minimum downtime due to fast application
- Completely non-toxic once fully cured
- Available in a range of colours to provide an attractive, light reflective floor

TECHNICAL DATA

Typical results @ 20 °C	
Compressive strength (BS 6319)	60 N/mm² @ 7 days
Flexural strength (BS 6319)	30 N/mm² @ 7 days

Exposure times

Foot traffic	24 hrs
Vehicular Traffic	48 hrs
Chemicals	7 days
Pot Life @ 25°C	60 - 100 minutes
Typical system thickness	
SpECtop LFE2	2mm
SpECtop LFE4	4mm

CHEMICAL RESISTANCE CHART

15% Lactic Acid	Very good
10% Citric Acid	Very good
50% Phosphoric Acid	Very good
Concentrated bleach	Very good
Saturated Urea Solution	Very good
White spirit	Very good
Oils	Very good
Petrol	Very good
Diesel	Very good
Greases	Very good
10% Ammonia	Very good
50% Hydrochloric acid	Good
50% Sulphuric acid	Good
10% Nitric acid	Good
Saturated sugar solution	Good
Xylene	Good
Caustic Soda	Good

Notes:

- **SpECtop LFE2 & LFE4** should not be subjected to chemicals until fully cured (min 7 days @ 30°C)

- If chemical spillage occurs then immediately remove the spillage and wash down with water to prevent any attack or discolouration

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop LFE2 & LFE4**.

Grit blasting is recommended to ensure the removal of all laitance, grease and oil. The resultant surface should be dry and dust free. Cracked and damaged areas must be made good with appropriate repair materials.

Priming

The prepared surface should be primed with **SpECtop Primer F1**.

The contents of the curing agent should be emptied into the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10-15 m²/litre.

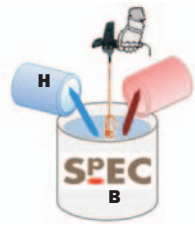
If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second-coat once the initial coat is tack-free.

It is essential that the primer is tack-free prior to the application of the topping. The application of **SpECtop LFE2** or **LFE4** should commence between 8-24 hours after priming. If this period is exceeded, then the surface of the primer should be lightly abraded before re-application of a fresh priming coat.

Mixing

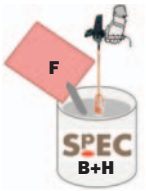
SpECtop LFE2 and LFE4 are supplied in a three- component kit consisting of a base component, a curing agent and a bag of graded filler.

Both of the liquid components should be briefly stirred to ensure that any settlement products are fully suspended.



Empty the entire contents of the curing agent and the base component into a 25 litre metal container with straight sides, sturdy enough to withstand the mixing action. To ensure that all material is extracted, the insides of the tins should be scraped.

The curing agent and base component should then be mixed with a low speed, heavy-duty electric drill and a spiral mixing paddle for at least two minutes and until the material appears uniform.

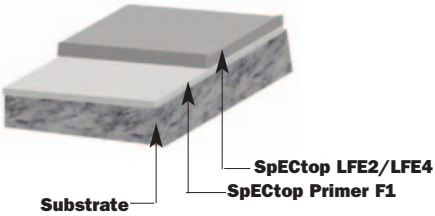


The aggregate is slowly added to the resin whilst mixing and the mixing operation continues for a further 5 minutes.

Application

A quantity of the mixed product should be poured onto the tack free primed surface and floated with a steel trowel to produce a seamless surface. **SpECtop LFE2** can be laid at a thickness range of between 1 - 3mm (typically 2mm) and **SpECtop LFE4** between 3.0 - 5mm (typically 4mm).

Within 10 minutes the material should be rolled with a spike roller in two directions to remove all entrapped air and trowel marks.



EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

PACKAGING AND YIELD

Both grades of material are supplied as three part systems with the following coverage rates.

SpECtop LFE2

15 litres

@ 2mm 0.50 m²/litre (2mm thick)

SpECtop LFE4

15 litres

@ 4mm 0.25 m²/litre (4mm thick)

SpECtop Primer F1

@10-15 m²/litre 1 litre pack gives 10 - 15m²

5 litre packs gives 50 - 75m²

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

STORAGE AND SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel should avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye Contact rinse with copious amounts of clean water and seek medical attention.

Skin Contact rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop Primer F1 and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flame or other ignition sources.

FLASHPOINT

SpECtop LFE2/4	>150°C
SpECtop Primer F1	>60°C
SpECtop Cleaning Fluid	>40°C

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QA-054

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SpECtop TE5

FLOW APPLIED EPOXY BASED FLOOR TOPPINGS


Traffic & mechanical wear


Chemical Resistance


Slip Resistance


Impact Resistance


Pot life/ Curing Time


Colour Shades

DESCRIPTION

SpECtop TE5 is a three-part trowel applied epoxy floor screed that produces an extremely dense, durable, chemically resistant floor topping.

TYPICAL USES

SpECtop TE5 may be used in industrial and commercial situations to produce floor surfaces able to withstand mechanical abrasion and the spillage of liquids including aggressive chemicals, in situations such as:

- Heavy engineering plants
- Chemical handling and process areas
- Oil refineries
- Workshops
- Battery rooms

ADVANTAGES

- High impact and abrasion resistant
- Resistance to a wide range of chemicals (see Chemical Resistance Chart)
- Slip resistant
- Available in a range of colours

TECHNICAL DATA

Typical results @ 7 days	
Compressive strength (ASTM C - 109)	72 N/mm²
Tensile strength (ASTM C - 307)	15 N/mm²
Flexural strength (ASTM C - 348)	35 N/mm²
Typical system thickness	5mm

CHEMICAL RESISTANCE CHART

10% Lactic Acid	Very good
10% Citric Acid	Very good
40% Phosphoric Acid	Very good
50% Hydrochloric acid	Very good
50% Sulphuric acid	Very good
Concentrated bleach	Very good
Saturated sugar solution	Very good
Saturated Urea Solution	Very good
White spirit	Very good
Oils	Very good
Petrol	Very good
Greases	Very good
Xylene	Very good
10% Ammonia	Very good
50% Caustic soda	Very good
Butanol	Good
Skydrol	Good

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop TE5**.

Grit blasting is recommended and must result in the removal of all laitance, grease and oil. The resultant surface should be dry and dust free.

Priming

The prepared surface should be primed with **SpECtop Primer F1**.

The contents of the curing agent should be emptied into the contents of the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10-15 m^2/litre. Do not over apply.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack-free.

The primer must be tacky whilst applying **SpECtop TE5**.

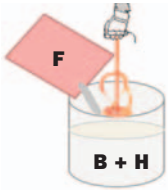
Mixing

SpECtop TE5 is supplied as a three-component kit consisting of a base component, a curing agent and a bag of selected aggregate.

Both of the liquid components should be briefly stirred to ensure that any settlement products are fully suspended.

The most convenient methods of mixing are by using a slow speed, heavy-duty electric drill and a 25 litre steel pail as the mixing vessel or by using a Cretangle or Mixal type mixer.

1. Heavy duty drill and steel pail



Premix base and hardener in the base component tin and then place mixed material in steel mixing pail. Using the slow speed heavy duty drill, start mixing while slowly adding the filler component.

Mix for 5 minutes.

2. Cretangle or Mixal mixer

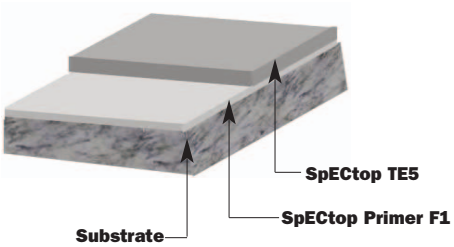
Empty the contents of the aggregate bag into the mixing vessel and pre-blend for a few minutes.Add the contents of the curing agent tin into the base component. To ensure that all of the curing agent is removed, the insides of the tin should be carefully scraped. The products should then be mixed thoroughly until the material appears homogeneous.

Add the mixed base resin and curing agent to the preblended aggregate and mix for at least 3 minutes, stopping the mixer and scraping down the mixing vessel as necessary.

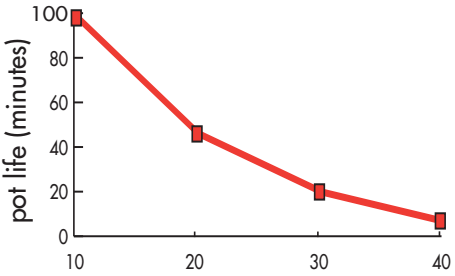
Application

Spread the mixed product onto the tacky primer using a wooden float to achieve a uniform thickness. **SpECtop TE5** can be laid at a thickness range of between 3-10mm (typically 5mm).

The wooden float should be used for initial levelling and smoothing of the screed to ensure that the surface remains open to allow air release during compaction. Once levels and compaction are achieved a steel float should be applied to provide the final sealed surface.



POT LIFE



EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

SpECtop TE5

12 litres

@ 5mm thickness: 0.20 m²/litre

SpECtop Primer F1

@ 10-15 m²/litre

1 litre pack gives 10-15m²

5 litre pack gives 50-75m²

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above the quoted maximum the pot life will be reduced.

STORAGE AND SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel avoid inhaling the vapours produced.

If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye Contact

Rinse with copious amounts of clean water and seek medical attention.

Skin Contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion

Seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop Primer F1 and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flame or other ignition sources.

FLASHPOINT

SpECtop TE5	>150°C
SpECtop Primer F1	>60°C
SpECtop Cleaning Fluid	>40°C

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SpECtop PE5

HIGH BUILD, HARD WEARING PITCH EPOXY PROTECTIVE SURFACE COATING

DESCRIPTION

SpECtop PE5 is a four component epoxy resin protective surface coating, based on resins, coal tar and curing agents with chemically inert graded silica fillers. **SpECtop PE5** is formulated to provide excellent finish and application properties. **SpECtop PE5** is available only as a black resin system which is broadcast with **SpECtop Armourite Grain**.

TYPICAL USES

SpECtop PE5 is designed to offer an extremely hardwearing, low maintenance, anti-skid surfacing to a wide range of substrates including concrete, asphalt, steel and timber.

SpECtop PE5 is ideally suited for Ro/Ro link spans, ship and oil/gas platforms, helicopter decks, car parks, walkways, industrial work-shops and heavy plant/cargo handling areas.

ADVANTAGES

- Extremely hard wearing
- Flexible
- Chemical resistant
- Non-slip, provides anti-skid surfacing
- Waterproof
- Excellent adhesion to steel, concrete, asphalt
- Solvent free to minimize disruption
- Resistant to flame spread
- UV resistant when dressed with recommended surface dressing aggregate

TECHNICAL DATA

Wet density	1700 kg/m³ (slurry only)
Volume solids (mixed)	100%
Pot life	30 mins @ 20°C
Cure time	8-10 hrs @ 20°C
Initial Hardness	18 hrs @ 20°C
Open to light traffic	24 hrs @ 20°C
Vehicular traffic	48 hrs @ 20°C
Full cure	7 days @ 20°C
Mohs Hardness (dressing)	9.2

CHEMICAL RESISTANCE

SpECtop PE5 is resistant to a wide range of chemicals. Specific data is available on request from the **SpEC Technical Department**.

INSTRUCTIONS FOR USE

Thickness guidelines

Traffic density	Thickness
Light	3.5mm
Medium	4mm
Heavy	5mm

APPLICATION

Preparation

Concrete

It is essential that the substrate surfaces are correctly prepared prior to application. All substrates must be sound and free from contamination with oil, grease and other matter. Any oil or grease contamination must be removed completely by, scabbling or shotblasting the contaminated areas to provide a clean substrate. Laitance should be removed by blasting, grinding, or light scabbling.

Concrete surfaces must be primed with **SpECtop Primer F1**. The primer must be allowed to become tack free before applying **SpECtop PE5**.

Steel

When applying to steel work, the surface should be cleaned to a bright metal finish by grit blasting to a bright metal finish. An angular profile amplitude of at least 75 microns is recommended. **SpECtop Primer F1** should be used prior to application of **SpECtop PE5.**

Asphalt

SpECtop PE5 can be applied directly onto asphalt substrates without the need for primer. The asphalt, however should be at least 3 months old, clean, dry and sound. The asphalt should be lightly grit blasted to remove any weakly bonded or contaminated material to provide a sound substrate.

Wood

Substrate must be clean, dry and dust free. No priming is required.

Primer

Add the entire contents of the hardener can to the base can. Once mixed **SpECtop Primer F1** should be applied immediately as a thin continuous film using stiff brushes or rollers. Over application and puddles should be avoided. Porous substrates may require two or more coats. The primer should be allowed to become tack-free prior to the application of **SpECtop PE5**.

Mixing

SpECtop PE5 is a four part pre-weighed system ready for on site use. Mechanical mixing is essential and a drill and paddle type mixer is recommended. Add the entire contents of the hardener tin to the base tin and mix for 2-3 minutes using a slow speed drill fitted with a suitable mixing paddle until the mixture is homogeneous. Pour the mixed material into a 25 litre steel pail and slowly add the filler component whilst mixing. Mix for a minimum of 5 minutes.

Application

SpECtop PE5 should be poured onto the previously primed substrate and spread to the required thickness using a serrated steel trowel or squeegee. It is essential to spread the material in a uniform even application without over-working. **SpECtop PE5** may be rolled with a spiked roller to aid the release of trapped air. The surface dressing aggregate **(SpECtop Armourite Grain)** should be broadcast across the surface within 5 minutes of application.

SpECtop PE5 should be left to cure for at least 24 hours @ 20°C before all excess, unbound aggregates brushed from the surface.

EQUIPMENT CLEANING

All tools and equipment should be cleaned with **SpECtop Cleaning Fluid** immediately after use.

Spillages should be absorbed with sand or clay based materials and disposed of according to local statutory regulations.

PACKAGING & YIELD

SpECtop PE5 slurry is supplied in a three part system with the following recommended coverage rates.

SpECtop PE5 SLURRY
12 litre pack
@ 3.5mm wft: 0.286 m²/litre
@ 4.0mm wft: 0.25 m²/litre
@ 5.0mm wft: 0.20 m²/litre

SpECtop F1 Primer
5 litre or 1 litre pack @ 10 - 15 m²/litre

SpECtop Armourite Grain
25kg packs @ 2kg net/m²

STORAGE & SHELF LIFE

12 months in unopened original packs stored under warehouse conditions.

HEALTH & SAFETY

SpECtop PE5 base/hardener and **SpECtop Primer F1** base/hardener should not come into contact with skin and eyes or be ingested.

Avoid prolonged inhalation of solvent vapours. Epoxy resins and hardeners may act as skin sensitisers. Gloves, goggles and barrier creams should be used. Ensure adequate ventilation and if working in enclosed areas wear suitable breathing apparatus.

SpECtop PE5 contains phenolic materials of coal tar origin. Special care should be taken to avoid skin and eye contamination, with these materials.

Any contamination should be removed immediately.

FLAMMABILITY

SpECtop Primer F1 and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flame or other sources of ignition. Do not smoke. In the event of fire, extinguish with CO_2 or foam.

FLASH POINT

SpECtop PE5	>150°C
SpECtop Primer F1	>60°C

Issue 9: 01/2011

QA-054

Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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SpECtop EU

HIGH STRENGTH EPOXY UNDERLAY

DESCRIPTION

SpECtop EU is a high strength epoxy underlay supplied as a three-component system for mixing on site. **SpECtop EU** has been specially formulated to withstand chemical attack and impact shock. Whenlaid correctly **SpECtop EU** will provide a surface with a slight texture ready to receiveapplication of other **SpECtop** toppings.

TYPICAL USES

SpECtop EU provides an economical method of levelling floors prior to laying alternative **SpECtop** epoxy screeds and toppings.

ADVANTAGES

- Good impact and chemical resistance
- Economic levelling screed
- Can be overcoated with any other **SpECtop** resin flooring system after 24 hours

DESIGN CRITERIA

SpECtop EU is designed for application in the range of 10mm-50mm. Greater thickness can be achieved by the application of subsequent layers.

TECHNICAL DATA

Typical result

Compressive strength

(BS 6319) part 2 1983 40 N/mm² @ 7 days

Curing characteristics @ 35°C	
Pot life	70 minutes
Initial hardness	10 hours
Full cure	7 days

Note that the values given above are typical figures achieved in laboratory tests. Actual values obtained on site may show minor variations from those quoted.

APPLICATION

Surface Preparation

It is essential that **SpECtop EU** is applied to sound, clean and dry surfaces in order that maximum bond strength is achieved between the substrate and the flooring system. All dust and debris should be removed prior to application of the product or its primer.

New Concrete Floors

Should be at least 28 days old with maximum moisture content not exceeding 5%. Laitance deposits on new concrete floors are best removed by light grit blasting, mechanically scabbling or grinding.

Old Concrete Floors

Mechanical cleaning methods are strongly recommended on old concrete floors particularly where heavy contamination by oil and grease has occurred or existing coating are present. These may well have been absorbed

several millimetres into the concrete. To ensure adhesion, all contamination should be removed by grit blasting.

Priming

The prepared surface should be primed with **SpECtop Primer F1**.

The contents of the curing agent should be emptied into the contents of the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10-15 m^2/litre. Do not over apply.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack-free.

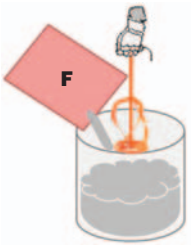
Allow the primer to become tacky prior to applying **SpECtop EU**.

Mixing

SpECtop EU is supplied in a three-component kit consisting of a base component, a curing agent and a bag of graded filler.

It is important that **SpECtop EU** is mixed correctly.Suitable mixing equipment must be used, such equipment being defined as either a slow speed electric plus mixing paddle or forced action mixers such as Creteangle, Mixal or similar machines. Where large volumes of products are required a small free fall concrete mixer may be used, however mix trials should be conducted to assess machine suitability.

Immediately prior to mixing the first batch of **SpECtop EU** the internal surfaces of the mixer and any mixing blades should be 'wetted out' with **SpECtop Cleaning Fluid**. Only sufficient solvent should be added to the mixer to ensure complete wetting of the surfaces with any excess being discarded prior to the addition of **SpECtop EU**.



Whilst the internal surfaces of the mixer arestill wet with solvent, empty the complete aggregate bag from the **SpECtop EU** pack into the mixer. The aggregates should be blended dry for one minute prior to the addition of the resin from the **SpECtop EU** pack.

Empty the entire contents of the resin hardener component into the can containing the resin base component and mix until homogeneous. When mixed the resin components are to be added to the aggregate in the mixer. Mixing of all components shall continue for a further 3-5 minutes, until such time as the resin has evenly coated all the aggregates.

Application

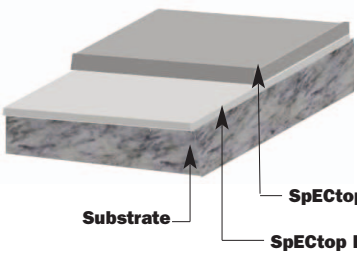
The mixed **SpECtop EU** should be spread to uniform thickness on the primed surface using either a garden rake or the edge of a plastic trowel. The material should be thoroughly tamped to ensure complete compaction and finally finished to an even texture using a

wooden trowel. Screeding rods are useful to maintain the desired compacted thickness.

The material must be applied within the pot life after mixing. After this time unused material should be discarded.

Overcoating

Overcoating of **SpECtop EU** with any other **SpECtop** floor system should not start until the **SpECtop EU** is at least 24 hours old. Note that **SpECtop EU** should be primed if required by the following **SpECtop** system.



Expansion Joints

Expansion joints in the existing substrate shouldbe continued through the **SpECtop EU** and anysubsequent topping and filled to the required level with a suitable sealant - contact **SpEC Technical Department** for further details.

EQUIPMENT CLEANING

All tools and equipment should be cleaned immediately after use with **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

SpECtop EU is supplied in a pack size below with the following recommended coverage rates:

SpECtop EU

12 litres: 1.2 m²/pack @ 10mm thickness

SpECtop Primer F1

@ 10 - 15 m²/litre

1 litre pack gives 10 - 15m²

5 litre pack gives 50 - 75m²

APPLICATION TEMPERATURE RANGE

Minimum 5°C

Maximum 35°C

At temperatures above the quoted maximum the pot life will be reduced.

STORAGE & SHELF LIFE

SpECtop Primer F1 and **SpECtop EU** have a shelf life of 12 months when stored in a dry place below 35°C in their original, unopened container.

HEALTH & SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel avoid inhaling the vapours produced.

If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

If contact with skin occurs, rinse with copious amounts of clean water followed by thorough cleaning with soap and water. DO NOT USE SOLVENTS

If eye contact occurs, rinse with copious amounts of clean water and seek medical attention.

If swallowed, DO NOT induce vomiting. Seek medical attention immediately.

FLAMMABILITY

SpECtop Primer F1 and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flame or other ignition sources.

FLASHPOINT

SpECtop EU	>150°C
SpECtop Primer F1	>60°C

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SpECtop Terrazo Epoxy

SEAMLESS EPOXY RESIN TERRAZZO FINISH

DESCRIPTION

SpECtop Terrazzo Epoxy is a seamless epoxy resin terrazzo floor finish with marble aggregates.

TYPICAL USES

SpECtop Terrazzo Epoxy is suitable for airport and railway terminals, shopping centres, hotels, restaurants, and environments where design, chemical resistance and durability are of paramount concern.

ADVANTAGES

- Aesthetically pleasing - enhances the working environment
- Seamless finish (except for underlying slab joints)
- Easy to clean and maintain
- Abrasion resistant

TECHNICAL DATA

Typical results @ 20°C & 50% RH

Compressive strength (BS 6319)	65 N/mm²
Flexural strength (BS 6319)	25 N/mm²
Tensile strength (BS 6319)	13 N/mm²
Bond strength	greater than cohesive strength of concrete
Water permeability	Nil
Abrasion resistance (BS 8204-2)	Grade AR2 - Medium duty Industrial & Commercial
Thickness	8mm

Speed of Cure

	10°C	20°C	30°C
Light traffic	24hrs	16hrs	10hrs
Full traffic	72hrs	48hrs	36hrs
Full cure	12 days	7 days	7 days

APPLICATION

Preparation

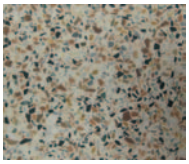
It is essential that adequate preparation is carried our prior to the application of **SpECtop Terrazzo Epoxy**.

Concrete or substrate should be a minimum of 25 N/mm², free from laitance, dust and other contamination. The substrate should be dry to 75% RH as per BS 8204 and free from rising damp and ground water pressure.

It is appropriate to prime very porous floors with a coat of **SpECtop Primer F1**.

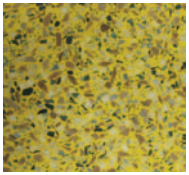
PICK AND MIX

Pick your resin matrix colour and select one of the six aggregate blends to obtain a unique floor finish.

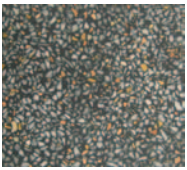


Dubai Dunes

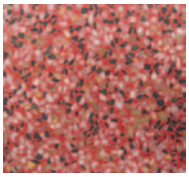
Ardosia Verde



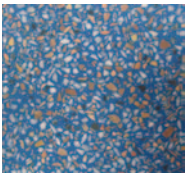
Zafra Marfil



Saigon Grey



Red Alicante



Atlantic Azur

EQUIPMENT CLEANING

SpECtop Terrazzo Epoxy should be cleaned using a single or double headed rotary scrubber drier in conjunction with a mildly alkaline detergent.

PACKAGING & YIELD

SpECtop Terrazzo Epoxy @ 22.5 kg/m²	4.5 & 15 litre (average density of 2.25 kg/litre)
SpECtop Dec Finish @ 100µm	4.5 & 15 litres 10 - 15 m²/litre (2 coats)
SpECtop Primer F1	1, 5 & 15 litre @ 10 - 15 m²/litre/coat

STORAGE AND SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH & SAFETY

SpECtop Terrazzo Epoxy is non-hazardous to health and environment. The long service life and seamless surface reduce the need for repairs, maintenance and cleaning.

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QA-054

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SpECtop UV

UV STABLE POLYURETHANE TOP COAT

Traffic & mechanical wear | Chemical Resistance | Slip Resistance | Hygiene | Impact Resistance | Waterproof | VOC Free | Cleaning & Maintenance | Colour Shades

DESCRIPTION

SpECtop UV is a two component, solvent based, UV stable, polyurethane sealer coat available in a range of colours.

TYPICAL USES

SpECtop UV is typically used as a UV resistant sealer coat for the **SpECtop CPD System** and **SpECtop** range of epoxy and polyurethane resin systems. The sealed system is ideal for all weather exposure.

ADVANTAGES

- UV Stable
- Hard wearing
- Good chemical resistance
- Slip resistant finish available

TECHNICAL DATA

Typical results at 20±3°C	
Solids (%)	68
Pot life	4 hours
Tack-free	4 hours
Full Cure	7 days
Time to recoat	7-24 hours
Tensile strength (ASTM D412)	14 N/mm² @ 7 days
Elongation at break (ASTM D412)	50%
Tear resistance (ASTM D624)	40.0 kN/m
Shore A Hardness (ASTM D2240)	67
Typical system thickness (wft)	100µm

APPLICATION

Surface Preparation

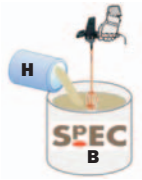
Surfaces to be treated must be sound, free from oil or other contaminants, loosely adhering coatings, laitance and dust.

Priming

Not normally required.

Mixing

SpECtop UV is supplied in a two component kit consisting of a curing agent and pigmented base component. Pack components are pre-weighed for optimum performance. Never split or proportion packs.



Both of the liquid components should be briefly stirred to ensure that any settlement products are fully suspended. Mix with a slow speed drill and helical mixer head for 2 minutes.

Application

Immediately after mixing apply **SpECtop UV.** Apply using a medium pile roller. Ensure product is not allowed to pond on the substrate to ensure an even textured finish without discolouration due to excessive application. Allow to cure for 7 days before exposing to foot traffic.

EQUIPMENT CLEANING

Clean with **SpECtop PU Cleaning Fluid** before the product has cured.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	30°C

PACKAGING & YIELD

SpECtop UV is supplied in 4.5 and 15 litre units. Typically applied at 10 m²/litre/coat.

STORAGE & SHELF LIFE

Stored unopened in dry conditions at 10 - 25°C, shelf life will be 6 months minimum.

HEALTH & SAFETY

Some of the components of this product may be hazardous during mixing and application. Please consult the relevant Health & Safety Data Sheets available from **SpEC** on request and sent with each delivery.

FLAMMABILITY

SpECtop UV and **SpECtop PU Cleaning Fluid** are flammable. Do not expose to naked flames or other sources of ignition.

FLASHPOINT

SpECtop UV	>40°C

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

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SpECtop PU500

FLEXIBLE POLYURETHANE COATING

DESCRIPTION

SpECtop PU500 is a two pack, solvent free, flexible polyurethane wearing surface.

TYPICAL USES

SpECtop PU500 provides an extremely durable and hard wearing coating ideally suited to the following heavy-duty situations, such as:

- Chemical processing
- Food preparation/wet areas
- Brewing/dairy clean areas

ADVANTAGES

- Hard wearing
- Good chemical resistance
- Slip resistant finish can be tailored to requirements
- Solvent free

TECHNICAL DATA

Typical results @ 20°C±3

Pot life	25 mins
Tack free	5 hrs
Foot traffic	3 days
Full cure	7 days
Tensile strength (ASTM D412)	20 N/mm² @ 7 days
Elongation at break (ASTM D412)	45.0%
Tear resistance (ASTM D624)	35 kN/m
Shore A Hardness (ASTM D2240)	94

APPLICATION

Surface Preparation

Surfaces to be treated must be dry, sound, free from oil or other contaminants, loosely adhering coatings, laitance and dust.

Priming

As a polyurethane wearing surface

The prepared surface should be primed with **SpECtop Primer F1**.

The contents of the curing agent should be emptied into the contents of the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10-15 m²/litre. Do not over apply.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack-free.

Allow the primer to become tacky prior to applying **SpECtop PU500**.

Mixing

SpECtop PU500 is supplied as a two-component kit consisting of a base component and a curing agent.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.

The most convenient method of mixing is by using a slow speed, heavy-duty electric drill.

Empty the entire contents of the curing agent into the base component. To ensure that all material is extracted, the insides of the tins should be scraped. The curing agent and the base component should be mixed with a slow speed, heavy duty electric drill and a spiral mixing paddle for at least five minutes and until the material appears uniform in colour and consistency.

Application

Apply the mixed product either directly on the tack-free primer, depending on the system requirements. The product may be applied between 200 and 500µm using a squeegee, roller or brush.

EQUIPMENT CLEANING

Clean with **SpECtop Cleaning Fluid** before the product has cured.

PACKAGING & YIELD

SpECtop PU500 is supplied in 4.5 litre and 15 litre pack and covers 4 m²/litre depending on surface texture.

SpECtop Primer F1

@10-15 m²/litre 1 litre pack gives 10-15m²
5 litre packs gives 50-75m²

APPLICATION TEMPERATURE RANGE

SpECtop PU500 should not be applied if material and/or floor temperatures fall below 5°C. Temperatures should not fall below 5°C during the first 24 hours after application.

The product should not be applied if material and/or floor temperature exceed 35°C.

STORAGE & SHELF LIFE

Stored unopened in dry conditions at 10 - 35°C, shelf life will be 6 months.

HEALTH & SAFETY

Some of the components of this product may be hazardous during application. Please consult the relevant Health & Safety Data Sheets.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

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Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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SpECtop CPD System

CAR PARK DECKING SYSTEM

Traffic & mechanical wear | Chemical Resistance | Slip Resistance | Hygiene | Impact Resistance | Waterproof | VOC Free | Cleaning & Maintenance | Colour Shades

DESCRIPTION

SpECtop CPD System is a multi-layered polyurethane car park decking system with crack bridging properties for car park decks, ramps and heavy wear areas.

SYSTEM PRODUCTS

SpECtop CPD Primer SB is a solvent based epoxy resin primer and **SpECtop CPD Primer SF** is a solvent free epoxy resin primer.

SpECtop CPD Elastomeric Membrane is a two pack, solvent free, flexible crack bridging polyurethane membrane. Used as a continuous membrane on exposed decks.

SpECtop CPD Finish is a two pack solvent free flexible polyurethane wearing surface.

SpECtop UV is a two component, solvent based, UV stable, polyurethane sealer coat available in a range of colours.

TYPICAL USES

- Surface protection to car park decks
- Elastic waterproofing on exposed decks

ADVANTAGES

- Hard wearing
- Waterproof with elastic membrane
- Good chemical resistance
- Aesthetic
- Reduces noise
- Can be used over concrete and fully-bonded screeds

TECHNICAL DATA

Tensile strength (ASTM D412)	6.0 N/mm²
Elongation at break (ASTM D412)	57.0%
Tear resistance (ASTM D624)	30.0 kN/m
Crack bridgeability @ 20°C (ASTM C836)	1.50mm

Pull-off strength (ASTM D4541)	3.0 N/mm²
Water vapour permeability (ASTM D1653)	Nil

TYPICAL SPECIFICATIONS

Specifications can be tailored to suit individual circumstances but typically are as follows:

- **SpECtop CPD Primer SB/SF** (primer coat)
- **SpECtop CPD Elastomeric Membrane**
- **SpECtop CPD Finish**
- **SpECtop NS Grains** for non-slip finish
- **SpECtop UV**
- Typical system thickness 1.2mm (excluding NS Grains)

APPLICATION

SpECtop CPD Primer SB

The mixed primer should be applied to the prepared substrate by a stiff brush. Care should be taken to avoid over application.

If the primer is easily absorbed into the floor, it will be necessary to apply a second coat once the initial coat is tack free.

SpECtop CPD Primer SF

The mixed product may be applied by brush. The theoretical consumption rate is 5 m2/litre.

Care should be taken to ensure an unbroken primer layer with either **SpECtop CPD Primer SB/SF**.

SpECtop CPD Elastomeric Membrane

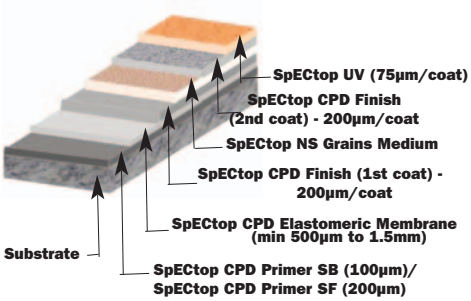
Immediately after mixing, spread the **SpECtop CPD Elastomeric Membrane** using a squeegee and/or medium pile roller. **SpECtop CPD Elastomeric Membrane** should only be applied over previously prepared and primed surfaces. Care should be taken to ensure that the time sequence of the application complies with primer recommendations.

Additional Toppings

Further coatings and toppings should be applied when **SpECtop CPD Elastomeric Membrane** is tack free.

SpECtop CPD Finish

Apply the mixed product either directly on the tack-free primer or on the tack-free **SpECtop CPD Elastomeric**, depending on the system requirements. The product may be applied between 200 and 500µm using a squeegee, roller or brush.



EQUIPMENT CLEANING

Clean all tools and equipment immediately after use with **SpECtop Cleaning Fluid** as required.

APPLICATION TEMPERATURE RANGE

Minimum	10°C
Maximum	30°C

PACKAGING & YIELD

Please refer to the individual product data sheets.

STORAGE & SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH & SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel should avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye Contact

Rinse with copious amounts of clean water and seek medical attention.

Skin Contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion

seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop CPD Primer SB and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flame or other ignition sources.

FLASHPOINT

SpECtop CPD Primer SB	>60°C
SpECtop CPD Primer SF	>150°C
SpECtop Cleaning Fluid	>40°C

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SpECtop CPD Elastomeric Membrane

CAR PARK DECK CRACK BRIDGING POLYURETHANE MEMBRANE


Chemical Resistance


Hygiene


Waterproof


VOC Free

DESCRIPTION

SpECtop CPD Elastomeric Membrane is a two pack, solvent free, flexible crack bridging polyurethane membrane forming part of the **SpECtop CPD System**.

TYPICAL USES

For application over concrete in combination with an appropriate primer to provide a highly flexible waterproof membrane.

ADVANTAGES

- Waterproof
- Highly elastic
- Excellent crack bridging properties
- Durable

TECHNICAL DATA

Typical results @ 25°C	
Pot life	>30 min
Tack free time	5 hours
Maximum Overcoating time	24hrs
Tensile strength (ASTM D412)	6.0 N/mm² @ 7 days
Elongation at break (ASTM D412)	700%
Tear resistance (ASTM D624)	30 kN/m
Crack bridgeability @ 20°C (ASTM C836)	3.20mm
Shore A Hardness (ASTM D2240)	78
Mixed Density	1200 kg/m³

APPLICATION

Surface Preparation

Surfaces to be treated must be sound, free from oil or other contaminants, loosely adhering coatings, laitance and dust.

Priming

The surface to be coated with **SpECtop CPD Elastomeric Membrane** should be primed with **SpECtop CPD Primer SB/SpECtop CPD Primer SF**.

Mixing

SpECtop CPD Elastomeric Membrane is supplied in a two-component kit consisting of a pigmented curing agent and a base component.

Both of the liquid components should be briefly stirred to ensure that any settlement products are fully suspended.

Empty the entire contents of the curing agent into the base component. To ensure that all material is extracted, the insides of the tins should be scraped. The curing agent and the base component should be mixed with a slow speed, heavy duty electric drill and a spiral mixing paddle for at least 3 minutes and until the material appears uniform in colour and consistency.

Do not mix by hand.

Application

Immediately after mixing, spread the **SpECtop CPD Elastomeric Membrane** using a squeegee and/or medium pile roller. **SpECtop CPD Elastomeric Membrane** should only be applied over previously prepared and primed surfaces. Care should be taken to ensure that the time sequence of the application complies with primer recommendations.

Additional Toppings

Further coatings and toppings should be applied when **SpECtop CPD Elastomeric Membrane** is tack free.

EQUIPMENT CLEANING

Clean with **SpECtop Cleaning Fluid** before the product hardens.

APPLICATION TEMPERATURE RANGE

SpECtop CPD Elastomeric Membrane should not be applied at material or floor temperatures below 5°C. Temperatures should not fall below 5°C during the first 24 hrs after application.

PACKAGING & YIELD

SpECtop CPD Elastomeric Membrane is supplied in the pack sizes given below with the following recommended coverage rate:

SpECtop CPD Elastomeric Membrane
4.5 litres and 15 litre
@ 1.0 - 2.0 m²/litre/coat

SpECtop CPD Primer SB
@ 10-15 m²/litre 1 litre pack gives 10-15m²
5 litre packs gives 50-75m²

SpECtop CPD Primer SF
1, 2 and 5 litre
@5 m²/litre

STORAGE & SHELF LIFE

Stored unopened in dry conditions at 10 - 25°C, with a shelf life of 6 months minimum.

HEALTH & SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact

Rinse with copious amounts of clean water and seek medical attention.

Skin contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion

Seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop CPD Elastomeric Membrane is non-flammable. **SpECtop CPD Primer SB/SpECtop CPD Primer SF** and **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flames or other sources of ignition.

FLASHPOINT

SpECtop CPD Elastomeric Membrane	**>100°C**
SpECtop Cleaning Fluid	**>40°C**

FURTHER INFORMATION

Where the products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

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SpECtop CPD Finish

CAR PARK DECK FLEXIBLE POLYURETHANE FINISH


Traffic & mechanical wear


Chemical Resistance


Slip Resistance


Hygiene


Impact Resistance


Waterproof


VOC Free


Cleaning & Maintenance


Colour Shades

DESCRIPTION

SpECtop CPD Finish is a two pack, solvent free, flexible polyurethane wearing surface forming part of the **SpECtop CPD System**.

TYPICAL USES

As a coloured finish coat over the **SpECtop CPD Primer SB/SpECtop CPD Primer SF** or **SpECtop CPD Elastomeric Membrane** as part of the **SpECtop CPD System**.

ADVANTAGES

- Hard wearing
- Good chemical resistance
- Slip resistant finish available
- Solvent free

TECHNICAL DATA

Typical results @ 20°C±3

Pot life	25 mins
Tack free	5 hrs
Foot traffic	3 days
Full cure	7 days
Tensile strength (ASTM D412)	20 N/mm² @ 7 days
Elongation at break (ASTM D412)	45.0%
Tear resistance (ASTM D624)	35.0 kN/m
Shore A Hardness (ASTM D2240)	94

A full colour range of UV stable finishes is available - please refer to **SpECtop UV** data sheet.

Batch to batch colour variation may occur. Ensure that materials for final application are always drawn from the same batch.

APPLICATION

Surface Preparation

Surfaces to be treated must be dry, sound, free from oil or other contaminants, loosely adhering coatings, laitance and dust.

Priming

1. As a polyurethane wearing surface

The prepared surface should be primed with **SpECtop CPD Primer SB/SpECtop CPD Primer SF**.

The contents of the curing agent should be emptied into the contents of the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10-15 m²/litre. Do not over apply.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack-free.

Allow the primer to become tacky prior to applying **SpECtop CPD Finish**.

2. As part of **SpECtop CPD System** **SpECtop CPD Elastomeric Membrane** acts as the primer for **SpECtop CPD Finish**. **SpECtop CPD Finish** must be applied within 12 - 24 hours following the application of **SpECtop CPD Elastomeric Membrane**.

Mixing

SpECtop CPD Finish is supplied as a two-component kit consisting of a base component and a curing agent.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.

The most convenient method of mixing is by using a slow speed, heavy-duty electric drill.

Empty the entire contents of the curing agent into the base component. To ensure that all material is extracted, the insides of the tins should be scraped. The curing agent and the base component should be mixed with a slow speed, heavy duty electric drill and a spiral mixing paddle for at least five minutes and until the material appears uniform in colour and consistency.

Application

Apply the mixed product either directly on the tack-free primer or on the tack-free **SpECtop CPD Elastomeric**, depending on the system requirements. The product may be applied between 200 and 500µm using a squeegee, roller or brush.

EQUIPMENT CLEANING

Clean with **SpECtop Cleaning Fluid** before the product has cured.

PACKAGING & YIELD

SpECtop CPD Finish is supplied in 4.5 litre and 15 litre pack and covers 4 m²/litre depending on surface texture.

APPLICATION TEMPERATURE RANGE

SpECtop CPD Finish should not be applied if material and/or floor temperatures fall below 5°C. Temperatures should not fall below 5°C during the first 24 hours after application.

The product should not be applied if material and/or floor temperature exceed 35°C.

STORAGE & SHELF LIFE

Stored unopened in dry conditions at 10 - 35°C, shelf life will be 12 months.

HEALTH & SAFETY

Some of the components of this product may be hazardous during application. Please consult the relevant Health & Safety Data Sheets.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

Issue 7: 10/2012

QA-054

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SpECtop CPD Linemarker

CAR PARK DECK BASED LINEMARKING

DESCRIPTION

SpECtop CPD Linemarker is a two component, solvent based, UV stable, polyurethane sealer coat available in a range of colours.

TYPICAL USES

SpECtop CPD Linemarker is typically used as a linemarker for the **SpECtop CPD System** and **SpECtop** range of epoxy and polyurethane resin systems. SpECtop CPD Linemarker is ideal for all weather exposure.

ADVANTAGES

- UV Stable
- Hard wearing
- Good chemical resistance
- Slip resistant finish available

TECHNICAL DATA

Typical results at 20±3°C	
Solids (%)	68
Pot life	4 hours
Tack-free	4 hours
Full Cure	7 days
Time to recoat	7-24 hours
Tensile strength (ASTM D412)	14 N/mm²
Elongation at break (ASTM D412)	50%
Tear resistance (ASTM D624)	40.0 kN/m
Shore A Hardness (ASTM D2240)	67
Typical system thickness (wft)	100µm

APPLICATION

Surface Preparation

Surfaces to be treated must be sound, free from oil or other contaminants, loosely adhering coatings, laitance and dust.

Priming

Not normally required.

Mixing

SpECtop CPD Linemarker is supplied in a two component kit consisting of a curing agent and pigmented base component. Pack components are pre-weighed for optimum performance. Never split or proportion packs.

Both of the liquid components should be briefly stirred to ensure that any settlement products are fully suspended. Mix with a slow speed drill and helical mixer head for 2 minutes.

Application

Immediately after mixing apply **SpECtop CPD Linemarker.** Apply using a medium pile roller. Ensure product is not allowed to pond on the substrate to ensure an even textured finish without discolouration due to excessive application. Allow to cure for 7 days before

exposing to foot traffic.

EQUIPMENT CLEANING

Clean with **SpECtop PU Cleaning Fluid** before the product has cured.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	30°C

PACKAGING & YIELD

SpECtop CPD Linemarker is supplied in 4.5 and 15 litre units. Typically applied at 10 m²/litre/coat.

STORAGE & SHELF LIFE

Stored unopened in dry conditions at 10 - 25°C, shelf life will be 6 months minimum.

HEALTH & SAFETY

Some of the components of this product may be hazardous during mixing and application. Please consult the relevant Health & Safety Data Sheets available from **SpEC** on request and sent with each delivery.

FLAMMABILITY

SpECtop CPD Linemarker and **SpECtop PU Cleaning Fluid** are flammable. Do not expose to naked flames or other sources of ignition.

FLASHPOINT

SpECtop CPD Linemarker	>40°C

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

Issue 5: 11/2013

QA-054

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SpECtop CPD Primer SB

CAR PARK DECK SOLVENT-BASED PRIMER

DESCRIPTION

SpECtop CPD Primer SB is a two-part, solvent based low viscosity epoxy resin, for priming concrete surfaces prior to the application of the **SpECtop CPD System**.

TYPICAL USES

SpECtop CPD Primer SB is suitable for providing an excellent bond between cementitious surfaces and the **SpECtop CPD System** range.

ADVANTAGES

SpECtop CPD Primer SB has low viscosity properties, which enable the material to penetrate the substrate. This penetration and the chemical bond, which forms between the primer and the subsequently applied topping, provides a bond greater than the cohesive strength of the parent concrete.

TECHNICAL DATA

Typical results @ 25°C	
Specific gravity	0.97
Pull-off strength (ASTM D4541)	3.0 N/mm²

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop CPD Primer SB** such as grit blasting. This preparation should ensure the removal of all grease, oil and loose material.

Mixing

SpECtop CPD Primer SB is supplied as a two-component kit consisting of a base component and a curing agent.

The contents of the curing agent tin should be emptied into the base component and stirred with a spatula until the product appears uniform.

Application

The mixed primer should then be applied to the prepared substrate by a stiff brush. Care should be taken to avoid over application.

If the primer is easily absorbed into the floor, it will be necessary to apply a second coat once the initial coat is tack free.

PACKAGING AND YIELD

SpECtop CPD Primer SB is supplied in 1, 5 and 15 litre units. The theoretical coverage rate is 10 - 15 m²/litre.

EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above this range the pot life of the material will be reduced, therefore the material should be stored in a cool environment.

STORAGE AND SHELF LIFE

SpECtop CPD Primer SB has a shelf life of 12 months when stored in original containers in a cool, dry environment.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact	Rinse with copious amounts of clean water and seek medical attention.
Skin contact	Rinse with copious amounts of clean water followed by thorough cleaning with soap and water. DO NOT USE SOLVENTS
Ingestion	Seek immediate medical attention. DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop CPD Primer SB & **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flame or other sources of ignition.

FLASHPOINT

SpECtop CPD Primer SB	>60°C
SpECtop Cleaning Fluid	>40°C

Issue 4: 01/2011

QA-054

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SpECtop CPD Primer SF

CAR PARK DECK SOLVENT-FREE PRIMER

DESCRIPTION

SpECtop CPD Primer SF is a two-part solvent-free epoxy resin bonding agent used to produce a high quality bond between existing concrete surfaces and subsequently **SpECtop CPD System**.

TYPICAL USES

SpECtop CPD Primer SF is suitable for providing an excellent bond between cementitious surfaces and the **SpECtop CPD System** range.

ADVANTAGES

- High mechanical strength
- Produces a bond that exceeds the cohesive strength of the parent substrate
- Solvent free

TECHNICAL DATA

Typical results after 7 days @ 20°C		
Compressive strength (BS 6319: Pt 2)		50 N/mm²
Slant Shear strength (BS 6319: Pt 4)		40 N/mm²
Typical results @	**20°C**	**30°C**
Pot life	6hrs	3hrs
Max. overlay time	20hrs	10hrs
Initial hardness	48hrs	24hrs
Full cure	7days	7days

APPLICATION

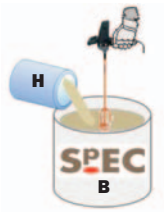
Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop CPD Primer SF**. The prepared surface should be free from laitance, dust, algae, oil and grease.

Mixing

SpECtop CPD Primer SF is supplied as a two-component kit consisting of a base component and a curing agent.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.



The entire contents of the curing agent should be emptied into the base component, ensuring that the sides of the curing agent tin are carefully scraped to remove all the material.

The combined materials should then be mixed using a suitable slow-speed drill and mixing paddle for 2 minutes until uniform. The sides of the tin should then be scraped and mixing should continue for a further 2 minutes.

Application

The mixed product may be applied by brush. The theoretical consumption rate is 5 m^2/litre.

When applying **SpECtop CPD Primer SF** care should be taken to ensure an unbroken coating. One coat should be applied and allowed to gel. A second coat should then be applied.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

To improve mixing and application characteristics, at temperature below 15°C, the material should be stored in an environment above this temperature.

At temperature above 35°C the material may be applied, however, the pot life will be reduced. In these situations therefore, we would recommend that the material should be stored in a cool environment.

PACKAGING AND YIELD

SpECtop CPD Primer SF is supplied in 1, 2 and 5 litre units. The theoretical consumption rate is 5 m^2/litre.

EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

STORAGE AND SHELF LIFE

SpECtop CPD Primer SF has a shelf life of 12 months when stored in original, unopened containers in a cool, dry environment.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact	rinse with copious amounts of clean water and seek medical attention.
Skin contact	rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion	seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop Cleaning Fluid is flammable. Do not expose to naked flame or other sources of ignition.

FLASHPOINT

SpECtop CPD Primer SF	>150°C
SpECtop Cleaning Fluid	>40°C

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SpECtop SL

SELF-LEVELLING POLYURETHANE FLOORING

DESCRIPTION

SpECtop SL is a medium duty, flow applied, self-smoothing polyurethane floor topping, which provides a surface with excellent resistances to abrasion, chemical attack and other forms of physical aggression.

SpECtop SL is a seamless, matt, smooth finish with uniform colour based on water dispersed polyurethane resin combined with reactive polyurethane hardener and graded silica aggregates.

TYPICAL USES

SpECtop SL is ideally suited to areas subject to heavy duty use such as:

- Chemical processing
- Food processing/wet areas
- Brewing/dairy clean areas
- Engineering processing areas

ADVANTAGES

- Highest order of durability
- Resistance to abrasion
- Resistant to impact and chemical attack

TECHNICAL DATA

Compressive strength (BS 6319 Part 2)	62.0 N/mm²
Tensile strength (BS 2782:320D)	12.0 N/mm²
Flexural strength (ASTM D790)	40.0 N/mm²
Elastic modulus (BS 2782:320D)	1530.0 N/mm²
Slant shear bond strength (BS 6319)	55.0 N/mm²
Abrasion resistance by Taber mg loss/1000 cycles/1kg load with H18 wheel	900
RRL slip resistance	130 Dry 75 Wet
CURE SCHEDULE @ 20°C	
Usable life of full unit/ mix	15 mins
Initial film gel time	20 mins
Cure time to light pedestrian traffic	5-7 hours
Cure time to light wheeled traffic	12-16 hours
Cure time to heavy duty traffic	24 hours
Full cure	3-5 days
Colour	All colours available except white, blue and magnolia

CHEMICAL RESISTANCE

SpECtop SL has excellent resistance to organic and inorganic acids, alkalis, fuel

and hydraulic oils, aromatic and aliphatic solvents.

APPLICATION

Surface preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop SL**.

Grit Blasting is recommended to ensure the removal of all laitance, grease and oil. The resultant surface should be dry and dust free. Cracked and damaged areas must be made good with appropriate repair materials.

It is recommended that the edges of the floor areas adjoining the walls are rebated to produce a cross-section of 20mm deep by 6mm wide, running at 150mm from and parallel with the walls.

Priming

Priming of all surfaces should be undertaken with **SpECtop Primer F1**. The primer should be allowed to cure for a minimum of 16 hours prior to application of the **SpECtop SL**. (Maximum overcoating time at 20°C-48 hours).

In order to ensure a minimum film build of 2mm is maintained and also minimise wide variations in applied product film thickness, it is recommended that floors with notable variations on profile or level are scratch-coated with **SpECcoat BC** prior to application of **SpECtop SL**.

Mixing

SpECtop SL is a three-component product. Pre-mixing of the coloured liquid component is recommended to ensure any light settlement is reincorporated. Thoroughly drain the contents of the hardener component and mix for a minimum of one minute to provide a homogeneous mix. The resultant mixture should then be loaded into a rotary compulsory drum mixer and the aggregate component added in stages, mixing until a lump-free, smooth mix is obtained.

Application

Apply **SpECtop SL** to pre-primed areas, levelling to the required thickness with a steel trowel aided by a spiked roller. Spiked rollering should be effected within three minutes of application in order to avoid interfering with the flow and film gel times.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	30°C

Maximum moisture content of the substrate 10%.

EQUIPMENT CLEANING

Clean all tools and equipment immediately before and after use with **SpECtop Cleaning Solvent**.

PACKAGING & YIELD

SpECtop SL is supplied in 27.3 kg unit with a coverage rate of 3.63 kg/m² @ 2mm and 4.54 kg/m² @ 2.5mm.

SpECtop Primer F1 is supplied in 1 and 5 litre units with a theoretical coverage rate of 10 - 15 m²/litre.

STORAGE & SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH & SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel should avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye Contact rinse with copious amounts of clean water and seek medical attention.

Skin Contact rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop Primer F1 and **SpECtop Cleaning Solvent** are flammable. Do not expose to naked flame or other ignition sources.

FLASHPOINT

SpECtop Primer F1	55°C
SpECtop Cleaning Solvent	34°C

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SPECtop HF

HEAVY DUTY POLYURETHANE FLOORING

DESCRIPTION

SpECtop HF is a heavy duty polyurethane based floor screed designed to provide excellent resistance to abrasion and chemical attack.

TYPICAL USES

SpECtop HF is used in heavy duty situations such as chemical processing, food processing, brewing and engineering process areas.

ADVANTAGES

- High durability
- Resistant to abrasion, impact and chemical attack
- Able to be steam cleaned at a thickness of 9mm
- Seamless and hygienic finish
- Contains unique antimicrobial additive
- Excellent chemical resistance
- Easily cleaned
- Anti-slip finish
- Low odour during installation

TECHNICAL DATA

Compressive strength (BS 6319 Part 2)	59 N/mm²
Tensile strength (BS 2782:320D)	6.5 N/mm²
Flexural strength (ASTM D790-84a)	40 N/mm²
Elastic modulus (BS 2782:320D)	1350 N/mm²
Slant shear bond strength (BS 6319)	51 N/mm²
Abrasion resistance by Taber (Loss per 1000 cycles in mg/1000gm load) H_{22} wheel	900
RRL Slip resistance	
Wet	60
Dry	80
Typical results @ 20°C	
Pot Life	15 mins
Initial film gel time	20 mins
Light Traffic	4 - 6 hrs
Light wheeled traffic	12 - 16 hrs
Heavy duty traffic	24 hrs
Fully cured	3 - 5 days

CHEMICAL RESISTANCE

Excellent resistance to organic and inorganic acids, alkalis, fuel and hydraulic oils, aromatic and aliphatic solvents.

APPLICATION

Surface Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop HF**.

Grit blasting is recommended and must result in the removal of all laitance, grease and oil. The resultant surface should be dry and dust free.

Priming

The prepared surface should be primed with **SpECtop Primer FX**.

The contents of the curing agent should be emptied into the contents of the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 10 - 15 m²/litre. Do not over apply.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack-free.

Allow the primer to become tacky prior to applying **SpECtop HF**.

Mixing

Pre-mixing of the coloured liquid component is recommended to ensure any light settlement is re-dispersed. Thoroughly scrape the contents of the liquid colour component into the brown hardener component and mix for a minimum of 1 minute or to provide a homogeneous mix. The resultant mixture should then be loaded into a rotary drum mixer and the aggregate component added in stages, mixing until a lump free consistency is obtained. Apply to pre-primed areas and level with a pin rake as necessary and lightly touch up with a trowel.

Application

Immediately after mixing apply **SpECtop HF.** Spread out using a trowel and finish using a medium pile roller. Ensure product is not allowed to pond over the blinded substrate to ensure an even textured finish is achieved. Coving can be formed using **SpECtop HF Coving Mortar**.

EQUIPMENT CLEANING

Clean with **SpECtop PU Cleaning Fluid** before the product has cured.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	30°C

Maximum moisture content of substrate 10%

PACKAGING & YIELD

SpECtop HF is supplied in a 29.64kg unit with a coverage rate of 18kg/m² at 9mm or 12 kg/m² at 6mm.

STORAGE & SHELF LIFE

Stored unopened in dry conditions at 10 - 25°C, shelf life will be 12 months minimum.

HEALTH & SAFETY

Some of the components of this product may be hazardous during mixing and application. Please consult the relevant Health & Safety Data Sheets available from **SpEC** on request.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

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SpECtop MF

HEAVY DUTY FLOW APPLIED POLYURETHANE TOPPING

DESCRIPTION

SpECtop MF is a three component polyurethane self smoothing topping available in a range of matt colours.

TYPICAL USES

SpECtop MF is use to provide a heavy duty, hard wearing floor finish with exceptional chemical resistance. Typical areas for use are wet and dry process areas where the floor is subjected to heavy traffic, impact and chemical attack.

ADVANTAGES

- Impact resistant
- Seamless and hygienic finish
- Excellent chemical resistance
- Easy to clean and sterilise, low maintenance requirement
- Matt finish
- High abrasion resistance
- Low odour during installation

TECHNICAL DATA

Typical results at 20 °C	
Pot Life	15 mins
Initial film gel time	20 mins
Light traffic	4-6 hrs
Light wheeled traffic	16 hours
Full traffic	48 hrs
Fully Cured	3-5 days

Compressive strength (BS 6319 Part 2)	62 N/mm²
Tensile strength (BS 2782:320D)	15 N/mm²
Flexural strength (ASTM D790-84a)	35 N/mm²
Elastic Modulas (BS 2782:320D)	1530 N/mm²
Slant shear bond strength (BS 6319)	55 N/mm²
Abrasion resistance by Taber mg loss/1000 cycles/1kg load with H18 wheel	900
Surface spread of flame (BS 476 Part 7)	Class 2

COLOURS

All standard colours except white and magnolia.

SpECtop MF is not colour stable and may discolour on ageing; this is more noticeable in light colours. This will not impair its chemical resistance.

CHEMICAL RESISTANCE

ACIDS	
Citric 10%	Excellent
Acetic 10%	Excellent
Lactic 5%	Excellent
Sulphuric 20%	Excellent

Hydrochloric 20%	Excellent
Nitric 20%	Excellent
Phosphoric 20%	Excellent

ALKALI

Sodium Hydroxide 70%	Excellent
Ammonia 10%	Excellent

SOLVENTS

Engine Oil	Excellent
Hydraulic Oil	Excellent
Petrol	Excellent
Diesel	Excellent
Kerosene	Excellent
Butanol	Excellent
Acetone	Limited
Solvents (Xylene, Toluene)	Excellent

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop MF.**

Grit blasting is recommended to ensure the removal of all laitance, grease and oil. The resultant surface should be dry and dust free. Cracked and damaged areas must be made good with appropriate repair materials.

Priming

Either apply **SpECtop Primer FX** or apply a scratch coat of **SpECtop MF** and allow to cure. **SpECtop MF** must be applied within 24 hours.

Mixing

SpECtop MF is a three component product. Pre-mixing of the coloured liquid resin component is recommended to ensure any light settlement is reincorporated. Thoroughly drain the contents of the brown hardener component into the liquid coloured component and mix for a minimum of 1 minute or until a homogeneous mix is obtained. The resultant resin blend should then be loaded into a rotary drum mixer and the aggregate component added in stages, mixing until a lump-free, smooth mix is obtained.

Application

Apply to pre-primed areas levelling to the required thickness with a steel trowel and aided by a spiked roller . Spiked rollering should be carried out within 3 minutes of application in order to avoid interfering with the film gel time.

EQUIPMENT CLEANING

Clean with **SpECtop PU Cleaning Fluid** before the product has cured.

APPLICATION TEMPERATURE RANGE

Minimum	10°C
Maximum	30°C

PACKAGING & YIELD

SpECtop MF is supplied in 25.85kg units with a coverage rate of 7.60 kg/m² at 4mm, 9.50 kg/m² at 5mm and 11.40 kg/m² at 6mm.

STORAGE & SHELF LIFE

Stored unopened in dry conditions at 10 - 25°C, shelf life will be 12 months minimum.

HEALTH & SAFETY

Some of the components of this product may be hazardous during mixing and application.

Please consult the relevant Health & Safety Data Sheets available from **SpEC** on request and sent with each delivery.

FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements.

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SpECtop LFC

SELF-LEVELLING CEMENT BASED FLOORING COMPOUND

DESCRIPTION

SpECtop LFC is a two component product consisting of a bag of specially selected cements, graded sands and plasticisers and a liquid component, which is a blend of co-polymers. When mixed, the product provides a smooth, self-levelling material, which can be laid to a feather edge.

TYPICAL USES

SpECtop LFC provides a self-levelling, cement based underlay material for a wide range of floor finishes including carpets, tiles, vinyl sheet, linoleum and rubber sheet.

ADVANTAGES

- Pre-measured components giving consistent performance
- Polymer modified to ensure excellent adhesion to prepared substrate
- Curing is not generally required
- Easy to lay and excellent early strength grain

TECHNICAL DATA

Typical results @ 25°C	
Pot life	10 minutes
Flow (BS 890 Cone)	>30 cm
Compressive strength	
28 days	20.0 N/mm²
56 days	26.0 N/mm²
Typical thickness	from feather edge up to 10mm

APPLICATION

Surface preparation

It is essential that adequate preparation iscarried out prior to the application of **SpECtop LFC**. Light sweep blasting is recommended to ensure the removal of all laitance, grease and oil.

Priming

The substrate must be primed using **SpECtop LFC Primer** at the rate of 5 - 7 m²/litre. On very porous substrates it may be necessary to apply a second coat of primer if absorption is noted to be high. The primer/sealer must completely seal the floor or air release will cause bubbles to form in the **SpECtop LFC**.

Allow the primer to become touch dry.

Mixing

SpECtop LFC is supplied as a two component

pack consisting of a liquid component and a powder component.

Add approximately 50% of the liquid component to a clean 25 litre steel drum and gradually add the powder whilst mixing using a slow speed heavy duty drill fitted with a suitable mixing paddle (**SpEC Technical Department** can advise). Mix for 2 minutes. Slowly add the remaining liquid whilst mixing and continue mixing for a further 2 minutes.

Application

Pour the mixed product onto the primed substrate and spread using a squeegee or a pin screed. The material must then be rolled using a spiked roller with spikes of a length greater than the depth to be laid. There should be no delay between levelling the product and spike rolling. Troweling is not required. For large areas good site organisation is essential and the use of a grout pump may prove beneficial. **SpEC Technical Department** can advise of the types of pump available.

CURING

Curing is generally not required but in conditions of drying winds and high ambient temperatures the freshly hardened surface should be cured with a sealed polyethylene sheet.

The product should be allowed to cure for 72 hours @ 25°C when followed by carpets, thermoplastic tiles etc.

EQUIPMENT CLEANING

All equipment may be cleaned with water but cured material can only be removed by mechanical means.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

PACKAGING & YIELD

SpECtop LFC is supplied as a two product component weighing 21.6kg with a yield of 11 litres.

SpECtop LFC Primer is supplied in 5 and 20 litre packs with a coverage rate of 5 m²/litre.

STORAGE & SHELF LIFE

When stored in a cool environment, in original unopened containers, the material has a shelf life of 12 months.

HEALTH & SAFETY

The product is non-toxic but is mildly alkaline. Gloves should be worn during use. Splashes to the skin should be washed with clean water. Accidents splashes to the eyes should be washed with water but should prolonged irritation occur, medical advice should be sought.

FLAMMABILITY

SpECtop LFC and **SpECtop LFC Primer** are non-flammable.

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SpECtop CRM

CEMENTITIOUS REINSTATEMENT MORTAR FOR CONCRETE PAVEMENT AND FLOORS

DESCRIPTION

SpECtop CRM is supplied as a ready to use blend of dry powders, which only requires the addition of clean water to produce a highly consistent, high strength repair mortar. **SpECtop CRM** exhibits excellent thermal compatibility with concrete and water permeability.

TYPICAL USES

For the reinstatement of large areas of \concrete pavements and floors to avoid the total replacement of bays. The product is alkaline in nature and will protect embedded steel reinforcement. It may be used internally and externally.

For emergency patching of small areas of concrete pavements and floors, the use of **SpECtop RSR** is recommended.

ADVANTAGES

- Rapid strength gain will generally accept pedestrian traffic at 12 hours, significantly reducing down-time.
- High strength, abrasion and weather resistance.
- Single component product eliminates site batching and requires only the site addition of clean water.
- Excellent bond to the concrete substrate.
- Shrinkage compensated.
- Contains no chloride admixtures.

DESIGN CRITERIA

SpECtop CRM is designed for horizontal use. It may be applied up to a maximum thickness of 50mm. Thicker sections can be build up in layers. Material should not be applied at less than 10mm thickness. Individual bay sizes should not exceed 18m².

TECHNICAL DATA

Typical	
Compressive strength N/mm²	
ASTM C109	20 N/mm² @ 1 day
	40 N/mm² @ 7 days
	50 N/mm² @ 28 days
Coefficient of thermal expansion	7 to 12 x 10^{-6}/°C
Pot life	60 minutes @ 10°C
	30 minutes @ 20°C
	15 minutes @ 30°C
Setting time	110 minutes @ 10°C
	65 minutes @ 20°C
	48 minutes @ 30°C
Trafficking time	
Pedestrian	18 hours @ 10°C
	12 hours @ 20°C
	8 hours @ 30°C
Vehicular	36 hours @ 10°C
	24 hours @ 20°C
	16 hours @ 30°C
Density	2280 kg/m³

APPLICATION INSTRUCTIONS

Notes

To avoid possible reflective cracking in the **SpECtop CRM** repair, it is essential that live cracks and existing joint details in the substrate be given proper attention. Live cracks should be treated by an approved method. For further information, contact **SpEC Technical Department**.

Preparation

Saw cut or cut back the extremities of the repair locations to a depth of at least 12mm. Break out the complete repair area to a minimum depth of 12mm up to the sawn edge.

The surface should be clean and free from contamination. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting.

Oil and grease deposits should be removed by steam cleaning or detergent scrubbing and the effectiveness of decontamination assessed by a pull-off test.

Expose fully any corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit-blasting is recommended.

Where corrosion has occurred due to the presence of chlorides, the steel should be high pressure washed with clean water immediately after grit blasting.

The prepared area should be blown clean with oil-free compressed air and allowed to dry completely.

Priming

Reinforcing Steel

Apply one coat of **SpECcoat Zn25** to all exposed reinforcing steel and allow to dry before continuing. If any doubt exists about having achieved an unbroken coating, a second application should be made and, again, allowed to dry before continuing.

Substrate

Prime using **SpECbuild Primer E1**.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.

The entire contents of the curing agent should be emptied into the base component, ensuring that the sides of the curing agent tin are carefully scraped to remove all the material.

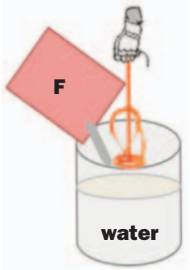
The combined materials should then be mixed using a suitable slow-speed drill and mixing paddle for 2 minutes until uniform. The sides of the tin should then be scraped and mixing should continue for a further 2 minutes. The mixed product may be applied by brush at a theoretical consumption rate of 5 m^2/litre/coat.

Mixing

SpECtop CRM is a ready to use blend of dry powders.

Care should be taken to ensure the **SpECtop CRM** is thoroughly mixed. A forced action mixer

is essential. Mix in a suitably sized drum using a **SpECbuild** Mixing Paddle in a slow speed (400/500 rpm) heavy-duty drill. Free- fall mixers must not be used. Mixing of part bags should never be attempted.



Place 2.3 litres of water into the mixing vessel and with machine mixing, slowly add the bag of **SpECtop CRM** and mix for 3 minutes until fully homogeneous. Do not mix for longer than this period as the heat developed will seriously reduce the pot life of the mixed product. Note that powder must always be added to water.

Application

While the **SpECbuild Primer E1** is still tacky, apply **SpECtop CRM** evenly by trowel and tamp in place with a wood float to ensure full compaction. Thoroughly compact the mortar around any exposed steel reinforcement. **SpECtop CRM** can be applied up to 50mm thickness in single applications.

Note: The minimum applied thickness of **SpECtop CRM** is 12mm.

FINISHING

SpECtop CRM should be struck off to the correct level and finished with a steel trowel to fully close the surface. A textured surface can be achieved using a suitable roller or brush. The completed surface should not be overworked.

HIGH AND LOW TEMPERATURE WORKING

At ambient temperature above 30°C, the material should be stored in the shade and cool water used for mixing.

In cold conditions down to 5°C, the use of warm water (up to 30°C) is advisable to accelerate strength development.

CURING

SpECtop CRM should be cured using **SpECcure WE** sprayed on to the surface of the finished mortar in a continuous film. Large areas should be cured as trowelling progresses at 0.5m² at a time. Avoid overspray at edges on to surrounding substrate. In fast drying conditions, supplementary curing with polyethylene sheeting taped down at the edges must be used. In cold conditions, the finished repair must be protected from freezing.

Overcoating with protective finishes

SpECtop CRM is extremely durable and will provide an excellent hard wearing surface to the repaired locations. Surrounding floor areas may benefit from the application of an abrasion or chemical resistant protective coating. For internal locations, **SpEC** recommend the use of the **SpECtop Flooring** range of protective coatings. These products provide a decorative and uniform appearances as well as protecting areas of the floor, which might otherwise be at risk. **SpECtop Flooring** products may be applied over the repair area after prior removal of the curing membrane - generally after 3 days. The **SpEC** Technical Department should be contacted for advice about external protective overlayments.

EQUIPMENT CLEANING

SpECtop CRM may be removed from tools with water however cured material may only be removed mechanically.

Equipment used with **SpECcoat Zn25** and **SpECbuild Primer E1** should be cleaned using **SpECtop Cleaning Fluid**.

Cured material can only be removed by mechanical means.

LIMITATIONS

SpECtop CRM, **SpECbuild Primer E1** and **SpECcoat Zn25** should not be used when the temperature is below 5°C and falling.

PACKAGING & YIELD

SpECtop CRM is supplied in 25kg bags yielding approximately 11.5 litres (0.9m² at 12mm thickness).

STORAGE & SHELF LIFE

All products have a shelf life in excess of 12 months provided they are stored in dry conditions in the original unopened packs.

HEALTH & SAFETY

SpECtop CRM contains cement powders, which when mixed or become damp, release alkalis, which can be harmful to the skin. During use, avoid inhalation of dust and contact with Skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The use of barrier creams provide additional skin protection.

In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water.

In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice.

If swallowed, seek medical attention immediately - do not induce vomiting

FLAMMABILITY

SpECtop CRM is non-flammable.

SpECcoat Zn25, **SpECtop Cleaning Fluid** and **SpECbuild Primer E1** are flammable.

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SpECtop RSR

RAPID SETTING REPAIR COMPOUND FOR CONCRETE PAVEMENTS & FLOORS

DESCRIPTION

SpECtop RSR is a ready to use blend of dry powders requiring only the addition of the recommended amount of clean mixing water. The resultant product exhibits high early strength and is virtually self-levelling. The product consists of blended cements and fillers with selected additives to provide the excellent handling characteristics demonstrated by the mixed product.

TYPICAL USES

SpECtop RSR may be used for the rapid reinstatement of concrete floors where interruption to traffic flow must be minimised.

ADVANTAGES

- Extremely rapid gain of strength
- Does not contain chloride based additives
- Excellent abrasion resistance
- Self compacting

TECHNICAL DATA

Typical results @ 20 °C	
Compressive strength	33 N/mm² @ 2hrs
	53 N/mm² @ 1 day
	62 N/mm² @ 7 days
	73 N/mm² @ 28 days
Working time	20 minutes @ 20 °C
	12 minutes @ 30 °C
Setting time	35 minutes @ 20 °C
	20 minutes @ 30 °C

APPLICATION

Preparation

Form a saw-cut around the perimeter of the repair to a depth of at least 10mm, to avoid feather edging and to give a tidy boundary to the proposed repair. Carefully break out the repair area ensuring a minimum depth of 10mm throughout. Clean the area to remove dust, laitance and other deleterious matter including rebar corrosion products. If doubt exists as to the effectiveness of the preparation, a pull-off test should be carried out to confirm satisfactory bond to the substrate.

All corroded reinforcing steel should be completely exposed and treated to remove all corrosion products by grit blasting to produce bright steel. If the cause of this corrosion is determined to be chloride attack, the steel and the surrounding concrete should be high pressure washed to remove any chlorides present in the repair area. The surface should be dried using oil-free compressed air.

Exposed reinforcing steel should be coated with **SpECcoat Zn25** in two coats and allowed to dry.

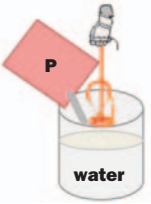
It is essential that **SpECbuild Primer E1** be used and applied with a scrubbing action to

ensure intimate contact with the prepared substrate, which should be completely dry prior to application. The use of **SpECbuild Primer E1** is also imperative where chlorides are known to be present in the host concrete.

Mixing

SpECtop RSR is a ready to use blend of dry powders.

A forced action mixer is required to mix **SpECtop RSR** however, for small one bag batches it is acceptable to use a suitably sized drum and to mix using a heavy duty slow speed electric drill fitted with a **SpECbuild** mixing paddle.



Place 3.2 litres of water in the mixer and add the powder slowly while the mixer is running. Continue mixing for 5 minutes.

Application

The mixed product should be applied to the primed substrate while the primer is tacky. Do not attempt to apply product to a dry primer. Apply the mortar by trowel and ensure thorough compaction around reinforcing steel.

The maximum bay size should not exceed 5m² and the product can be laid at a minimum of 10mm and a maximum of 100mm thick in one layer. On completion, the surface should be finished with a steel trowel to ensure a closed surface, however, the surface should not be over-worked.
In hot conditions it is recommended that the bags of product should be stored overnight in a cool environment and mixed using cold water. These precautions will enhance the relatively short pot life.

CURING

The finished surface should be cured using **SpECcure WE** immediately on completion of trowelling.

EQUIPMENT CLEANING

SpECtop RSR and **SpECcure WE** should be cleaned from tools using clean water. Cured material can only be removed mechanically. **SpECcoat Zn25** and **SpECbuild Primer E1** should be removed using **SpECtop Cleaning Solvent**.

PACKAGING & YIELD

SpECtop RSR	25kg bags yielding 11 litres of mixed product
SpECbuild Primer E1	1 & 5 litre tins
SpECcure WE	200 litre drums
SpECtop Cleaning Fluid	1 & 5 litre packs

STORAGE & SHELF LIFE

All products have a shelf life of 12 months providing they are stored in a cool dry store in unopened packs.

HEALTH & SAFETY

SpECtop RSR is alkaline and contact with skin and eyes should be avoided by the use of appropriate protective clothing.

For complete information refer to the product MSDS.

FLAMMABILITY

SpECtop RSR, **SpECbuild Primer E1** and **SpECcure WE** are non-flammable. **SpECcoat Zn25** and **SpECtop Cleaning Fluid** is flammable.

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SPECIALITY ENGINEERING CHEMICALS

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SpECtop Armourite E9

EMERY BASED, DRY SHAKE, MONOLITHIC SURFACE HARDENER FOR NEW CONCRETE FLOORS

DESCRIPTION

SpECtop Armourite E9 is supplied in 25kg bags and consists of graded emery aggregate blended with Ordinary Portland Cement and plasticisers.

SpECtop Armourite E9 is applied to plastic concrete and the resulting finished surface is extremely dense, abrasion resistant and hard wearing. As the application of **SpECtop Armourite E9** results in the floor curing monolithically with the topping, excessive shrinkage, cracking etc., is avoided.

The emery aggregate used, apart from being completely inert chemically, is exceptionally hard and is not prone to polishing.

TYPICAL USES

SpECtop Armourite E9 can be used in any application where an uncoated concrete is required to provide high abrasion, skid and impact resistance.

It is particularly suited for heavy industrial wear.

ADVANTAGES

- Non metallic aggregate
- No additions required - ready to use
- Extremely hard wearing emery aggregate resulting in high resistance to abrasion and impact resistance
- Monolithic bond to host concrete
- Resistant to oils and greases

TECHNICAL DATA

Compressive strength	
28 days	70 N/mm²
Abrasion Resistance	Test data indicates that Concrete floors treated with **SpECtop Armourite E9** exhibit an abrasion resistance 400% better than that exhibited by 40N/mm² concrete on its own.
Hardness	When tested against the Mohs hardness scale, the emery aggregate used in **SpECtop Armourite E9** provided values in excess of 8.5.
Impact Resistance	Testing in accordance with B.S. 8204: Part 1 gave results 5 times better than those required of a screed designed to

withstand heavy traffic.

APPLICATION

Preparation

It is essential that adequate planning of the application is made in advance and that sufficient material is laid out to meet the requirements of the application.

The base concrete slab should have a thickness not less than 80mm and the concrete mix design should be formulated as follows:

Water/cement ratio	<0.50
Cement content/m³	>300 kg
Slump	>75 mm
Air entrainment	<2%

Vacuum dewatering should not be used.

Application

SpECtop Armourite E9 should be applied at the rate of 5 to 7kg/m² depending on the degree of trafficking anticipated.

SpECtop Armourite E9 must be applied as soon as the base concrete has reached the stage where light foot pressure leaves an indentation of around 5mm or as soon as it is practicable to apply the product correctly without damaging the plastic surface of the base slab.

On large application it is essential that sufficient operatives are available to work at a controlled rate behind the concreting team.

SpECtop Armourite E9 is applied in two applications. The first application utilises two thirds of the chosen application rate and is broadcast evenly across the surface but ensuring the material lands nearly vertically rather than spread horizontally. Once applied the free water in the base concrete will slowly darken the applied material and once this stage is complete wood floating of the surface can commence. Do not over trowel at this stage.

The remaining one third of the material can now be applied and moisture allowed to combine with the material as before and wood floating of the surface can then be completed. Once the floor has attained a degree of stiffness at which light foot trafficking does not mark the surface, steel floating and/or power floating can progress.

CURING

SpECtop Armourite E9 should be cured with a curing membrane such as **SpECcure WE**.

Continuous polyethylene sheets taped at the edges is an acceptable alternative.

LIMITATIONS

SpECtop Armourite E9 must not be used in floor areas which are likely to be exposed to acids or any other product which is known to attack Ordinary Portland cement concrete.

PACKAGING & YIELD

SpECtop Armourite E9 is supplied in 25kg bags.

Medium duty	5kg/m²
Heavy duty	7kg/m²

STORAGE & SHELF LIFE

The shelf life of the product in sealed bags is typically in excess of twelve months.

Storage at high ambient temperatures or in high humidity environments may reduce the shelf life of the product.

HEALTH & SAFETY

SpECtop Armourite E9 is alkaline in nature and in a moist environment may be harmful and irritating to the skin, eyes and respiratory system.

Wear dust mask, gloves and goggles during handling.

Skin contact should be treated with soap and water.

Contact with the eyes should be treated by rinsing well with copious amounts of water prior to obtaining medical advice.

FLAMMABILITY

SpECtop Armourite E9 is non- flammable.

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SpECtop Armourite Standard

DRY SHAKE, MONOLITHIC SURFACE HARDENER FOR NEW CONCRETE FLOORS

DESCRIPTION

SpECtop Armourite Standard is supplied in 25kg bags and consists of graded synthetic mineral aggregate blended with Ordinary Portland Cement and plasticisers.

SpECtop Armourite Standard is applied to plastic concrete and the resulting finished surface is extremely dense, abrasion resistant and hard wearing. As the application of **SpECtop Armourite Standard** results in the floor curing monolithically with the topping, excessive shrinkage, cracking etc., is avoided.

The aggregate used, apart from being completely inert chemically, is exceptionally hard and is not prone to polishing.

TYPICAL USES

SpECtop Armourite Standard can be used in any application where an uncoated concrete is required to provide high abrasion, skid and impact resistance.

It is particularly suited for heavy industrial wear.

ADVANTAGES

- Non metallic aggregate
- No additions required - ready to use
- Extremely hard wearing aggregate resulting in high resistance to abrasion and impact
- Monolithic bond to host concrete
- Resistant to oils and greases

TECHNICAL DATA

Compressive strength	
28 days	70 N/mm²
Abrasion Resistance	Test data indicates that Concrete floors treated with **SpECtop Armourite Standard** exhibit an abrasion resistance 300% better than that exhibited by 40 N/mm² concrete on its own.
Hardness	When tested against the Mohs hardness scale, the emery aggregate used in **SpECtop Armourite Standard** provided values in excess of 7.0.
Impact Resistance	Testing in accordance with B.S. 8204: Part 1 gave results 3.5

times better than those required of a screed designed to with stand heavy traffic.

APPLICATION

Preparation

It is essential that adequate planning of the application is made in advance and that sufficient material is laid out to meet the requirements of the application.

The base concrete slab should have a thickness not less than 80mm and the concrete mix design should be formulated as follows:

Water/cement ratio	< 0.50
Cement content/m3	> 300kg
Slump	> 75mm
Air entrainment	< 2%

Vacuum dewatering should not be used.

Application

SpECtop Armourite Standard should be applied at the rate of 5 to 7kg/m² depending on the degree of traffic anticipated.

SpECtop Armourite Standard must be applied as soon as the base concrete has reached the stage where light foot pressure leaves an indentation of around 5mm or as soon as it is practicable to apply the product correctly without damaging the plastic surface of the base slab.

On large applications it is essential that sufficient operatives are available to work at a controlled rate behind the concreting team.

SpECtop Armourite Standard is applied in two applications. The first application utilises two thirds of the chosen application rate and is broadcast evenly across the surface but ensuring the material lands nearly vertically rather than spread horizontally. Once applied the free water in the base concrete will slowly darken the applied material and once this stage is complete, wood floating of the surface can commence. Do not over trowel at this stage.

The remaining one third of the material can now be applied and moisture allowed to combine with the material as before and wood floating of the surface can be completed. Once the floor has attained a degree of stiffness at which light foot traffic does not mark the surface, steel floating and/or power floating can progress.

CURING

SpECtop Armourite Standard should be cured with a curing membrane such as **SpECcure WE**.

Continuous polyethylene sheets taped at the edges is an acceptable alternative.

LIMITATIONS

SpECtop Armourite Standard must not be used in floor areas which are likely to be exposed to acids or any other product which is known to attack Ordinary Portland cement concrete.

PACKAGING & YIELD

SpECtop Armourite Standard - 25kg bags.

Medium duty	5 kg/m²
Heavy duty	7 kg/m²

STORAGE & SHELF LIFE

The shelf life of the product in sealed bags is typically in excess of twelve months.

Storage at high ambient temperatures or in high humidity environments may reduce the shelf life of the product.

HEALTH & SAFETY

SpECtop Armourite Standard is alkaline in nature and in a moist environment may be harmful and irritating to the skin, eyes and respiratory system.

Wear dust mask, gloves and goggles during handling.

Skin contact should be treated with soap and water.

Contact with the eyes should be treated by rinsing well with copious amounts of water prior to obtaining medical advice.

FLAMMABILITY

SpECtop Armourite Standard is non-flammable.

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SPECtop A100

COLOURLESS, HARDWEARING SURFACE COATING

DESCRIPTION

SpECtop A100 is a single pack, penetrating synthetic acrylic coating which has excellent adhesion to concrete substrates, porous tiles and clay products. It cures to form a semi-gloss flexible coating.

The coating is impervious to most oils, alkalis and commonly used chemicals.

TYPICAL USES

SpECtop A100 provides a coating, which acts as a protective barrier on porous surfaces thus resisting chemical attack and preventing dusting.

ADVANTAGES

- Cures and seals the floor in single operation
- Simple one part product applied by brush or spray
- Prevents dusting
- Waterproof
- Durable surface finish with good abrasion resistance.

TECHNICAL DATA

A colourless styrene acrylic copolymer resin in fast drying solvent.

Specific gravity	0.85 @ 20°C
Time between coats	2 hours minimum
Initial hardness	6 hours
Typical system thickness	100µm dft

APPLICATION

Preparation

The product can be applied by a roller or spray when the surface water has evaporated after the final finishing operation. The product requires no surface preparation providing the concrete does not exhibit a layer of laitance.

It is essential that a small trial area is prepared to confirm that the slight darkening caused by the coating is acceptable prior to proceeding.

Application

SpECtop A100 may be applied by brush, spray or roller. A continuous coating of uniform thickness should be achieved. A minimum of two coats is recommended.

PACKAGING AND YIELD

SpECtop A100 is supplied in the pack sizes given below with the following recommended theoretical coverage rate.

5 litres and 210 litres

@ 170µm wft:	6.0 m²/litre/coat (minimum 2 coats)

EQUIPMENT CLEANING

SpECtop A100 should be cleaned from tools and equipment immediately after use using **SpECtop Cleaning Fluid**.

LIMITATIONS

The durability of **SpECtop A100** may be reduced in areas of very heavy foot traffic and it is advisable to specify additional coats in such areas.

Alternatively higher build coatings such as **SpECtop SRE500** should be used.

STORAGE AND SHELF LIFE

SpECtop A100 has a shelf life of 12 months when stored in unopened packs in temperatures between 10 and 30°C and away from sources of heat and naked flame. If stored at higher temperatures the shelf life will be reduced.

HEALTH & SAFETY

SpECtop A100 & **SpECtop Cleaning Fluid** should not come into contact with skin or eyes or be swallowed. Avoid inhalation of vapour or spray. Use only in well ventilated areas. If working in confined spaces, suitable respiratory protective equipment must be worn. Wear suitable protective clothing and eye/face protection. Barrier creams additional skin protection.

FLAMMABILITY

SpECtop A100 and **SpECtop Cleaning Fluid** are flammable. No smoking. In the event of fire, extinguish with CO_2 or foam. Do not use spray.

FLASHPOINT

SpECtop A100	>60°C
SpECtop Cleaning Fluid	>40°C

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Coatings

Protective coatings for buildings and civil engineering structures

Civil Engineering

- **SPECcoat** PE145
  Solvent based pitch extended epoxy resin coating

- **SPECcoat** PE400
  High build, solvent-free pitch extended epoxy coating

- **SPECcoat** CRE200 Series
  High build, solvent free epoxy coatings

- **SPECcoat** MHL
  Acid resistant, solvent free epoxy lining and benching mortar

Accessories

- **SPECcoat** BC/BC121
  Epoxy bedding and repair mortars

SpECcoat PE145

SOLVENT BASED PITCH EXTENDED EPOXY RESIN COATING

DESCRIPTION

SpECcoat PE145 is a two part, solvent based, epoxy resin coating system modified with specially refined coal tar pitch. The coating once cured provides a strong semi-flexible corrosion resistant coating with excellent adhesion to a wide variety of substrates and good chemical resistance.

TYPICAL USES

To provide economic protection to concrete and metal structures in aggressive environments. Particularly useful and economic in dirty water situations such as:

- Sewage plants
- Effluent plants
- Docks
- Harbour installations

ADVANTAGES

- Good abrasion resistance
- Resistant to a wide range of chemicals (see Chemical Resistance chart)
- Provides long term protection
- No primer required
- Economic and versatile

TECHNICAL DATA

Volume solids	72%
Pot life	4 hours @ 20°C
Overcoating time	16 - 24 hours @ 20°C
Full cure	7 days @ 20°C
Service temperature	
Dry	30°C to +65°C
Typical system thickness	145 µm (min. 2 coats)

APPLICATION

Preparation

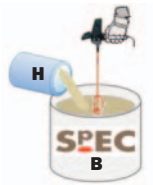
It is essential that adequate preparation is carried out prior to the application of **SpECcoat PE145**.

For concrete and steel surfaces, grit blasting is recommended. Steel surfaces should be prepared to bright metal Standard. The preparation should ensure the removal of old coatings, laitance, grease and oil.

Any imperfections or 'blow holes' should be filled using **SpECcoat BC**.

Mixing

SpECcoat PE145 is supplied in a two-component kit consisting of a base component and a curing agent.



The contents of the base can should be stirred thoroughly to disperse any settlement. The entire contents of the hardener can should then be added to the base container and mixed thoroughly until a uniform colour and consistency are obtained, taking particular care to scrape the sides and bottom of the container. It is recommended that mechanical mixing be employed using a Jiffy mixer on a heavy duty, slow speed electric drill.

Application

SpECcoat PE145 may be applied by brush, roller or airless spray. The application should produce an even coverage without pinholes.

The first coat should be worked well into the surface. The top coat should then be applied within 24 hours. Any condensation that has formed on the first coat should be wiped off before applying the second coat.

EQUIPMENT CLEANING

SpECcoat PE145 should be removed from tools and equipment with **SpECcoat Cleaning Fluid** immediately after use. Cured material can only be removed mechanically.

PACKAGING AND YIELD

SpECcoat PE145 is supplied in the pack sizes given below with the following recommended coverage rates:

SpECcoat PE145

4.5 litres and 15 litres

@100µm wft: 10.0 m²/litre per coat (minimum 2 coats)

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

STORAGE AND SHELF LIFE

When stored in a cool environment in original unopened containers, the material has a shelf life of 12 months.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel should avoid inhaling the vapours produced. If working is necessary in confined areas it is strongly recommended that sealed respiratory equipment is utilized.

Eye Contact

Rinse with copious amounts of clean water and seek medical attention.

Skin Contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion

Seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECcoat PE145 and **SpECcoat Cleaning Fluid** are flammable. Do not expose to naked flames or other sources of ignition.

FLASHPOINT

SpECcoat PE145	>60°C
SpECcoat Cleaning Fluid	>40°C

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SpECcoat PE400

COAL TAR PITCH, EPOXY COATING

DESCRIPTION

SpECcoat PE400 is a two part, solvent free, epoxy resin coating system modified with specially refined coal tar pitch. The product produces a high build, semi flexible corrosion resistant coating offering excellent adhesion to a wide variety of substrates and superior chemical resistance.

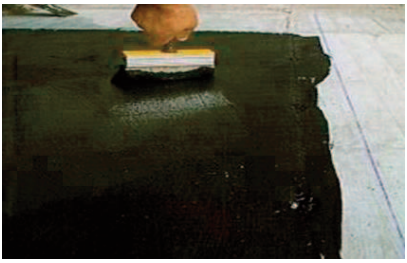
TYPICAL USES

SpECcoat PE400 is particularly suited to the following situations:

- Sewage tank protection
- Sewage pipes, manholes and effluent plants
- Chemical plant linings
- Coating steel, concrete and fibre cement pipes

ADVANTAGES

- Resistant to a wide range of chemicals (see Chemical Resistance Chart)
- Excellent adhesion, flexibility and waterproof characteristics
- High build abrasion resistant coating
- Can be laminated with glass fibre, if required
- May be applied by brush, roller or air less spray



TECHNICAL DATA

Typical Results	
Specific gravity	1.43 @ 20°C
Solids content	100%
Pot life	1 hour @ 20°C
Overcoating time	8 24 hours @ 20°C
Full cure	7 days @ 20°C
Service temperature	
Dry	30°C to +65°C
Typical system thickness	400µm (2 coats)

CHEMICAL RESISTANCE CHART

ACIDS	
10% Sulphuric acid	Excellent
Hydrochloric acid	Excellent
10% Phosphoric Acid	Excellent
10% Hydrofluoric acid	Excellent
Citric acid	Excellent

Conc. Sulphuric acid	Good
Conc. Hydrochloric acid	Good
Conc. Phosphoric acid	Good

ALKALIS

Sea water	Excellent
Dilute Sodium Hydroxide	Excellent
Ammonia salts	Excellent
Sodium Carbonate	Excellent
Calcium Carbonate	Excellent
Dilute Ammonia Hydroxide	Excellent
Conc. Sodium Hydroxide	Good
Conc. Ammonia Hydroxide	Good

SALT SOLUTIONS

Potassium/Aluminium Sulphate	Excellent
Ferrous Sulphate	Excellent
Calcium Chloride	Excellent
Sodium Phosphate	Excellent
Copper Phosphate	Excellent
Sodium Chloride	Excellent
Sodium Sulphate	Excellent
Sodium Acetate	Excellent

FATS & OILS

Animal	Excellent
Vegetable	Excellent
Mineral	Good

Note:

- **SpECcoat PE400** should not be subjected to chemicals until fully cured.

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECcoat PE400**.

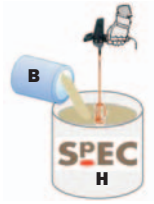
For concrete and steel surfaces, grit blasting is recommended. Steel surfaces should be prepared to bright metal standard. The preparation should ensure the removal of old coatings, laitance, grease and oil.

Any imperfections or 'blow holes' should be filled using **SpECcoat BC**.

Mixing

SpECcoat PE400 is supplied in a two component kit consisting of base resin and curing agent components. The two parts are produced in the correct proportions for mixing. Part mixing of the packs should not be attempted.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.



Empty the contents of the base component tin into the curing agent tin. To ensure that all of the base component is removed, the inside of the tin should be scraped. The material should then be mixed using a suitable slow speed electric drill with a spiral paddle attachment

for three to five minutes until the product appears uniform.

Application

SpECcoat PE400 may be applied by brush, roller or airless spray. The application should produce an even coverage without pinholes.

EQUIPMENT CLEANING

All equipment may cleaned of uncured material using **SpECcoat Cleaning Fluid**.

PACKAGING & YIELD

SpECcoat PE400 is supplied in the pack sizes given below with the following recommended coverage rates:

SpECcoat PE400

4.5 litres and 15 litres

@200µm wft: 5.0 m²/litre per coat (minimum 2 coats)

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above the quoted maximum the pot life will be reduced.

STORAGE AND SHELF LIFE

When stored in a cool environment in original unopened containers, the material has a shelf life of 12 months.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel should avoid inhaling the vapours produced. If working is necessary in confined areas it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact rinse with copious amounts of clean water and seek medical attention.

Skin contact rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestions seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECcoat Cleaning Fluid is flammable. Do not expose to naked flames or other ignition sources.

FLASH POINT

SpECcoat PE400	>150°C
SpECcoat Cleaning Fluid	>40°C

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Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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SpECcoat CRE200

NON-TOXIC, MOISTURE TOLERANT, SOLVENT-FREE EPOXY RESIN COATING

DESCRIPTION

SpECcoat CRE200 is a two-pack, solvent-free, epoxy resin coating. It is supplied in pre-measured quantities ready for mixing on site. The product, on curing, produces a smooth, tough, chemical resistant coating.

The product is supplied in two grades. The suffix **S** denoting standard and the suffix **W** denoting potable water grade.

TYPICAL USES

SpECcoat CRE200 may be used as a protective coating for concrete and mild steel. The coating, once cured, is resistant to common chemicals and abrasion. It is particularly suited for applications in water tanks, waste water treatment environments, dairies, food processing plant, abattoirs and grain silos.

ADVANTAGES

- Non-toxic
- Solvent-free therefore may be used in confined areas
- High build
- No primer required on concrete or mild steel
- Easily cleaned surface
- Resistant to a wide range of chemicals
- Corrosion and abrasion resistant

STANDARD

SpECcoat CRE200W complies with BS 6920: Part 1: 1990 as a coating suitable for contact with potable water

TECHNICAL DATA

Typical values @ 20 °C	
Solids content	100%
Gel time (minutes)	80 - 120
Overcoating times (hrs)	8 - 20
Full cure	7 days
Typical system thickness	400µm

CHEMICAL RESISTANCE CHART

ACIDS	
10% Sulphuric acid	Excellent
Hydrochloric acid	Excellent
10% Phosphoric Acid	Excellent
10% Hydrofluoric acid	Excellent
Citric acid	Excellent
1% Lactic acid	Excellent
Conc. Sulphuric acid	Good
Conc. Hydrochloric acid	Good
Conc. Phosphoric acid	Good

ALKALIS	
Sea water	Excellent
25% Sodium Hydroxide	Excellent

Sodium Carbonate	Excellent
Calcium Carbonate	Excellent
Dilute Sodium Hydroxide	Good
Conc. Sodium Hydroxide	Good
Ammonia salts	Good
Dilute Ammonia Hydroxide	Good
Conc. Ammonia Hydroxide	Good

SALT SOLUTIONS

Potassium/Aluminium Sulphate	Excellent
Ferrous Sulphate	Excellent
Calcium Chloride	Excellent
Sodium Phosphate	Excellent
Copper Phosphate	Excellent
Sodium Sulphate	Excellent
Sodium Chloride	Good
Sodium Acetate	Good

Solvents

Petrol	Excellent
Kerosene	Excellent

FATS & OILS

Animal	Excellent
Vegetable	Excellent
Mineral	Good

WATER

Chlorinated water	Excellent
Distilled water	Excellent

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECcoat CRE200**.

For concrete and steel surfaces, grit blasting is recommended. Steel surfaces should be prepared to bright metal standard. The preparation should ensure the removal of old coatings, laitance, curing compounds, grease and oil.

Any imperfections or 'blow holes' should be filled using **SpECcoat BC**.

Mixing

SpECcoat CRE200 is supplied in a two-component kit consisting of a base component and a curing agent.

The contents of the base component must be stirred thoroughly to disperse settlement. The total contents of the hardener component should be added to the base, taking care to scrape the sides of the can. Mechanical mixing must be used incorporating a suitable mixing paddle attached to a heavy duty, slow speed drill.

Mixing paddles are available from **Speciality Engineering Chemicals** on request.

Application

The mixed material should be applied by suitable brush.

The first coat should be applied to the substrate using a scrubbing action to ensure a uniform build of not less than 200µm. The first coat should be allowed to dry for at least 8 hours at 20°C or 4 hours at 35°C. The maximum quoted overcoat times should also be complied with (see above). The second coat must be applied exactly as above resulting in a film thickness of at least 200µm.

Should spray application be considered, contact our **Technical Department**.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using **SpECtop Cleaning Fluid**. Cured material can only be removed by mechanical means.

PACKAGING AND YIELD

SpECcoat CRE200 is supplied in the pack sizes given below with the following recommended coverage rates:

SpECcoat CRE200

4.5 litres and 15 litres

@ 200 µm wft: 5.0 m²/litre/coat (minimum 2 coats)

N.B. Due to wastage factors and the varied nature of substrates, actual coverage rates may be significantly reduced.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above this range the material should be stored in air-conditioned storage. At temperatures above 35°C the pot life of the product will be reduced.

STORAGE AND SHELF LIFE

SpECcoat CRE200 has a shelf life of 12 months when stored in original containers in a cool dry environment.

HEALTH AND SAFETY

SpECcoat CRE200 & **SpECtop Cleaning Fluid** should not come into contact with eyes or skin or ingested. When using **SpECtop Cleaning Fluid** ensure adequate ventilation and avoid inhalation of vapour. Wear adequate protective clothing including gloves and eye protection.

If contact with skin occurs, rinse with water then clean using soap and water.

If eye contact occurs, rinse with copious amounts
of water and seek medical assistance.

If swallowed, DO NOT induce vomiting. Seek medical attention immediately.

FLAMMABILITY

SpECcoat CRE200 is non-flammable.

FLASH POINT

SpECcoat CRE200	>150°C
SpECtop Cleaning Fluid	>40°C

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QA-054

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SpECcoat MHL

SOLVENT-FREE EPOXY LINING AND BENCHING MORTAR

DESCRIPTION

SpECcoat MHL is a three-component solvent-free, thixotropic epoxy compound, specifically formulated to provide a protective lining to concrete elements where chemical and abrasion resistance is required.

TYPICAL USES

- Ideally suited for the reinstatement of manholes and outfalls.
- As a protective lining to exposed concrete in sewage works.

ADVANTAGES

- Solvent free - non-hazardous in enclosed areas
- Highly impervious
- Excellent abrasion resistance
- Excellent impact resistance
- Excellent chemical resistance
- Trowels to a smooth finish
- Slip resistant
- Non-tainting

TECHNICAL DATA

Typical values

Compressive strength (ASTM C-109: 9)	70 N/mm² @ 1 day 85 N/mm² @ 7 days 93 N/mm² @ 14 days
Flexural strength (ASTM C-348: 92)	28 N/mm² @ 7 days
Tensile strength (ASTM C-307: 94)	11 N/mm² @ 7 days
Water absorption (ASTM C-413-94)	0.2%
Pot life	1 hour
Initial Hardness	1 day
Full cure	7 days
Fresh wet density	2,000 kg/m³

CHEMICAL RESISTANCE

10% Nitric acid	Good
50% Phosphoric acid	Very good
10% Lactic acid	Very good
10% Citric acid	Excellent
25% Hydrochloric acid	Excellent
10% Tartaric acid	Excellent
50% sodium hydroxide	Excellent
100% petrol / diesel	Excellent

APPLICATION

Preparation

The substrate must be thoroughly prepared by either high pressure water jetting or by light grit blasting. Any contaminants such as oil, grease or laitance must be removed completely.

Priming

The prepared surface should be primed with **SpECbuild Primer E1**.

The contents of the curing agent should be emptied into the base component and stirred with a spatula until the product appears uniform.

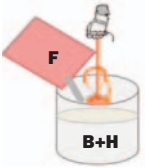
The mixed primer should then be applied to the prepared substrate by a stiff brush at 5m²/litre. If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second coat once the initial coat is tack-free.

Mixing

SpECcoat MHL is supplied in a three-component pack consisting of one tin of resin, one tin of hardener and one bag of specially selected fillers.

The product must be mixed as follows:

Empty the contents of the hardener tin into the base component and mix with a slow speed drill and paddle until uniform.



Empty the mixed resin and hardener into a clean 25 litre steel pail and whilst mixing, slowly add the filler component. The sides of the pail should be scraped down during mixing to ensure that all the ingredients are thoroughly blended. Mixing should continue for at least 5 minutes.

Application

SpECcoat MHL should be applied to the prepared and primed substrate using a steel trowel. The product should be pressed onto the surface in thickness no greater than 12mm vertically and in hot conditions it may be necessary to reduce the build to 10mm to avoid sagging. If subsequent layers are required, finishing of the first layer should be minimal to provide a mechanical key for the subsequent layer, which must be applied 24 hours later. The final layer should be close trowelled to achieve the desired finish.

EQUIPMENT CLEANING

SpECcoat MHL should be cleaned from tools and equipment immediately after use using **SpECcoat Cleaning Fluid**.

PACKAGING AND YIELD

SpECcoat MHL is supplied in 12 litre units.

Coverage

@ 12mm thick: 1.0 m²/litre

SpECbuild Primer E1 is supplied in 5 litre packs. Coverage 5 m²/litre

SpECcoat Cleaning Fluid is supplied in 5 litre packs.

LIMITATIONS

Do not mix part packs under any circumstances. **SpECcoat MHL** should not be exposed to running water during application. Exposure to heavy rain prior to hardening could result in surface scour.

STORAGE AND SHELF LIFE

Store in dry conditions in the original, unopened packs. If stored at high temperatures

or at high humidity, the shelf life may be reduced by as much as 6 months.

HEALTH AND SAFETY

SpECbuild Primer E1 & SpECcoat Cleaning Fluid are flammable. **SpECcoat MHL**, **SpECbuild Primer E1 & SpECcoat Cleaning Fluid** should not come into contact with skin or eyes or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Should accidental skin contact occur, remove immediately with a resin removing cream followed by soap and water. DO NOT USE SOLVENT. In case of eye contact, rinse immediately with plenty of clean water and seek medical advice. If ingested seek medical attention immediately. DO NOT INDUCE VOMITING

FLASH POINTS

SpECcoat MHL	>150°C
SpECbuild Primer E1	>150°C
SpECcoat Cleaning Fluid	>40°C

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SpECcoat BC

HIGH BUILD EPOXY RESIN BEDDING COMPOUND AND SKIM COAT

DESCRIPTION

SpECcoat BC is a two-pack, solvent-free, thixotropic epoxy resin paste. The product produces a smooth layer suitable to receive further epoxy coatings or maybe used as a bedding layer for pre-cast concrete units.

TYPICAL USES

SpECcoat BC is designed to fill blow holes and repair surface defects in concrete prior to the application of epoxy coatings.

SpECcoat BC may also be used as a bedding compound for pre-cast concrete elements including bridge beams, concrete kerbs and anchor bolts. Other uses include bedding slip bricks and the installation of starter bars in concrete.

ADVANTAGES

- Non-slump and non-shrink
- Easy to use
- Chemically resistant to a wide range of common chemicals
- Trowels to a smooth finish

TECHNICAL DATA

Specific Gravity	1.75 @ 20°C
Volume solids	100%
Compressive strength	70 N/mm² @ 7 days

Pot life

20°C	8 hours
35°C	4 hours

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECcoat BC**. All steel substrates should be sound and free from loose or flaking material. Grit blasting is required to produce a surface exhibiting bright metal finish and should be free of all contaminants.Concrete surfaces must be fully cured and free from laitance, mould oil and curing compounds.

Mixing

SpECcoat BC is supplied in a two-component kit consisting of a base component and a curing agent.

The total contents of the hardener can should be added to the base container taking care to scrape the sides of the can. Mechanical mixing must be used incorporating a suitable mixing paddle attached to a heavy duty, slow speed drill.

Mixing paddles are available from **Speciality Engineering Chemicals** on request.

The mixed material may be applied by a variety of tools such as trowels, scrapers, filling knives and squeegee.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using **SpECtop Cleaning Fluid**.

Cured material can only be removed by mechanical means.

PACKAGING AND YIELD

SpECcoat BC is supplied in 3 and 5 kg packs which yield around 1.7 and 2.9 litres respectively of mixed product.

Theoretical coverage	1.75 kg/m² at 1mm thickness

N.B. Due to wastage factors and the varied nature of substrates, actual coverage rates may be significantly reduced.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above this range the material should be stored in air-conditioned storage.

STORAGE AND SHELF LIFE

SpECcoat BC has a shelf life of 6 months when stored in original containers in a cool dry environment. At temperatures above 35°C the pot life will be reduced.

HEALTH AND SAFETY

SpECcoat BC and **SpECtop Cleaning Fluid** should not come into contact with eyes or skin or be ingested.

When using **SpECtop Cleaning Fluid** ensure adequate ventilation and avoid inhalation of vapour. Wear adequate protective clothing including gloves and eye protection.

If contact with skin occurs, rinse with water then clean using soap and water.

If eye contact occurs, rinse with copious amounts
of water and seek medical assistance.

If swallowed, DO NOT induce vomiting. Seek medical attention immediately.

FLAMMABILITY

SpECcoat BC is non-flammable.

FLASH POINT

SpECcoat BC	>150°C
SpECtop Cleaning Fluid	>40°C

Issue 8: 01/2011

QA-054

Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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SPECcoat BC121

HIGH STRENGTH, NON-FLOW, EPOXY BEDDING AND REPAIR MORTAR

DESCRIPTION

SpECcoat BC121 is a non-slumping epoxy bedding compound and adhesive. It is a two-component epoxy based mortar filled with selected fine aggregate. It is a fast curing material, ideal for a variety of bedding, gap filling and concrete repair applications.

SpECcoat BC121 is a stiff but easily workable compound that can be applied by either trowel, spatula or knife. It cures to give excellent mechanical properties, typical of epoxy compounds. It is resistant to oils, greases, petroleum, salts, many acids and alkalis and most common corrosive chemicals. It does not shrink on curing and is designed to be used when cured from below freezing point to 60°C. Its impact resistance and mechanical strength is greater than that of concrete.

TYPICAL USES

SpECcoat BC121 is designed for surface repairs of fine cracks and spalls. For gap filling, grouting, bedding fixtures etc. For repair to arises without the use of formwork. The product should not be used to fill defects prior to over-coating with **SpECcoat** or **SpECtop** products.

SpECcoat BC121 can be used in a range of applications such as:

- Bedding bridge beams or steel bridge bearings
- Repairing surface defects or honeycombing of concrete in horizontal, vertical or overhead situations
- Fixing slip bricks to concrete
- Securing bolts into walls
- Dowel bars anchoring
- As a gap filling adhesive
- Filling bolt pockets
- Repairing concrete posts in-situ
- Fixing of surface ports for crack injection

ADVANTAGES

- Non-slump
- Strong adhesion
- Impact resistant
- Non-shrink
- Trowels to a smooth finish
- Easy to use
- Supplied in pre-weighed units
- No bonding agent or primer required

TECHNICAL DATA

Typical test data

Colour	Grey
Specific gravity	1.45 @ 20°C
Compressive strength	66 N/mm² @ 7 days
Bond strength	Greater than the cohesive strength of concrete

Bond strength	Greater than the cohesive strength of concrete
Pot life	1 hr 45 mins @ 25°C 45 mins @ 40°C
Tack free time	7 hrs @ 25°C 2 hrs 15 mins @ 40°C
Full cure	5 days @ 25°C 3 days @ 40°C

APPLICATION

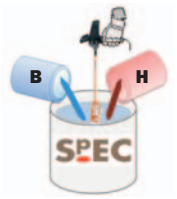
Preparation

All loose particles, laitance, dust and grease etc., must be removed prior to the application of **SpECcoat BC121**.

Mixing

SpECcoat BC121 is supplied in a two-component kit consisting of a base component and a curing agent.

1. The product may be proportioned by volume for small repairs at a ratio of 1:1.



2. Full pack mixing - both base and hardener units should be emptied into suitable mixing vessel and mixed, either by hand, using a trowel or using a slow speed drill and paddle and not suitable to use for large area.

Application

Knife or trowel, **SpECcoat BC121** to the required level. Where a very deep recess is to be filled, it may be necessary to build up in layers.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using **SpECtop Cleaning Fluid**.

PACKAGING & YIELD

SpECcoat BC121 is supplied in 3 kg packs, which yield around 2.0 litres of mixed product.

APPLICATION TEMPERATURE RANGE

SpECcoat BC121 will cure at temperatures as low as 5°C, although at low temperatures cure is retarded.

STORAGE & SHELF LIFE

SpECcoat BC121 has a shelf life of 6 months when stored under cover out of direct sunlight and protected from extremes of temperature. Failure to comply with recommended storage conditions may result in premature deterioration of the product orpackaging.

HEALTH & SAFETY

SpECcoat BC121 and **SpECtop Cleaning Fluid** should not come into contact with eyes, mouth, skin and foodstuffs (which can also be tainted with vapour until product fully cured or dried). Treat splashes to eyes and skin immediately. If accidentally ingested, seek immediate medical attention. Keep away from children and animals. Reseal containers after use. For further information refer to the material safety data sheet.

FLAMMABILITY

SpECcoat BC121 is non-flammable.

FLASH POINT

SpECcoat BC121	>150°C
SpECtop Cleaning Fluid	>40°C

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QA-054

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Joint Sealants

Joint sealants and filler boards for building and civil engineering structures

Building

- **SPECseal** PU25
  One part polyurethane, low modulus construction sealant
- **SPECseal** 210
  Heavy duty epoxy urethane joint sealant
- **SPECseal** Acrylic
  Single component acrylic sealant
- **SPECseal** GP Silicone
  Acetoxy silicone sealant
- **SPECseal** Neutral Silicone
  One component neutral silicone sealant
- **SPEC** SP1200
  One part acetoxyl silicone sealant

Civil Engineering

- **SPECseal** 200
  2 part polyurethane fuel resistant sealant
- **SPECseal** 625
  2 part polysulphide joint sealant
- **SPECseal** TS Series
  Hot poured thermo setting sealants

Joint Fillers

- **SPECcell** Fibre
  Bitumen impregnated fibreboard
- **SPECcell** Polyethylene Series
  Closed cell polyethylene joint filler board
- **SPECcord**
  Closed cell polyethylene back-up cord for joint

SpECseal PU25

1 PART POLYURETHANE, MEDIUM MODULUS CONSTRUCTION SEALANT

DESCRIPTION

SpECseal PU25 is a one component, moisture curing, polyurethane construction sealant. The product has been formulated to offer a non-slump elastomeric sealant, which exhibits good skin formation time and fast cure.

TYPICAL USES

SpECseal PU25 may be used for bonding and sealing most common building materials including concrete, wood, lacquered metal, anodised aluminium and glass. **SpECseal PU25** has high elasticity, excellent recovery and tear resistance and good weatherability. **SpECseal PU25** can also be used in submerged conditions.

ADVANTAGES

- Tough resilient seal
- No primer required
- Non staining
- Good resistance to dilute acids and alkalis
- Available in range of colours
- Non-toxic - safe for potable water applications

STANDARD COMPLIANCE

ISO 11600 Class F 25LM

ASTM C 920

TECHNICAL DATA

Colours	black, grey, white, teak, middle grey (special colours subject to minimum order size)
Movement accommodation factor	25%
Consistency	thixotropic
Specific gravity @ 20°C	1.3
Tooling time @ 20°C and 50% R.H.)	30 min.
Paint compatibility	water-based: compatible solvent based: check compatibility
Skin formation time (23°C 50% R.H.)	45 minutes
Curing speed (23°C 50% R.H.)	3.5mm/24 hours
Shore A hardness MEI 022	20 - 30
Modulus at 100% elongation (ISO 8339)	0.20 - 0.30 MPa
Elongation at break (ISO 8339)	>250%
Temperature resistance	-20 to +80°C

CHEMICAL RESISTANCE

SpECseal PU25 is resistant to:

Ultraviolet light	good
Dilute acids and bases	medium
Salt water	excellent

APPLICATION

Preparation

It is essential that the joint arises are clean and free from any deleterious matter which could prevent adequate bond to the substrate.

The substrates must be clean, dry, free of dust and grease.

Application

SpECseal PU25 shall be applied with a manual or pneumatic caulking gun. The product should be gunned into the prepared joint. Do not apply the sealant at temperatures <5°C. Do not apply on wet substrates. After application the sealant can be smoothed with a gloved finger using soap and water as lubricant.

For submerged conditions a firm backing and good adhesion to joint sides are essential. Concrete must be fully cured (4 weeks) and use of **SpECseal Primer P11** is recommended.

EQUIPMENT CLEANING

SpECseal PU25 should be removed immediately from tools using solvent (white spirit) before curing. Cured material can only be removed by mechanical means.

PACKAGING AND YIELD

SpECseal PU25 is supplied in 600ml sausage sachets. One sachet will fill 6 LM of 10mm x 10mm joint.

Width to Depth Ratio:

1 : 1 for joints up to 10mm wide.

2 : 1 for joints over 10mm wide.

APPLICATION TEMPERATURE RANGE

Minimum	+5°C
Maximum	+40°C

STORAGE AND SHELF LIFE

SpECseal PU25 has a shelf life of 12 months when stored in original packaging at a maximum temperature of 30°C. If stored at high ambient temperatures or at high humidity the shelf life will be reduced by as much as 50 - 60%.

HEALTH AND SAFETY

SpECseal PU25 contains isocyanate and should not come into contact with skin or eyes. If swallowed, DO NOT induce vomiting. Seek medical attention immediately. Refer to product MSDS for more information.

Issue 10: 05/2013

QA-054

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SpECseal 210

HEAVY DUTY EPOXY RESIN BASED SEALANT

DESCRIPTION

SpECseal 210 is a two component, epoxy resin based, pouring grade, joint sealant designed for limited movement, crack control or longitudinal joints where a high degree of resilience, abrasion, impact and chemical resistance is required.

TYPICAL USES

SpECseal 210 is ideally suited for sealing joints in industrial traffic areas e.g. factories, warehousing, traffic aisles, corridors, car parks and hangars.

ADVANTAGES

- Hard wearing and resilient - suitable for industrial traffic.
- Applied flush to floor - supports joints arises in industrial situations.
- Petrol, oil and chemical resistant - can be used in harsh environments.
- Pouring grade formula - easy to use.
- No priming required - excellent bond to concrete, asphalt and steel.

TECHNICAL DATA

Colour	black or grey
Movement	
Accommodation Factor	10%
Joint size/joint dimensions	
Minimum depth	10mm
Maximum depth	25mm

(The ideal depth of joint should not exceed its width)

Bond Strength	Excellent adhesion to concrete and SpEC Flooring Materials
Shore hardness	60 - 70
Pot life	2 hrs @ 20°C
Service temperature	-20°C to 65°C
Traffic times	24 hrs light traffic

CHEMICAL RESISTANCE

	24hrs	48hrs	7days	14days
Hydrochloric Acid 10%	U	U	U	U
Nitric Acid 10%	U	U	U	LA
Sulphuric Acid 10%	U	U	LA	LA
Acetic Acid 5%	U	LA	A	A
Citric Acid 5%	U	U	U	A
Ammonium Hydroxide 5%	U	U	U	U
Sodium Hydroxide 30%	U	U	U	U
Bleach 5%	U	LD	D	D
Brine 10%	U	U	U	U
Sugar Solution 10%	U	U	U	U
Detergents	U	U	U	U
Hydraulic Fluids (Skydrol)	U	LA	A	A
Isopropyl Alcohol	U	U	LA	LA
Linseed Oil	U	U	LA	LA
Lemonade Concentrate	U	U	U	LA
Water	U	U	U	U
Petrol	U	LA	LA	LA

Key: U: Unaffected D: Discoloured A: Affected L: Slightly

All Specimens were fully immersed for the duration of test. Experiments were carried out under controlled laboratory conditions and are for guidance only. For details regarding resistance to chemicals other than those listed, contact our Technical Department.

Note:

1) In all cases of chemical spillage, it is essential that the spillage be removed as quickly as possible and the surface washed down with water.
2) Keep chemicals off the surface until **SpECseal 210** has cured fully (min. 7 days). Do not allow material to come into contact with water for a period of less than 7 days or discolouration may occur.

APPLICATION

Surface Preparation

All joints should be prepared to provide clean, sound surfaces. Preparation should be grit blasting, angle grinding, scabbling, needle gunning or similar mechanical means.

When resealing old joints, broken arises should be made good using **SpECbuild EM**.

All joints should be blown clean with oil free compressed air.

SpECseal 210 can be applied onto slightly damp surfaces (not subject to running water).

Joint Design

Install SpECcord closed cell polyethylene joint backer or debonding tape (as appropriate) into the base of the joint to ensure the optimum depth to width ratio is achieved and prevent **SpECseal 210** from adhering along its base.

Mixing

Pour the entire contents of the smaller Pack B into Pack A and mix using a slow speed drill and suitable paddle for pack size. Mix for at least 3 minutes then scrape down sides of tin and mix for a further 1-2 minutes to ensure complete mixing.

Application

Mask off joint edges to ensure a neat finish and pour **SpECseal 210** flush with the surface. Gently run a bull nosed trowel or similar over the surface to break any air bubbles which appear. Remove masking tape before initial cure of **SpECseal 210**.

APPLICATION TEMPERATURE RANGE

4°C to 65°C

EQUIPMENT CLEANING

Clean all tools and equipment immediately after use with **SpECtop Cleaning Solvent**.

PACKAGING AND YIELD

SpECseal 210 is supplied in 4 litre factory controlled and weighed units.

COVERAGE

1 litre of material fills the following length of joint in metres.

Depth of Joint (mm)	Width of Joint (mm)				
	10	15	20	25	30
10	10	6.70	5.00	-	-
15	-	4.45	3.33	2.67	2.23
20	-	-	2.50	2.00	1.67

STORAGE AND SHELF LIFE

SpECseal 210 has a shelf life of 12 months if stored in the original sealed containers at temperatures between 5°C and 25°C.

HEALTH & SAFETY

Avoid ingestion.
Avoid contact with skin.
Wear gloves or barrier cream.
Protect eyes.
Ensure good ventilation.
Use hand cleanser and wash thoroughly after use.

For full details refer to Material Safety Data Sheet available on request.

Issue 2: 0/2007

QA-054

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SPECseal Acrylic

SINGLE COMPONENT ACRYLIC SEALANT

DESCRIPTION

SpECseal Acrylic is a single component universal acrylic sealant.

TYPICAL USES

SpECseal Acrylic can be used on all porous surfaces such as brick, concrete, wood, etc., and suitable for filling cracks and joints both indoors and outdoors. It is a cost effective plastic-elastic sealant ideal for particularly static joints.

ADVANTAGES

- Over paintable
- Very easy to apply and clean
- Waterproof after curing
- Resistant to weathering such as rain, snow and sunlight
- Solvent-free
- No odour

TECHNICAL DATA

Basis	Acrylic dispersion
Specific gravity	1.70±0.02 g/cm³
Curing rate	1 - 2 mm/day (23°C and 50% R.H.)
Tack-Free Time	60±20 min (23°C and 50% R.H.
Temperature resistance	10 to +80°C

APPLICATION

Surface preparation

The joint must be clean and free from dust, grease and rust.

Priming

No primer is required for non-porous surfaces. On porous surfaces such as concrete, stone, cement and plaster, a primer (mixture of one part of acrylic sealant and 4-5 parts of water) can be applied. Min/max joint width must be 5mm/25mm. The recommended joint depth/width ratio is 1:2. Immediately after the application, smooth the sealant at once with wet finger or a wet tool. Excess sealant can be removed by a wet cloth. Keep the sealed joint dry at least for two hours.

Application

- Sealing of low and medium movement joints between various construction materials (wood, concrete, brick, etc.)
- Filling cracks in walls and on ceilings.
- Sealing joints between windows, walls , doors, etc.

APPLICATION TEMPERATURE RANGE

Minimum	+5°C
Maximum	+40°C

EQUIPMENT CLEANING

Cured sealant can be removed mechanically.

STORAGE & SHELF LIFE

SpECseal Acrylic has a shelf-life of 15 months if stored properly.

RESTRICTIONS

SpECseal Acrylic should not be used for sealing joints permanently exposed to water. It should not be applied in case of risk of rain or frost. **SpECseal Acrylic** is not elastic, therefore it must not be used in expansion joints. It can painted barely with paints that are sufficiently elastic.

HEALTH & SAFETY

SpECseal Acrylic should not come into contact with skin or eyes or be swallowed.

Wear suitable protective gloves, eye / face protection and overalls. If in contact with eyes rinse with clean water and seek medical advice.

Issue 1: 07/2011

QA-054

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SpECseal GP Silicone

ACETOXY SILICONE SEALANT

DESCRIPTION

SpECseal GP Silicone acetoxy silicone sealant is a one-part moisture curing silicone sealant.

TYPICAL USES

SpECseal GP Silicone acetoxy silicone sealant is suitable for use across a broad range of application.

ADVANTAGES

- Excellent adhesion to a variety of non-porous substrate such as glass, glazed ceramic tiles and aluminium
- Resistant to ozone, ultra-violet radiation and temperature extremes
- Cured sealant is mildew resistant
- It will bond to form a durable, flexible, waterproof seal on many common wet area building materials.

TECHNICAL DATA

Cure system	Acetoxy
Standard colours	Clear and white
Specific gravity	0.96-0.97 g/ml
Extrusion	800 g/minutes
Penetration	270 mm/30s
Skin-over time (23°C, 50% RH)	15 minutes
Cure rate (23°C, 50% RH) 1 day	2mm
2mm thickness S2 dumbbells (ASTM D412)	
E-Modulus 100%	0.4 MPa
Tensile strength	2.0 MPa
VOC Content	28g/ltr
Elongation at break	570%
Hardness (Shore A)	17

APPLICATION

Surface preparation

Surfaces must be clean, dry and free from grease, dust and frost. Non-porous surfaces: Aluminium, glass, etc. should be cleaned with a suitable solvent for the substrate such as **SpEC R40** cleaner.

Application

The sealant is ready to use. After suitable joint preparation and masking, the sealant is gunned into place and tooled within 5 minutes, using a spatula. Masking tape is then removed immediately.

APPLICATION TEMPERATURE RANGE

Minimum	+5°C (+41°F)
Maximum	+40°C (+104°F)

EQUIPMENT CLEANING

Uncured material can be removed by using a suitable solvent or an approved sealant remover. Cured material maybe removed by abrasion or other mechanical means.

PACKAGING & YIELD

SpECseal GP Silicone acetoxy silicone sealant is supplied in 280ml cartridges.

STORAGE & SHELF LIFE

SpECseal GP Silicone acetoxy silicone sealant has a shelf-life of 12 months if stored properly.

HEALTH & SAFETY

SpECseal GP Silicone acetoxy silicone sealant should not come into contact with skin or eyes or be swallowed.

Wear suitable protective gloves, eye / face protection and overalls. If in contact with eyes rinse with clean water and seek medical advice.

If swallowed, DO NOT induce vomiting, seek medical attention immediately.

Avoid inhalation. Ensure adequate ventilation in confined areas.

Issue 2: 04/2012

QA-054

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SpECseal Neutral Silicone

ONE-COMPONENT NEUTRAL SILICONE SEALANT

DESCRIPTION

SpECseal Neutral Silicone is a one component performance optimized neutral cure, low modulus silicone sealant designed for a wide range of interior and exterior applications. It provides a superior adhesion to a range of porous and non-porous surfaces including concrete, masonry, brick, varnished and painted wood, U-PVC, polyacrylate, polycarbonate, aluminum, glass and glazed substrates and most metals used in construction.

SpECseal Neutral Silicone is engineered for glazing and professional trade applications.

TYPICAL USES

SpECseal Neutral Silicone is designed to be used in a variety of situations such as:

- External weather seal
- Concrete and construction applications.
- For expansion, connection, control, perimeter and other movement joints.
- General purpose sealing and bonding agent
- Space filling rubber adhesive, formed in place gaskets and caulking
- Sealing window & door frames, siding, trim, skylights, gutters, vents & pipes and sealing to some plastics & vinyl
- Mirror adhesive
- Suitable for sealing joints in some marble sand granite (trial needed)

ADVANTAGES

- Easy to apply, ready to use as supplied.
- Excellent unprimed adhesion to a variety of porous and non-porous substrates
- Alkoxy Neutral cure
- Resistant to ozone , UV radiation and temperature extremes
- Cured sealant is mold and mildew resistant
- Low odor

TECHNICAL DATA

Cure system	Alkoxy
Colour	White, grey and black
Specific (CTM) gravity	1.52 g/ml
Extrusion (CTM)	210 g/minute
Skin over Time (CTM)	15 min @ 23°C and 50 % R.H.
Tack free time (CTM)	30 min @ 23°C and 50% R.H.
Cure time (23°C, 50% R.H.) (CTM)	
1 day	2 mm
3 days	4 mm
Elastic Recovery (ISO 7389)	>90%
Joint movement Capability (ISO 9047)	± 50%
Shore A Hardness (CTM)	30
2mm thickness S2 dumbbells (ASTMD412)	
E- Modulus 100 %	0.45 MPa
Tensile strength	1.8 MPa
Elongation at break	700%

APPLICATION

Surface preparation

The surface must be clean and free from dust, grease and rust, clean non porous substrates with **SpEC R-40 Cleaner** and allow to dry.

Use a steel brush clean porous substrates to ensure removal of all loose particles.

Masking

Adjacent to the joint areas should be protected by masking tape.

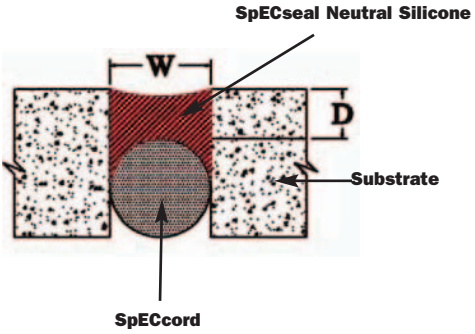
Back-up Material

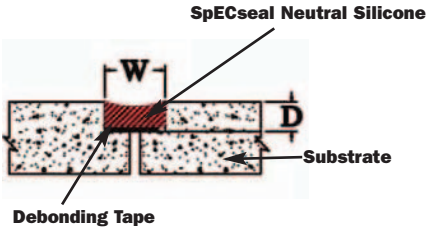
SpECccell Polyethylene should be used as a backup material to control the sealant depth and avoid the unwanted 3 sided adhesion.

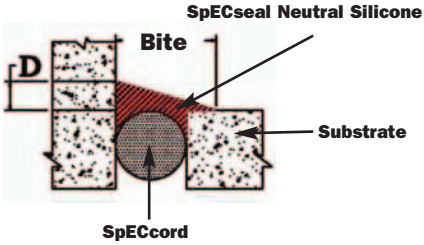
JOINT DESIGN

The minimum width of the joint should be 5mm. For joint sizes up to 10 mm the depth of the sealant should be 5mm. For joint above 10mm a width to depth ratio of 2:1 should be used. In situations where fillet joints required, a min of 5 mm bite on each side of the substrates is required.

Joint Design Details







Sealant Application

Apply **SpECseal Neutral Silicone** sealant in a continuous operation using a light positive pressure. This will help spreading the sealant against the Back-up material and joint surfaces.

Sealant Finishing

The applied sealant should be tooled within 5 minutes of application. This will ensure proper adhesion of the sealant with the joint substrates before a cured skin forms.

Theoretical Coverage Rate

As per the following table, in liters per meter run and depending on joint size:

		Joint width (mm)			
		10	**20**	**30**	**40**
Joint depth (mm)	**5**	0.05			
	10		0.20		
	15			0.45	
	20				0.80

Note: the mentioned above coverage rates are theoretical. A wastage factor should be considered in actual site applications.

APPLICATION TEMPERATURE RANGE

Minimum +5°C

Maximum +50°C

EQUIPMENT CLEANING

Cured sealant can be removed mechanically.

STORAGE & SHELF LIFE

Shelf life is indicated by the "Use By" date found on the product label.

LIMITATIONS

SpECseal Neutral Silicone sealants are not recommended:

- In totally confined areas
- On bituminous substrates, substrates based on natural rubber, chloroprene or EPDM or on building materials which might bleed oils, plasticisers or solvents
- On submerged joints
- For structural glazing or insulated glazing applications
- For food contact applications, nor for medical use.
- For aquarium.

HEALTH & SAFETY

SpECseal Neutral Silicone should not come into contact with skin or eyes or be swallowed. Wear suitable protective gloves, eye / face protection and overalls. If in contact with eyes rinse with clean water and seek medical advice.

If swallowed, DO NOT induce vomiting, seek medical attention immediately.
Avoid inhalation. Ensure adequate ventilation in confined areas.

Issue 3: 06/2012

QA-054

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SpEC SP1200

ONE-PART ACETOXY SILICONE SEALANT

DESCRIPTION

SpEC SP1200 acetoxy silicone sealant is a one-part moisture curing silicone sealant.

TYPICAL USES

SpEC SP1200 can be used across a broad range of application such as glazing, sealing & assembling, bathrooms & kitchens and doors & windows.

ADVANTAGES

- Excellent adhesion to a variety of non-porous substrates such as glass, glazed ceramic tiles and aluminum
- Resistant to ozone, UV radiation and temperature extremes
- Cured sealant is mildew resistant
- It will be bond to form a durable, flexible, waterproof seal on many common wet area building materials

TECHNICAL DATA

Basis	Acetoxy
Specific gravity	0.96 - 0.97 g/ml
Extrusion	800 g/minute
Penetration	270 mm/30s
Skin-over time (23°C, 50% RH)	15 minutes
Cure rate (23°C, 50% RH)	
1 day	2mm
2mm Thickness S2 dumbells (ASTM D412)	
E-Modulus 100%	0.4 MPa
Tensile strength	2.0 MPa
Elongation at break	570%
Hardness (Shore A)	17

APPLICATION

Surface preparation

The surface must be clean, dry and free from grease, dust and frost.

Non-porous surfaces: Aluminium, glass, etc. should be cleaned with a suitable solvent for substrate such as **SpEC R40** cleaner.

EQUIPMENT CLEANING

Cured sealant can be removed mechanically.

STORAGE & SHELF LIFE

Shelf life is indicated by the “Use By” date found on the product label.

HEALTH & SAFETY

SpEC SP1200 should not come into contact with skin or eyes or be swallowed.

Wear suitable protective gloves, eye / face protection and overalls. If in contact with eyes rinse with clean water and seek medical advice.

If swallowed, DO NOT induce vomiting, seek medical attention immediately.

Avoid inhalation. Ensure adequate ventilation in confined areas.

Issue 1: 06/2012

QA-054

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SPECseal 200

HIGH PERFORMANCE TWO COMPONENT FUEL RESISTANT JOINT SEALANT

DESCRIPTION

SpECseal 200 is a high performance fuel resistant sealant for use in horizontal and vertical joints in concrete subject to attack from fuels, chemicals and biodegradation. Its jet fuel and flame resistance makes it deal for sealing joints where fuel, oil, hydraulic fluid and skydrol spillage may occur, such as airport fuelling locations, highway fuelling stations, ports and wharfage. it can also be used for wastewater structured, industrial plants, pavements, roads and walkways.

TYPICAL USES

- High movement joints
- Immersed joints
- Pavement joints subject to fuel spillage
- Joints in wastewater structures
- Floors subject to chemical spillage

ADVANTAGES

- High performance in extreme climates
- Low modulus and high movement accommodation
- Fuel, oil, hydraulic fluid and skydrol resistant
- Stable in high temperature high humidity conditions
- Self levelling
- Excellent application characteristics

INTERNATIONAL STANDARDS COMPLIANCE

British standard 5212:1990 - Types N, F & B
US Federal Specification SS-S-200E

DESIGN IMPLICATIONS

SpECseal 200 has a movement accommodation factor (MAF) of 25%. When establishing joint spacing and the dimension of the sealing slot it should be recognised that concrete pavements do not always move uniformly and that consequently many joints may be subject to high movements.In this context reference should be made to BS 6093: 1993.

Joints in concrete pavements are subject to vehicular traffic. In view of this, joint sealants should always be recessed to ensure that at no time during the movement cycle will the sealant extrude above the level of the pavement surface.

SpECseal 200 is an elastomeric sealant and movement accommodation advantage can be gained by maintaining a slot width to depth ratio of between 1½:1 and 1:1. A sealant depth of 10mm should, however, be regarded as an absolute minimum to take into account normal tolerances associated with insitu concrete.

TECHNICAL DATA

Movement Accommodation	**Factor**
Butt joints	25%
Lap joints	50%
Initial cure	24hour @ 25°C
Full cure	7 days @ 25°C
Colour	Black. Grey available by special order

APPLICATION

Joint Preparation

The joint sealing slots should be accurately formed. The concrete must be sound, dry and oil and frost free.

The sealing slot surfaces must be well prepared to remove dust and laitance by grit blasting or grinding.

The slot should be blown out with dry, oil free compressed air just prior to priming. Care should be taken to ensure that the slot is formed to the required depth and any expansion joint filler tightly packed. A tight fitting cord or bond breaker should be inserted at the base of the slot to ensure that the sealant only bonds to the joint sides.

Priming

The prepared surface should be primed with **SpECtop Primer F1**.

The contents of the curing agent should be emptied into the base component and stirred with a spatula until the product appears uniform.

The mixed primer should then be applied to the prepared substrate by a stiff brush at 5 m²/litre.

If the primer appears to be absorbed into the surface easily, it will be necessary to apply a second-coat once the initial coat is tack-free.

SpECseal 200 must then be applied just after the primer becomes touch dry but before it has fully reacted. The sealant should be applied between 1 hour to 3 hours after priming. If the primer is left to dry longer than 3 hours the surfaces must be re-primed prior to applying the sealant.

Mixing

Drain the total contents of part B liquid into the part A tin. Mix thoroughly for 4 minutes using a slow speed drill (300 rpm) fitted with a SpECseal paddle mixer.

Application

SpECseal 200 should be applied into the joint using a **SpEC** 600ml or 1,500ml solid barrel gun. In the case of wide joints the sealant may be poured directly from the tin.

Refer to application Code of Practice BS5212:1990 Part 2.

Care should be taken to ensure that the sealant is recessed in the joint such that at no time during the movement cycle will the sealant extrude above the level of the concrete pavement.

APPLICATION TEMPERATURE RANGE

10°C to 40°C

Avoid application at ambient temperatures below 5°C. At this temperature frost may still exist in the slot and the cure time may be extended.

EQUIPMENT CLEANING

Clean equipment with **SpECseal Cleaning Solvent**.

PACKAGING & YIELD

SpECseal 200

4.0 and 15 litre pack

SpECtop Primer F1

1, 5 & 15 litre pack with a theoretical coverage rate of 10-15 m^2/litre.

SpECseal Cleaning Fluid

1.25 and 5 litre pack

STORAGE & SHELF LIFE

SpECseal 200

To maintain the shelf life of 12 months the sealant should be stored in the original containers at temperatures between 5°C and 25°C.

SpECseal Primer 20

To maintain a 12 months shelf life store in original sealed containers. The primer should be stored as a highly flammable liquid.

HEALTH & SAFETY

SpECseal 200 contains Isocyanate. Avoid contact with skin and eyes and avoid inhalation of vapour. Wear gloves and eye protection.

Accidental contact with the skin should be cleaned immediately with soap and water and any eye contact should be treated by rinsing with copious amounts of clean water and medical advice sought.

SpECseal Primer 20 contains Isocyanate. Avoid contact with skin and eyes and avoid inhalation of vapour.

Wear gloves and eye protection. Accidental contact with the skin should be cleaned immediately with soap and water and any eye contact should be treated by rinsing with copious amounts of clean water and medical advice sought. Keep away from flame and do not smoke.

SpECseal Cleaning Fluid

Avoid contact with skin and eyes and avoid inhalation of vapour.

Wear gloves and eye protection. Keep away from flame and do not smoke.

FLASHPOINT

SpECseal 200	over 65°C
SpECseal Primer 20	31°C
SpECseal Cleaning Fluid	33°C

Issue 11: 11/2012

QA-054

Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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SpECseal 625

TWO PART, POLYSULPHIDE JOINT SEALANT

DESCRIPTION

SpECseal 625 is a two part, low modulus, chemically curing polysulphide joint sealant developed specifically for dynamic joints. It is based on a liquid polysulphide polymer which when mixed with the hardener, cures to form a tough rubber like seal.

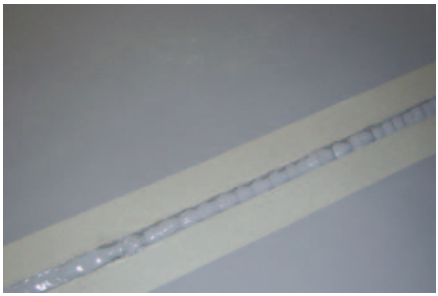
SpECseal 625 is available in both gun and pouring grade.

TYPICAL USES

For sealing and resealing high movement joints in building and civil engineering structures and for sealing joints in structures which are subject to high rapid movements.

ADVANTAGES

- Tough and resilient seal
- Provides permanent and uniform water tight seal
- Excellent adhesion to most surfaces
- Stays flexible - no brittle or cracking due to UV exposure
- Pouring and gun grades for horizontal, vertical and overhead applications
- Good chemical & weathering resistance
- Non-toxic once cured
- High resistance to ageing



TECHNICAL DATA

Movement accommodation factor (BS 6093 1993)	25% for butt joints
Pot life	2 hours at 25°C
Curing time	Tack free within 24 hrs @ 25°C
Full cure time	7 days at 25°C
Hardness (Shore 'A')	20 ± 5 @ 25°C
Appearance after curing	rubber like solid
Specific gravity	1.55 - 1.65
Colour	Grey

CHEMICAL RESISTANCE

Resistance to UV & Ozone	Excellent
Resistance to staining	Excellent
Fuels (solvents)	Good
Oil	Good

DESIGN IMPLICATIONS

The width of the joint sealant should be a minimum of four times the anticipated movement. Joints with cyclic movement should have a width to depth ratio of 2:1 but minimum depth of the sealant should be maintained as recommended:

- 10mm for all porous surface
- 20mm for joints exposed to traffic and hydrostatic pressure
- 5mm for impervious surface such as metals, glass, etc.

APPLICATION

Joint Preparation

The joint surface must be clean, dry and free from oil, loose mortar, laitance, release agents and other contaminants. A thorough wire brushing, grinding, sand blasting or solvent cleaning may be required to exposed clean, sound surface.

SpECseal Primer 25 for use on porous and non-porous surfaces.

SpECseal Primer 25 is a two component primer. The base and hardener components should be mixed together for 2 minutes to produce a uniform consistency.

The primer should be applied to clean, dry surfaces prior to the installation of backer rod or bond breaker tape.

The freshly mixed **SpECseal 625** should be applied after the primer solvent has been released and when it is just touch dry. The sealant should be applied ½ - 2½ hours after priming.

If the primer is left to dry longer than 2½ hours the surfaces must be re-primed prior to applying the sealant.

SpECcord or SpECcell Polyethylene should be used to control the depth of the joint to the recommended thickness. Where joint design or depth of joint will not permit the use of backing rod, use a bond breaker tape over the cut back joint filler.

Mixing

SpECseal 625HD is the gun grade and is supplied in 2.5 litre composite packs with the base and curing agent placed in the tin ready for mixing.

SpECseal 625P is the pouring grade and is supplied in 4 litre packs with the base and curing agent in separate tins ready for mixing.

The components should be mixed for a minimum of 5 minutes to obtain a uniform colour, free from streaks. Mixing should take place using a slow speed drill (300-400rpm) fitted with a SpECseal paddle mixer.

Do not part mix.

Application

Soon after mixing, the **SpECseal 625HD** should be loaded into a SpEC 600 ml solid barrel gun using a steel follower plate.

The joint faces should be protected with masking tape to facilitate tooling.

SpECseal 625 should be poured or gun applied firmly into the joint such that it makes positive contact with the joint faces.

The sealant should then be tooled off to compact it against the joint sides and the masking tape removed immediately after tooling.

EQUIPMENT CLEANING

Clean equipment with **SpECseal Cleaning Fluid** immediately after the tooling is finished.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	50°C

PACKAGING & YIELD

SpECseal 625HD is supplied in 2.5 litre tins .

SpECseal 625P is supplied in 4.0 litre tins.

SpECseal Primer 25 is supplied in one litre 2 part packs.

USAGE RATES

Length of joint in metres filled/1 litre of **SpECseal 625**

Depth (mm)	Width (mm)				
	10	15	20	25	30
10	10	6.7	5		
15	6.7	4.4	3.3	2.6	2.2
20	5	3.3	2.5	2.0	1.67
25		2.6	2.0	1.6	1.30

ANCILLARY MATERIALS & EQUIPMENT

SpECseal Primer 25
SpECseal Cleaning Fluid
SpECseal paddle mixer
SpECseal 600ml solid barrel gun
SpECcord closed cell polyethylene back-up cord

STORAGE & SHELF LIFE

To maintain the shelf life of 12 months, **SpECseal 625** should be stored in the original sealed containers at temperatures between 5°C and 25°C.

HEALTH & SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and all personnel should avoid inhaling the vapours produced. If working is necessary in confined areas it is strongly recommended that sealed respiratory equipment is utilized.

Eye Contact

Rinse with copious amounts of clean water and seek medical attention.

Skin Contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water. DO NOT USE SOLVENTS

Ingestion

Seek immediate medical attention. DO NOT INDUCE VOMITING

FLASHPOINT

SpECseal Primer 25	48°C
SpECseal Cleaning Fluid	34°C

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SPECseal TS555

HOT APPLIED PLASTO-ELASTIC JOINT SEALANT

DESCRIPTION

SpECseal TS555 is a hot-applied one part plasto-elastic joint sealant.

TYPICAL USES

SpECseal TS555 has been specifically developed for sealing joints in concrete and asphalt pavements, prefabricated road panels, transitional joints from concrete to bituminous substrates. **SpECseal TS555** is also particularly suitable for airfield pavements where there is no risk of fuel spillage.

ADVANTAGES

- Superior to straight bitumen sealants
- Resists flow on cambered pavements
- Highly resistant to de-icing salts
- Simple removal of sealant from pails by 'zip' method
- Exceptional track record

RELEVANT STANDARDS

BS 2499: Type N1: 1993
US Federal Specification
US-SS-S-164
ASTM D3405, D1190
AASHTO M301, M173

TECHNICAL DATA

Specific gravity	1.10 at 20°C
Service temperature	-20°C to 70°C
Application temperature	150 - 180°C
Movement accommodation factor	10%
Softening point	99°C
Resilience	85%

APPLICATION

Surface preparation

New concrete

The joint surfaces must be dry and free of all surface laitance.

All dirt, dust, laitance and contaminants to be removed either by high-pressure grit blasting, grinding or sawing. Joints, which have been wet-sawn, should be water jetted to remove all traces of cementitious slurry. Ensure that the joints are completely dry prior to commencement of sealing works.

SpECcord TS(PE) or debonding tape must be installed at the base of the joint.

Aged or weathered concrete

All existing sealing compounds must be completely removed by saw cutting or grinding to ensure that fresh uncontaminated concrete surfaces are exposed. Preparation procedures for new concrete should then be followed.

Priming

SpECseal Primer N1, which is specifically

suited to **SpECseal TS555**, must be used. The primer must completely cover the flanks of the joint arises, forming a continuous film. It is advisable to prime a strip of approximately 10mm width on the pavement on both sides of the joint. Allow the primer to dry prior to placing the sealant.

Heating & application

It is essential that correct heating in approved equipment is used.

SpECseal TS555 should be poured directly from the pails into an approved oil jacketed hermostatically controlled heater / extruder which has an agitator for continuous mixing during heating.

SpECseal TS555 must be heated to a minimum temperature of 150°C and extruded directly into the joint using a suitable lance.

Maximum safe heating temperature is 180°C. Maximum safe heating period is 6 hours.

THESE LIMITS MUST NOT BE EXCEEDED

Ensure that any initial material extruded, which will be contaminated with flushing oil, is discarded.

EQUIPMENT CLEANING

All equipment should be cleaned thoroughly using **SpECseal TS Cleaning Fluid**. Ensure that flames are extinguished prior to cleaning works.

Spillages should be absorbed immediately with sand, sawdust, vermiculite etc., and disposed of in accordance with local regulations.

PACKAGING & YIELD

SpECseal TS555 is supplied in 10kg and 30kg pails yielding around 9 litres and 27.3 litres at 20°C respectively. **SpECseal Primer N1** is also supplied in 30kg pail with a coverage rate calculated at 5kg primer : 25kg sealant.

ESTIMATING

$$\frac{\text{Joint width (mm) x sealant depth (mm) x joint length (metres)}}{1000}$$

= quantity of **SpECseal TS555** in litres

STORAGE & SHELF LIFE

DO NOT store in direct sunlight. **SpECseal TS555** should be stored in warehouse conditions not exceeding temperatures of 40°C.

HEALTH & SAFETY

SpECseal TS555 should not come into contact with skin or eyes or be swallowed. If contact occurs remove immediately with suitable cleansing cream followed by soap and water.

Wear suitable protective gloves, eye/face protection and overalls. If in contact with eyes rinse with clean water and seek medical advice.

If swallowed, DO NOT induce vomiting, seek medical attention immediately.

Avoid inhalation of fumes during heating and application. Ensure adequate ventilation in confined areas.

If in contact with hot sealant do not remove sealant or clothing but bathe in plenty of water and seek medical attention.

FLAMMABILITY

SpECseal Primer N1 is flammable.

FLASH POINT

SpECseal TS555	245°C
SpECseal Primer N1	2°C

Issue 7: 09/2007

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SpECseal TS569

HOT APPLIED PITCH/PVC ELASTOMERIC FUEL RESISTANT JOINT SEALANT

DESCRIPTION

SpECseal TS569 is a hot-applied one part elastomeric joint sealant.

The polymer modified product is supplied in drums and is heated in an approved extruder prior to installation into the joints. The unique formulation of **SpECseal TS569** enables direct application into joints without the use of a primer.

TYPICAL USES

SpECseal TS569 has been specifically developed for sealing joints in concrete pavements where fuel and chemical spillages are likely, i.e. airfield aprons, runways, taxiways, cargo handling areas, parking areas, petrol stations and service roads.

ADVANTAGES

- Highly resistance to petrol, oil and jet fuel spillages
- Resistant to jet blast and penetration from stones and other hard debris
- Self-levelling and high application rate
- Temperature range tolerance
- No primer required
- Conforms to all relevant civil and military specifications
- Elastomeric and high movement accommodation factor capability
- Exceptional track record

RELEVANT STANDARDS

BS 2499 1993 F1
US Federal Specification
SS-S-1614,167b,1401b,1614
ASTM D3569-85, D3406-85

TECHNICAL DATA

Specific gravity @ 20°C	1.3 kg/litre
Service temperature	-20°C to 70°C
Movement accommodation factor	25%
Resilience	65-75%

DESIGN FACTORS

Design of the joints should be such that the increase of the width of the joint due to thermal movement does not exceed the 25% movement accommodation factor expressed as a percentage of the joint width.

joint width (mm)	*sealant depth (mm)*
9 (min) – 12	as width + 3
13 - 15	15
16 - 25	as width
25 - 40 (max)	25 (max)

Typically joints should be sealed 4-5mm below flush, to prevent damage and to allow sealant room during expansion.

New concrete should be allowed to cure for minimum of 14 days prior to sealing works.

APPLICATION

Surface preparation

New concrete

The joint surfaces must be dry and free of all surface laitance.

All dirt, dust, laitance and contaminants to be removed either by high pressure grit blasting, grinding or sawing. Joints which have been wet-sawn should be water jetted to remove all traces of cementitious slurry. Ensure that the joints are completely dry prior to commencement of sealing works.

SpECcord TS (PE) or debonding tape must be installed at the base of the joint.

Aged or weathered concrete

All existing sealing compounds must be completely removed by saw-cutting or grinding to ensure that fresh uncontaminated concrete surfaces are exposed. Preparation procedures for new concrete should then be followed.

Priming

No priming is required providing that the preparation instructions are followed strictly. BS 2499 F1 specification obtained without the use of a primer.

Heating & application

It is essential that correct heating and approved equipment is used.

SpECseal TS569 should be poured directly from the drums into an approved oil jacketed thermostatically controlled heater / extruder which has an agitator for continuous mixing during heating.

SpECseal TS569 must be heated to a minimum temperature of 150°C and extruded directly into the joint using a suitable lance. The maximum safe heating temperature is 190°C with a maximum heating period is of 6 hours. THESE LIMITS MUST NOT BE EXCEEDED.

Ensure that any initial material extruded, which will be contaminated with flushing oil, is discarded.

EQUIPMENT CLEANING

All equipment should be cleaned thoroughly using **SpECseal TS Cleaning Fluid**. Ensure that flames are extinguished prior to cleaning works.

Spillages should be absorbed immediately with sand, sawdust, vermiculite etc., and disposed of in accordance with local regulations.

LIMITATIONS

SpECseal TS569 will not form a bond on asphalt surfaces.

PACKAGING & YIELD

SpECseal TS569 is supplied in 17 litre drums yielding around 22.1kgs at 20°C.

ESTIMATING

$$\frac{\text{Joint width (mm) x sealant depth (mm) x joint length (metres)}}{1000}$$

= quantity of **SpECseal TS569** in litres

STORAGE & SHELF LIFE

DO NOT store in direct sunlight. **SpECseal TS569** has a shelf-life of at least 2 years if stored in original containers between 10° and 25°C

HEALTH & SAFETY

SpECseal TS569 should not come into contact with skin or eyes or be swallowed. If contact occurs remove immediately with suitable cleansing cream followed by soap and water.

Wear suitable protective gloves, eye / face protection and overalls. If in contact with eyes rinse with clean water and seek medical advice.

If swallowed, DO NOT induce vomiting, seek medical attention immediately.

Avoid inhalation of fumes during heating and application. Ensure adequate ventilation in confined areas.

If in contact with hot sealant do not remove sealant or clothing but bathe in plenty of water and seek medical attention.

FLASH POINT

SpECseal TS569	245°C

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QA-054

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SpECcell Fibre

BITUMEN IMPREGNATED FIBRE BOARD JOINT FILLER

DESCRIPTION

SpECcell Fibre is made from highly resilient selected plant fibres. **SpECcell Fibre** is a compressible non-extruding, bitumen impregnated fibreboard expansion joint filler suitable for forming expansion joints in structures such as insitu concrete, brick and blockwork, and is a tough, durable material when used as a protection course for membrane waterproofing.

TYPICAL USES

SpECcell Fibre may be used in the following applications:

- Joints in trafficked surfaces, bridges, roads, runways and pedestrian areas
- As a temporary filler in expansion joints
- Joints in concrete roofs, external walls, cladding and floors
- As a filler in structural separation joints between buildings, in brickwork, concrete and block construction
- As a separator strip in slab pavement construction

ADVANTAGES

SpECcell Fibre completely fills the joints under repeated cycles of expansion and contraction and will not support dry or wet rot, fungus attack or similar forms of deteriorating agents.

TECHNICAL DATA

Form	Compressible sheet
Density (ASTM D1751, air dry)*	>300kg/m³
Recovery	50%
Compression (ASTM D1751)*	70%
Extrusion	50%
Compression (ASTM D1751)*	6mm
Brittleness (ASTM D994)**	No sign of crack or shatter
Distortion (ASTM D994)**	1.5mm
Service temperature range	-10 to +75°C

* **ASTM D1751** relates to bitumen impregnated fibre boards.

****ASTM D994** relates to asphaltic filler boards encased between asphalt saturated glass fiber felt layers

APPLICATION

SpECcell Fibre is a compressible joint filler in sheet form, used to form and fill expansion, isolation and control joints.

In concrete

SpECcell Fibre can be placed against formwork on the concreting side prior to placing the first section of concrete and is left in place on removal of the formwork. The subsequent

pour is then cast directly against the **SpECcell Fibre**. The fibreboard is then cut back later to form the sealing slot.

In brick & blockwork

SpECcell Fibre should be installed, whilst laying brick or blockwork, in such a way that a sealing slot, of the dimensions required, is formed.

Protection course

SpECcell Fibre should be installed to provide a continuous protection layer over the waterproof membrane. **SpECcell Fibre** may be bonded to the membrane using a rubberised bitumen mastic or other suitable adhesives.

PACKAGING & SIZES

SpECcell Fibre is available in the following sizes:

Thickness	10, 13, 19 & 25mm
Board size	1220mm x 2200mm

STORAGE & SHELF LIFE

SpECcell Fibre has a shelf life of 2 years if stored in cool, dry conditions.

HEALTH & SAFETY

There are no health hazards associated with the normal use of **SpECcell Fibre.** For further information refer to the MSDS.

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SpECcell Fibre 35

BITUMEN IMPREGNATED FIBRE BOARD JOINT FILLER

DESCRIPTION

SpECcell Fibre 35 is a high bitumen content fibre board made from highly resilient selected plant fibres. **SpECcell Fibre 35** is a compressible, non-extruding, bitumen impregnated fibreboard expansion joint filler suitable for forming expansion joints in structures such as insitu concrete, brick and blockwork, and is a tough, durable material when used as a protection course for membrane waterproofing.

TYPICAL USES

SpECcell Fibre 35 may be used in the following applications where a high bitumen content filler is required:

- Joints in trafficked surfaces, bridges, roads, runways and pedestrian areas
- As a temporary filler in expansion joints
- Joints in concrete roofs, external walls, cladding and floors
- As a filler in structural separation joints between buildings, in brickwork, concrete and block construction
- As a separator strip in slab pavement construction

ADVANTAGES

SpECcell Fibre 35 completely fills the joints under repeated cycles of expansion and contraction and will not support dry or wet rot, fungus attack or similar forms of deteriorating agents.

RELEVANT STANDARDS

SpECcell Fibre 35 complies with the requirements of ASTM D1751 and D994 for the properties shown in the technical data below.

TECHNICAL DATA

Form	Compressible sheet
Density (ASTM D1751, air dry)*	>304kg/m³
Recovery	50%
Compression (ASTM D1751)*	70%
Extrusion	50%
Compression (ASTM D1751)*	6mm
Bitumen content (ASTM D1751)*	35%+/-5
Brittleness (ASTM D994)**	No sign of crack or shatter
Distortion (ASTM D994)**	1.5mm
Service temperature range	-10 to +75°C

* **ASTM D1751** relates to bitumen impregnated fibreboards.

****ASTM D994** relates to asphaltic filler boards encased between asphalt saturated glass fiber felt layers

APPLICATION

SpECcell Fibre 35 is a compressible joint filler in sheet form, used to form and fill expansion, isolation and control joints.

In Concrete

SpECcell Fibre 35 can be placed against formwork on the concreting side prior to placing the first section of concrete and is left in place on removal of the formwork. The subsequent pour is then cast directly against the **SpECcell Fibre 35**. The fibre-board is then cut back later to form the sealing slot.

In brick & blockwork

SpECcell Fibre 35 should be installed, whilst laying brick or blockwork, in such a way that a sealing slot, of the dimensions required, is formed.

Protection course

SpECcell Fibre 35 should be installed to provide a continuous protection layer over the waterproof membrane. **SpECcell Fibre 35** may be bonded to the membrane using a rubberised bitumen mastic or other suitable adhesives.

PACKAGING & SIZES

SpECcell Fibre 35 is available in the following sizes:

Thickness	10, 13, 19 & 25mm
Board size	1220mm x 2200mm

STORAGE & SHELF LIFE

SpECcell Fibre 35 has a shelf life of 2 years if stored in cool, dry conditions.

HEALTH & SAFETY

There are no health hazards associated with the normal use of **SpECcell Fibre 35.** For further information refer to the MSDS.

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SpECcell Polyethylene 40

CLOSED CELL JOINT FILLER BOARD

DESCRIPTION

SpECcell Polyethylene 40 is a semi-rigid, U.V. resistant, high performance closed cell polyethylene foam joint filler in sheet form. It is suitable for use as an expansion joint filler in concrete, brick, blockwork and isolation joints, where a readily compressible low load transfer joint filler is required.

TYPICAL USES

- Structural expansion joints in concrete, brick and blockwork
- Isolation joints to infill panels
- As a back-up support for sealants
- As a bond breaker for sealants over bituminous joint fillers
- Anti-vibration pads for machinery bases

ADVANTAGES

- Non-absorbent, closed cell
- Readily compressible
- Rot proof
- Deformable - accepts temperature cycle with minimal load transfer
- Non-tainting, suitable for potable water applications
- Excellent recovery after compression
- Resilient - will not distort under normal load from wet concrete
- Easily worked - can be cut with a knife
- Economical in use
- Bitumen free - suitable for use with elastomeric sealants
- Chemical resistant - inert to most dilute acids and alkalis; resistant to oil and hydrocarbons

RELEVANT STANDARDS

SpECcell Polyethylene 40 meets or exceeds the requirements of the following specifications:

- U.K. Department of Transport Specification for Highway Works Part 3 - Clause 1015. 1991
- U.K. DOE Specs. for Road & Bridge Works - Clause 2630
- BS 5628 Part 3 : 2001
- U.K. Department of the Environment General Specification 201, Clause 606.

TECHNICAL DATA

Colour	White
Density	40 kg/m³
Water absorption	<0.2%
Compressive strength	>0.15 N/mm²
Recovery at 50% comp.	>90%
Extrusion on 50% comp.	<1mm
Operating temperature	-40°C to 70°C
Fire effect	**SpECcell Polyethylene 40** will melt in fire;

	the rate of spread of flame is minimized when confined in a joint
Compression loading	Meets the requirements of BS 5628 Part 3

APPLICATION

SpECcell Polyethylene 40 is a compressible joint filler in sheet form, used to form and fill expansion joints.

In concrete

SpECcell Polyethylene 40 can be placed against formwork on the concreting side prior to placing the first section of concrete and is left in place on removal of the formwork. The subsequent pour is then cast directly against the **SpECcell Polyethylene 40.** The fibre board is then cut back later to form the sealing slot.

In blockwork and brick

SpECcell Polyethylene 40 should be installed, whilst laying brick or blockwork, in such a way that a sealing slot, of the required dimensions is formed.

PACKAGING & YIELD

SpECcell Polyethylene 40 is available in the following sizes:

- Thickness: 10, 15, 20 & 25mm
- Board size: 1m × 2m

STORAGE & SHELF LIFE

Indefinite, when stored in cool dry conditions.

HEALTH & SAFETY

There are no health hazards associated with the normal use of **SpECcell Polyethylene 40**.

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SpECcell Polyethylene 60

CLOSED CELL JOINT FILLER BOARD

DESCRIPTION

SpECcell Polyethylene 60 is a semi-rigid, U.V. resistant, high performance closed cell polyethylene foam joint filler in sheet form. It is suitable for use as an expansion joint filler in concrete, brick, blockwork and isolation joints, where a readily compressible low load transfer joint filler is required.

SpECcell Polyethylene 60 is non-tainting and therefore suitable for use in potable water retaining and water excluding structures.

TYPICAL USES

TYPICAL USES

- Structural expansion joints in concrete, brick and blockwork
- Isolation joints to infill panels
- Bridge decks, abutments, pier hinge joints
- As a bond breaker for sealants over bituminous joint fillers
- As anti-vibration pads for machinery bases

ADVANTAGES

- Non-absorbent, closed cell
- Readily compressible
- Rot proof
- Deformable - accepts temperature cycle with minimal load transfer
- Non-tainting, suitable for potable water applications
- Excellent recovery after compression
- Resilient - will not distort under normal load from wet concrete
- Easily worked - can be cut with knife
- Economical in use
- Bitumen free - suitable for use with elastomeric sealants
- Chemical resistant - inert to most dilute acids and alkalis; resistant to oil and hydrocarbons

RELEVANT STANDARDS

SpECcell Polyethylene 60 meets or exceeds the requirements of the following specifications:

- U.K. Department of Transport Specification for Highway Works Part 3 - Clause 1015. 1991
- U.K. DOE Specs. for Road & Bridge Works - Clause 2630
- BS 5628 Part 3 : 2001
- U.K. Department of the Environment General Specification 201, Clause 606.

TECHNICAL DATA

Colour	Grey
Density	60 kg/m³
Water absorption	<0.2%
Compressive strength	>0.15 N/mm²
Recovery at 50% comp.	>90%
Extrusion at 50% comp.	<1.5mm

Weathering test	No disintegration
Bacteriological test	Pass
Operating temperature	-40°C to 70°C
Fire effect	**SpECcell Polyethylene 60** will melt in fire; the rate of spread of flame is minimized when confined in a joint
Compression loading	Meets the requirements of BS 5628 Part 3

APPLICATION

SpECcell Polyethylene 60 is a compressible joint filler in sheet form, used to form and fill expansion joints.

In concrete

SpECcell Polyethylene 60 can be placed against formwork on the concreting side prior to placing the first section of concrete and is left in place on removal of the formwork. The subsequent pour is then cast directly against the **SpECcell Polyethylene 60.** The fibre board is then cut back later to form the sealing slot.

In blockwork and brick

SpECcell Polyethylene 60 should be installed, whilst laying brick or blockwork, in such a way that a sealing slot, of the required dimensions is formed.

PACKAGING & YIELD

SpECcell Polyethylene 60 is available in the following sizes:

- Thickness: 10, 15, 20 & 25mm
- Board size: 1m ×2m

STORAGE & SHELF LIFE

Indefinite, when stored in cool dry conditions.

HEALTH & SAFETY

There are no health hazards associated with the normal use of **SpECcell Polyethylene 60**.

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SpECcell Polyethylene 100

CLOSED CELL JOINT FILLER BOARD

DESCRIPTION

SpECcell Polyethylene 100 is a semi-rigid, U.V. resistant, high performance closed cell polyethylene foam joint filler in sheet form. It is suitable for use as an expansion joint filler in concrete, brick, blockwork and isolation joints, where a readily compressible low load transfer joint filler is required.

SpECcell Polyethylene 100 is non-tainting and therefore suitable for use in potable water retaining and water excluding structures.

TYPICAL USES

SpECcell Polyethylene 100 may be used in the following applications:

- Structural expansion joints in concrete, brick and blockwork
- Isolation joints to infill panels
- Bridge joints, abutments, pier hinge joints
- As a back-up support for sealants
- As a bond breaker for sealants over bituminous joint fillers
- Anti-vibration pads for machinery bases

ADVANTAGES

SpECcell Polyethylene 100 meets the following requirements:

- Completely fills the joints under repeated cycles of expansion and contraction
- Resistant to moisture penetration and ice formation in the joint
- Will not support dry or wet rot, fungus attack or similar forms of deteriorating agents
- Non-taint
- Cross-laminated to resist lateral and hydrostatic pressure
- Natural bond breaker
- Low load transfer to joint edges under compression

RELEVANT STANDARDS

SpECcell Polyethylene 100 meets or exceeds the requirements of the following specifications:

- U.K. Department of Transport Specification for Highway Works Part 3 - Clause 1015. 1991
- U.K. DOE Specs. for Road & Bridge Works - Clause 2630
- BS 5628 Part 3 : 2001
- U.K. Department of the Environment General Specification 201, Clause 606.

TECHNICAL DATA

Colour	Black
Density	100kg/m³
Thermal conductivity	0.038 kcal/mh°C
Water absorption	0.012%
Operating temperature	- 40°C to +70°C
Recovery at 50% compression	Average - 98%

Extrusion	Nil - compressed to 50%
Weathering test	No disintegration
Bacteriological attack resistance	Excellent
Fire effect	**SpECcell Polyethylene 100** will melt in fire; the rate of spread of flame is minimized when confined in a joint.
Compression loading	Meets the requirements of BS 5628 Part 3

APPLICATION

SpECcell Polyethylene 100 is a compressible joint filler in sheet form, used to form and fill expansion joints.

In concrete

SpECcell Polyethylene 100 can be placed against formwork on the concreting side prior to placing the first section of concrete and is left in place on removal of the formwork. The subsequent pour is then cast directly against the **SpECcell Polyethylene 100.** The fibre board is then cut back later to form the sealing slot.

In blockwork and brick

SpECcell Polyethylene 100 should be installed, whilst laying brick or blockwork, in such a way that a sealing slot, of the required dimensions is formed.

PACKAGING & YIELD

SpECcell Polyethylene 100 is available in the following sizes:

- Thickness: 10, 15, 20 & 25mm
- Board size: 1m ×2m

STORAGE & SHELF LIFE

Indefinite, when stored in cool dry conditions.

HEALTH & SAFETY

There are no health hazards associated with the normal use of **SpECcell Polyethylene 100**.

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QA-054

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SpECcord

CLOSED CELL POLYETHYLENE BACK-UP CORD

DESCRIPTION

SpECcord is a closed cell polyethylene foam supplied in cord form for use as a back-up material for joint sealants. It is available in diameters from 6mm to 50mm.

TYPICAL USES

Joint sealant back-up cord in concrete and brickwork designed joints where cold applied sealants are used.

ADVANTAGES

- Economical
- Easy to install
- Excellent absorption & chemical resistance
- Provides a bond breaker function and minimum strain shape for joint sealants
- Not impaired by climatic extremes

TECHNICAL DATA

Density (ASTM D 1622)	24 - 48 kg/cm³
Water absorption (ASTM C 1016)	<0.03 g/ml
Compression recovery (ASTM D 5249)	>90%
Compression deflection (ASTM D 5249)	>20.5 KPa
Tensile strength (ASTM D 1623)	>200 KPa
Colour	white / grey

APPLICATION

Size Selection

Push fit into a sealing slot using a blunt tool to avoid damage to the cord. The diameter of the cord should be approximately 25% greater than the width of the joint so that the cord fits tightly in the joint, providing support for the sealant and ensuring the correct sealant profile.

PACKAGING

Per bag as follows:

6mm (5mm joints)	-	800 metre coil
10mm (8mm joints)	-	800 metre coil
15mm (12mm joints)	-	360 metre coil
20mm (16mm joints)	-	200 metre coil
25mm (20mm joints)	-	100 metre coil
30mm (24mm joints)	-	100 metre coil
40mm (32mm joints)	-	100 metre coil
50mm (40mm joints)	-	100 metre coil

APPLICATION TEMPERATURE RANGE

Minimum	-43°
Maximum	71°C

STORAGE AND SHELF LIFE

Indefinite, when stored in cool, dry conditions.

HEALTH AND SAFETY

There are no health hazards associated with the normal use of **SpECcord**.

Issue 5: 01/2011

QA-054

Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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Waterproofing
Waterproofing systems and waterstops for construction

Liquid

- **SPECtite** HP600
  High polymer, polyurethane elastomeric membranes

- **SPECtite** DP Series
  Bitumen emulsion waterproof membranes

Cementitious

- **SPECtite** CW100
  Flexible cementitious waterproof membrane

- **SPECtite** RS60
  Rapid setting plugging mortar

- **SPECtite** WS
  Surface applied capillary waterproofing system for concrete and mortar

Waterstops

- **SPECtite** PVC Waterstop
  Elastomeric PVC waterstops

- **SPECtite** Swellseal Waterstop
  Hydrophilic waterstop system

SpECtite HP600

ONE PART POLYURETHANE ELASTOMERIC MEMBRANE

DESCRIPTION

SpECtite HP600 is a black, liquid applied, pitch modified, high polymer, one part polyurethane, which cures upon exposure to atmospheric moisture to form a tough, flexible and elastomeric membrane with excellent water resistance and low vapour permeability.

TYPICAL USES

To provide a waterproofing membrane to building and civil engineering structures in a variety of situations such as:

- Tiled floors in bathrooms, shower rooms, kitchens and plant rooms
- Foundations and basement structures
- Suspended floors, parking decks and promenades over utilised areas
- Balconies, roof terraces, patios and planter boxes
- Inverted roofs (Consult our Technical Department for additional information)
- Non potable water retaining structures, sewage tanks, inspection pits and tunnels

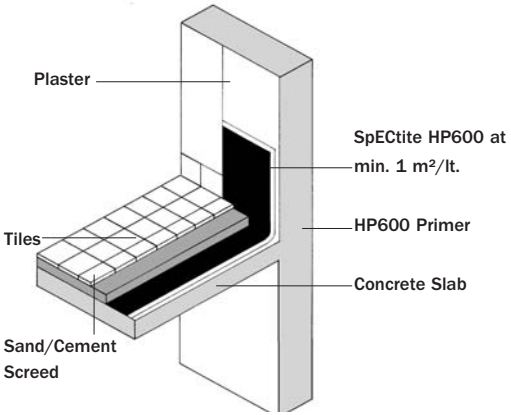
INTERNATIONAL STANDARDS COMPLIANCE

SpECtite HP600 meets the requirements of ASTM C 836-95.

ADVANTAGES

- Single component which requires no mixing or heating
- Excellent adhesion to most common construction substrates
- Highly flexible with excellent crack bridging properties (up to 2mm)
- Good application characteristics by brush or spray
- Excellent water resistance and low vapour permeability
- Does not readily embrittle with age when exposed to UV radiation or weathering - U.V. resistant grade available
- Resistant to cracking at low temperatures and does not suffer flow at high temperatures
- Good resistance to industrial environments

TYPICAL DETAIL FOR WET AREA WATERPROOFING



TECHNICAL DATA

Appearance	Black viscous liquid
Solids content	Minimum 90%
Cure time	
@ 25°C & 50% R.H.	12-24 hours touch dry, 7 days full cure
Application temperature	5°C to 60°C
Shore 00/A @ 25°C (ASTM C836/05)	90/30
Tensile strength (ASTM D 412-98a)	1.7 N/mm²
Ultimate elongation (ASTM D 412-98a)	400%
Accelerated weathering 12000 Hours	No appreciable deterioration
Abel closed cup flashpoint	69°C
Adhesion-in-Peel (mortar)	6.5lb/in

CHEMICAL RESISTANCE

UV Resistance	Excellent
Hydrolysis Resistance	Excellent
Resistance to Industrial environment	Good

APPLICATION INSTRUCTIONS

Surface Preparation

Concrete surfaces must be float or shutter finished. The surfaces must be free of cavities and projections. Blockwork or brickwork must be flush pointed and of a uniform finish.

The surfaces should be made dry, clean, dust and frost free to expose a sound, clean substrate.

Priming Application

Priming is not normally necessary on good quality concrete, however for particularly porous or metal surfaces, **SpECtite HP600 Primer** must be used.

SpECtite HP600 should be applied after the primer has become tacky, usually 2-4 hours following application, but before it has fully reacted.

If the **SpECtite HP600** is not applied within 48 hours after priming, the surfaces should be re-primed.

Application

SpECtite HP600 should be applied by brush, roller or airless spray equipment at a dry film thickness (dft) not less than 0.5mm or more than 1mm per coat.

The membrane can be applied in one 1mm or two 0.5mm coats.

On vertical surfaces, it may be necessary to achieve the correct film thickness by applying two coats with lighter loading to avoid slump

especially when working at a high ambient temperature. Apply 2 coat systems at right angles to each other to ensure an even coating application. If a flood test is to be done, allow a minimum curing period of 10 days. The first coat should be touch dry prior to the application of the second coat. The second coat should in any event be applied within 12 hours of the first coat becoming touch dry.

When continuing membrane application from day joints, an overlap of 250mm should be made.

SpECtite HP600 can be coated over or granules can be broadcast as desired. (Consult our Technical Department for additional information).

Protection

In certain conditions, particularly where back filling against **SpECtite HP600** is anticipated, protection board such as **SpECtite PBP** or **PBF** should be used. (See separate Data Sheets).

ANCILLARY MATERIALS

SpECtite HP600 Primer

Flashpoint	-	69°C
Specific Gravity	-	1.2
Application temperature	-	0°C - 70°C
Pack size	-	5 and 25 litre

SpECtite Fibre Protection Board - PBF

SpECtite Polypropylene Protection Board -PBP

PACKAGING & YIELD

SpECtite HP600 is supplied in 15 litre drums. **SpECtite HP600 Primer** is supplied in 15 litre drums.

Coverage rates may vary depending on the substrate. As an average on a smooth surface, the coverage rate for **SpECtite HP600** is 1 m²/litre at 1mm dry film thickness and 6-10 m²/litre for **SpECtite HP600 Primer**.

REPAIRS

Minor damage to **SpECtite HP600** can be repaired by:

- Removing loose membrane
- Cleaning the surrounding area, overlapping by 150mm
- Priming the cleaned area with **SpECtite HP600 Primer** and applying 2 coats of **SpECtite HP600**

SPRAY APPLICATION

- Only airless spray should be used
- Graco King 60 to 1 ratio or similar
- Compressor:- 100 psi, 60 cfm min
- Tip Size:- 28/30 thous. 50° angle

STORAGE & SHELF LIFE

SpECtite HP600 has a shelf life of 6 months when stored in original containers in cool, dry conditions.

SpECtite HP600 Primer has a shelf life of 12 months when stored in original containers. The primer should be stored as a highly flammable liquid.

HEALTH & SAFETY

SpECtite HP600 and **SpECtite HP600 Primer**. Avoid contact with skin and eyes, wear gloves and eye protection.

Refer to relevant MSDS for additional information.

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SPECtite DP60

LIQUID BITUMEN EMULSION WATERPROOFING MEMBRANE

DESCRIPTION

SpECtite DP60 is a thick liquid formed of water emulsified bitumen blend.

TYPICAL USES

To provide a waterproofing membrane to building and civil engineering structures. It is particularly suitable: -

- As a protective coating for concrete and masonry.
- Underground concrete structures protection from attacks by salts and sulphates
- General protection of concrete structures from vapour infiltration to reinforcement steel.
- General protection of concrete and steel structures from corrosive atmospheres.

ADVANTAGES

- Direct application without any additives or heating.
- Good yield over porous surfaces.
- Chemically stable and resistant to sulphate and chloride attack.
- No toxic fumes during application.
- Non-hazardous.

TECHNICAL DATA

Form	Liquid
Solids content	60%
Density	1000 kg/m³
Drying time @ 20°C	3 hours and overcoat time 3.5 hours min.
Viscosity @ 100°F	0.0018 lbm/ft²
Colour	dark brown to black

APPLICATION

Preparation

All surfaces must be made clean, dust and frost free to expose a sound clean substrate.

Application

Brush, roller or broom apply.

EQUIPMENT CLEANING

SpECtite DP60 may be removed from tools and equipment with water when wet. On drying **SpECtite DP60** may be removed with **SpECtite Cleaning Fluid**.

PACKAGING AND YIELD

SpECtite DP60 is supplied in 20 litre tins and 200 litre drums.

SpECtite DP60 should be applied at a rate of 2.5 m²/litre per coat depending on site condition.

STORAGE AND SHELF LIFE

SpECtite DP60 should be stored above freezing temperatures in sealed containers, away from direct flames and direct sunlight.

HEALTH & SAFETY

There are no known health hazards associated with **SpECtite DP60** in normal use.

Issue 4: 11/2008

QA-054

SPECIALITY ENGINEERING CHEMICALS

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SpECtite DP1000

ELASTOMERIC POLYMER MODIFIED BITUMEN MEMBRANE

DESCRIPTION

SpECtite DP1000 is an anionic latex modified bitumen emulsion suitable for brush, spraying or trowel application.

TYPICAL USES

SpECtite DP1000 is recommended for a wide variety of applications. These includes:

- Waterproofing for damp proof membrane in sandwich construction as a general purpose water proofer for walls, floors, other structures and as a vapour seal as well.
- Effective adhesive and bonding agent for insulation boards, cork panels, etc.
- Suitable where some movements of structure is expected
- Exhibits much better permeability and elasticity characteristics, than similar material without latex.

ADVANTAGES

- Cold applied
- Single component
- Water based
- Highly extensible
- Non-flammable
- Resist attacks from chloride and sulphates
- Asbestos free
- Inhibits the growth of bacteria and mould both in the product itself and subsequent to application
- Excellent durability and waterproofing characteristics

RELEVANT STANDARDS

ASTM C 309-93

TECHNICAL DATA

Colour	brown, dries to black
Solids content	65%
Specific gravity	1.02 ± 0.02 @ 20°C
Rubber content	13%
Elongation	>1000%

APPLICATION

Surface Preparation

All surfaces to be coated must be sound, clean and free from any loosely adhering material.

Application

Apply 2 coats of **SpECtite DP1000** each at 1.5 litre/m²/coat to achieve 0.77mm dft by brush or trowel. The two coats shall be applied at right angles to each other, allowing the first coat to dry completely before applying the second. All application should be continued up verticals to the existing damp proof course. Drying time 3 hours @ 20°C and over coat time 3.5 hours minimum .

EQUIPMENT CLEANING

SpECtite DP1000 may be removed from tools and equipment with water when wet. On drying **SpECtite DP1000** may be removed with **SpECtite Cleaning Fluid**, white spirit or Kerosene.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	45°C

PACKAGING & YIELD

SpECtite DP1000 is supplied in 20 and 200 litre drums.

SpECtite DP1000 should be applied at the rate of 1.5 litre/m² per coat gives approximately 0.77mm dry film thickness.

STORAGE & SHELF LIFE

SpECtite DP1000 has a shelf-life of 12 months if stored under shade at temperature below 45°C. Must protect from frost before use.

HEALTH AND SAFETY

Eyes should be protected from splashes by wearing goggles. In the event of contact with your eyes irrigate immediately with clean water and seek medical attention.

Skin contact should be avoided by wearing protective gloves and outer clothing. The product may be removed from the skin when wet by water and soap, and when dry by using a proprietary hand cleaner.

If ingested, seek medical attention immediately.

FLAMMABILITY

SpECtite DP1000 is a non-flammable and non-hazardous in normal use.

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SpECtite DPR6

POLYMER MODIFIED BITUMEN DAMP AND WATERPROOF MEMBRANE

DESCRIPTION

SpECtite DPR6 is anionic latex modified bitumen emulsion. The product contains a quantity of bio-acid to inhibit the growth bacteria and mould both in the product itself and subsequent to application. This properties impart excellent durability and waterproofing characteristics.

TYPICAL USES

To provide a flexible waterproofing membrane to building and civil engineering structures. It is particularly suitable:

- For use as waterproofing for damp proof membrane in sandwich construction as general purpose water proofer for walls, floors, other structures, and as a vapour seal as well.
- Effective adhesive and bonding agent for insulation boards, cork panels, etc.
- Suitable where some movements of structure is expected.
- Exhibits much better permeability and elasticity characteristics, than similar material without latex.

ADVANTAGES

- Cold applied
- Single component
- Water-based non-toxic
- Highly extensible
- Non-flammable
- Resist attack by chloride and sulphates
- Asbestos free

STANDARD COMPLIANCE

ASTM C 309-93

TECHNICAL DATA

Solid contents	60%
Specific gravity	1.02 ± 0.02 @ 20°C
Drying time @ 20°C	3 hours and overcoat time 3.5 hours min.
Rubber content in the dry film	6% minimum
Elongation	1000% min.
Colour	brown, dries to black

APPLICATION

Preparation

All surfaces must be made clean, dust and frost free to expose a sound clean substrate.

Application

Brush, roller or spraying equipment.

EQUIPMENT CLEANING

SpECtite DPR6 may be removed from tools and equipment with Water when wet. On drying, **SpECtite DPR6** may be removed with **SpECtite Cleaning Fluid**.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	45°C

PACKAGING & YIELD

SpECtite DPR6 is supplied in 20 litre tins and 200 litre drums. **SpECtite DPR6** should be applied at a rate of 1.25 m²/litre/coat, which will give a typical system thickness of 0.77mm.

STORAGE & SHELF LIFE

To maintain a shelf life of 12 months, **SpECtite DPR6** should be stored away from direct sunlight below 45°C in the original sealed containers.

HEALTH & SAFETY

There are no known health hazards associated with **SpECtite DPR6** in normal use.

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SpECtite DPR10

POLYMER MODIFIED LIQUID BITUMEN WATERPROOFING MEMBRANE

DESCRIPTION

SpECtite DPR10 is anionic latex modified bitumen emulsion. The product contains a quantity of bio-acid to inhibit the growth bacteria and mould both in the product itself and subsequent to application. This properties impart excellent durability and waterproofing characteristics.

TYPICAL USES

To provide a flexible waterproofing membrane to building and civil engineering structures. It is particularly suitable:

- For use as waterproofing for damp proof membrane in sandwich construction as general purpose water proofer for walls, floors, other structures, and as a vapour seal as well.
- Effective adhesive and bonding agent for insulation boards, cork panels, etc.
- Suitable where some movements of structure is expected.
- Exhibits much better permeability and elasticity characteristics, than similar material without latex.

ADVANTAGES

- Cold applied
- Single component
- Water-based non-toxic
- Highly extensible
- Non-flammable
- Resist attack by chloride and sulphates
- Asbestos free

STANDARD COMPLIANCE

ASTM C 309-93

TECHNICAL DATA

Solid contents	60%
Specific gravity	1.02 ± 0.02 @ 20°C
Drying time @ 20°C	3 hours and overcoat time 3.5 hours min
Rubber content in the dry film	10% minimum
Elongation	1000% min.
Colour	brown, dries to black

APPLICATION

Preparation

All surfaces must be made clean, dust and frost free to expose a sound clean substrate.

Application

Brush, roller or spraying equipment.

EQUIPMENT CLEANING

SpECtite DPR10 may be removed from tools and equipment with water when wet. On drying, **SpECtite DPR10** may be removed with **SpECtite Cleaning Fluid**.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	45°C

PACKAGING & YIELD

SpECtite DPR10 is supplied in 20 litre tins and 200 litre drums. **SpECtite DPR10** should be applied at a rate of 1.25 m²/litre/coat, which will give a typical system thickness of 0.77mm.

STORAGE & SHELF LIFE

To maintain a shelf life of 12 months, **SpECtite DPR10** should be stored away from direct sunlight below 45°C in the original sealed containers.

HEALTH & SAFETY

There are no known health hazards associated with **SpECtite DPR10** in normal use.

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SpECtite CW100

FLEXIBLE CEMENTITIOUS WATERPROOF MEMBRANE

DESCRIPTION

SpECtite CW100 is a two-component polymer modified cementitious coating. The product may be trowel, brush or spray applied to provide a flexible, waterproof barrier.

TYPICAL USES

SpECtite CW100 may be used where there is a requirement to exclude water from a building or retain it within a structure. The material is particularly effective where there is a requirement for crack bridging capability, typically in the following situations:

- Potable water containers, tanks and reservoirs
- Swimming pools and silos
- Waterproofing planter boxes
- Waterproofing new and existing buildings
- Foundation protection
- As a backing to marble and granite to prevent water ingress and thus alleviate surface staining
- Protection against brackish water
- Coating seawater channels

RELEVANT STANDARDS

B.S. 6920 Effect on water quality
B.S. 1881 Part 122
DIN 1048 : Water penetration test

TECHNICAL DATA

Pot life @ 25°C	45 mins
Colours	grey, off-white
Minimum application Temperature	5°C
Water pressure resistance	
Typical results @ 2mm	
Positive	7 bar
Negative	3 bar

ADVANTAGES

- Withstands high hydrostatic pressures
- High bond strength to concrete and masonry
- Excellent crack bridging capabilities even after long periods of immersion
- Long pot life even at high temperatures

CHEMICAL & WEAR RESISTANCE

SpECtite CW100 resists diesel, petrol, calcium chloride and mild inorganic acids. **SpECtite CW100** also has excellent resistance to weathering and can accept normal foot traffic.

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtite CW100.**

The substrate must be clean and completely free from contaminants including grease, oil and loose material. Any repairs to the substrate should be carried out using **SpECbuild** cementitious repair mortars.

Mixing

SpECtite CW100 is supplied as a two component pack consisting of a liquid component and a powder component.

The product cannot be mixed by hand.

The liquid should be poured into a 25 litre plastic or metal drum. The powder should be added slowly whilst mixing with a spiral paddle attachment on a slow speed electric drill. Mixing should continue until the product is lump free and for a minimum of 5 minutes.

Application

The prepared substrate should be dampened using a fine water spray. Care should be taken with porous substrates as more extensive pre-soaking will be required. Any free water on the surface should be removed immediately prior to applying **SpECtite CW100**.

While the substrate is damp but free from standing water, apply the mixed product by medium hard short bristle brush, trowel or roller checking that the first coat is at a minimum wet film thickness of no more than 1.5mm and no less than 0.5mm. The product should always be finished in one direction.

The second coat should be applied as soon as the first coat is set hard, normally after a minimum of 3 hours @ 25°C and longer at lower temperatures. This second coat should again be finished in one direction (at 90° to the first coat).

The total thickness should be 1 - 2mm on walls and 1-3mm on floors depending on the anticipated water pressure. As a general rule, the total coating thickness should be 1mm on walls and floors where the hydrostatic pressure is not likely to exceed 0.5m, 1.5mm on walls and 2mm on floors for hydrostatic pressures up to 3m and 2mm on walls and 3mm on floors in situations where greater hydrostatic pressures are anticipated.

CURING

Normally **SpECtite CW100** does not need to be cured, however, in hot conditions where there exists high air movement, protection against premature drying is essential.

If spray application is considered, contact our Technical Service for further information. information.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using water as, on hardening, the material can only be removed mechanically.

PACKAGING & YIELD

SpECtite CW100 is supplied in 22.1kg two part packs.

A complete mixed pack will cover approximately 6.4m² at 2mm thickness depending on the substrate profile.

STORAGE & SHELF LIFE

When stored in a cool environment in original unopened containers, the material has a shelf life of 12 months.

HEALTH & SAFETY

SpECtite CW100 contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing. Gloves, goggles and a dust mask must be worn.

Eye contact

Rinse with copious amounts of clean water and seek medical attention.

Skin contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

FLAMMABILITY

SpECtite CW100 is non flammable.

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SpECtite RS60

CEMENT BASED RAPID SET WATERPROOFING MORTAR

DESCRIPTION

SpECtite RS60 is a blend of high purity silica sands, cements and additives which, when mixed with water, produces a rapid setting mortar with an initial set of around one minute.

TYPICAL USES

SpECtite RS60 may be used for rapid plugging of concrete elements, where water leaks must be stopped.

ADVANTAGES

- Does not contain chloride additives
- Low exotherm
- Rapid water-stopping ability
- Pre-bagged only requires the addition of water

TECHNICAL DATA

Initial set	60 seconds @ 20°C
Compressive strength	30 N/mm² @ 28 days

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtite RS60**. The area to which the mortar has to be applied, should have a depth of at least 15mm to avoid feather edging. The substrate should be free of dust and laitance and any other contaminants should be removed by high pressure water jet. Oils and greases should also be removed.

Mixing

SpECtite RS60 is a one-part blend of silica sands, cements and additives.

The following proportions should be used for mixing:

SpECtite RS60	3 parts by volume
Clean water	1 part by volume

Mix in a suitable container using a trowel. As the product set time is short, only mix sufficient material which can be used in the time available.

Application

Hand place the mortar ensuring good compaction against the substrate and hold in place with a gloved hand until initial set has been achieved.

Limitations

When used at temperatures above 35°C the material should be pre-conditioned in a cool environment and the use of chilled mixing water should be considered to achieve an acceptable working time.

EQUIPMENT CLEANING

SpECtite RS60 should be removed immediately from tools etc. using clean water.

Cured material can only be removed by mechanical means.

PACKAGING & YIELD

SpECtite RS60 is supplied in 5kg or 25kg packs.

STORAGE & SHELF LIFE

SpECtite RS60 has a shelf life of 6 months when stored in original bags in a cool, dry environment. If stored at high ambient temperatures or at high humidity the shelf life will be reduced by as much as 50 - 60%.

HEALTH & SAFETY

SpECtite RS60 being based on cement, should not come into contact with skin or eyes. Inhalation of dust should be avoided.

If swallowed, seek medical attention immediately.

DO NOT INDUCE VOMITING

Issue 6: 03/2010

QA-054

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SPECtite WS

CEMENTITIOUS WATERPROOFING SYSTEM

DESCRIPTION

SpECtite WS is a sophisticated formulation consisting of special cements, quartz sands and active chemical constituents, which are capable of migrating deep into structures. The product has the appearance of a fine grey powder, which requires the simple addition of water to form a slurry. **SpECtite WS** is a migratory crystalline waterproofing coating, which requires the presence of moisture in the substrate in order to carry out its functions.

The active chemicals within the mix penetrate into the structure and react with the free lime forming long chain complexes, which crystallise in the capillaries. The migratory crystallisation process is continuous in damp structures and will effect great penetration achieving complete resistance to the passage of water whilst still allowing the fabric to breathe.

TYPICAL USES

SpECtite WS can be applied to new or old structurally sound surfaces. It can be applied either to the negative or the positive side and will negate dampness and ground water permeation even under hydrostatic pressure. It can be used for the following application:

- Retaining walls and columns in underground reservoirs.
- Swimming pools prior to tiling or painting.
- Drinking water tanks - concrete.
- Water treatment and sewage plants
- Support walls and columns.
- Foundation slabs.
- Underground cellars, basement car parks, garages etc.
- Pre-stressed and pre-cast concrete units.
- Tunnels, silos, irrigation channels.
- Bathrooms, kitchens etc.
- Sand-cement rendering.
- Lift shafts.

TECHNICAL DATA

Nature	Non toxic powder
Colour	Grey or white

APPLICATION

Surface preparation

SpECtite WS is only fully effective if the capillaries in the brickwork, concrete or mortar are sufficiently absorbent to allow penetration of the crystalline chemicals. Therefore, it is essential that adequate preparation is carried out prior to the application of **SpECtite WS**.

All surfaces should be clean and free from paint systems, oil, grease, loose dust, shuttering oils, curing compounds, surface hardeners and other contaminants.

Surface preparation can best be carried out using a high pressure water jet, grit blasting or mechanical scabbling. Water jetting has the advantage that complete saturation of the structure is achieved but lack of drainage facilities may in some cases preclude their use.

Large cracks and other surface defects should be repaired using one of the **SpECbuild** repair mortars. Repaired areas can be coated with **SpECtite WS** 24 hours later but large areas of the new brickwork, poured concrete or cement renders should be allowed to cure for at least 3 days before application of **SpECtite WS** is considered.

Fillets

It is recommended that fillets be formed between the bottom of all walls and floor slab before application of the **SpECtite WS**. Fillets should be formed using **SpECtite WS** mixed to a mortar consistency with a bench fillet is preferred to a triangular type.

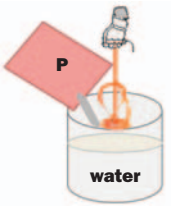
If it is impractical to provide a fillet between a wall and floor then a saw cut should be made in the concrete floor slab as close to the wall as possible and the subsequent application of **SpECtite WS** should be allowed to flow into the saw cut.

It must be re-stressed that **SpECtite WS** performs better on thoroughly dampened surfaces, only then is maximum penetration achieved. Dry surfaces should be saturated with clean water, preferably 24 hours before application of the **SpECtite WS** and re-wetted with a mist spray if drying out occurs.

Mixing

SpECtite WS is supplied as a one-component bag.

It is important not to mix more material than can be applied to the surface within 30 minutes at 20°C. The recommended mixing ratio approximately 2.5 to 3 parts **SpECtite WS** to one part clean water by volume.



Place the water in a suitable open top container and with the use of a slow speed drill and paddle add the powder to the water slowly. Mix until a homogeneous, lump free slurry is obtained. If the material becomes stiff due to an extended storage time do not re-mix with water but discard and mix a smaller portion.

Application

The problems which exist in the waterproofing of underground areas are many and various and all cannot be solved with a simple specification - if in doubt consult our technical department. However, for normal problems of damp or wet walls a two coat application of **SpECtite WS** over the whole area will eliminate any further ingress of water. The second coat should be applied at right angles to the first to ensure that complete coverage is achieved and the second coat may be applied as soon as the first becomes 'touch dry'. In all cases the second coat must be applied within

24 hours of the first. In hot dry climates a fine water mist should be sprayed onto the surface of the **SpECtite WS** before the second coat is applied.

It is critical that all surfaces should be treated with **SpECtite WS** and it is necessary that all timber battens be removed before treatment.

Provision for re-fixing battens etc., should be made in the wall prior to the application of **SpECtite WS**. Drilling for fixtures should not be carried out after tanking with **SpECtite WS** as they would provide for release of pressure with resultant leakage of water.

When applying by brush use a medium hard, short bristle type. Trowelling of the second coat can be carried out to provide a dense polished finish.

For large areas spray application is obviously more economical - our technical department would be pleased to advise on suitable equipment.

Decoration

A period of at least six months should be allowed before permanent decoration is considered. During this period use only permeable emulsion paints.

APPLICATION TEMPERATURE RANGE

Minimum surface temperature @ +5°C

PACKAGING & YIELD

SpECtite WS is supplied in 25kg bags

Coverage

By brush :	1 to 1.5 kg per m² per layer
By trowel:	2 to 2.5 kg per m² per layer
By spray:	1.5 kg per m² per layer

STORAGE & SHELF LIFE

Store in cool dry conditions.

HEALTH & SAFETY

SpECtite WS is a non-hazardous material - treat as for cement.

Protect eyes and skin from direct contact.

Freshly mixed **SpECtite WS** is slightly alkaline - the use of PVC or rubber gloves is recommended.Seek medical advice if allergies develop.

Issue 5: 03/2010

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SpECtite PVC Waterstop

INTERNAL AND EXTERNAL FIXED PVC WATERSTOP

DESCRIPTION

SpECtite PVC Waterstop is a high grade PVC extrusion formulated to meet the highest performance specifications. **SpECtite PVC Waterstops** are supplied as straight lengths along with factory fabricated junction pieces to simplify layouts and site jointing.

TYPICAL USES

SpECtite PVC Waterstop provides a continuous network solution for sealing construction and movement joints in cast, in-situ concrete structures. Typical uses include:

Water retaining

- Tanks, reservoirs and sewerage plants
- Swimming pools
- Elevated water towers
- Oil storage tank bond walls
- Culverts, canals and dams

Water excluding

- Basements
- Underground car parks
- Buried storage tanks
- Retaining walls
- Bridge abutments
- Tunnels and subways

ADVANTAGES

- Unique design
- Full range of profiles
- Full range of factory fabricated junctions
- Continuous 4 valve network
- Reinforced edge flange with brass eyelets on internal sections for secure fixing
- Easy jointing system
- Approved for use in contact with potable water

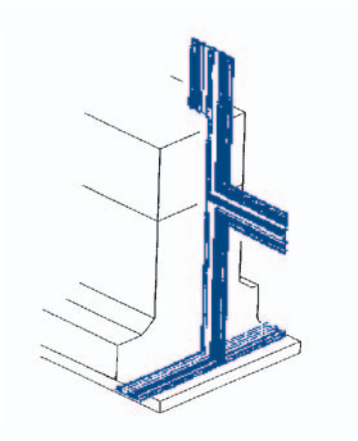
RELEVANT STANDARDS

Complies with US Corps of Engineers Specification CRD-C-572 and BS2571

Test method BS2782:320A

TECHNICAL DATA

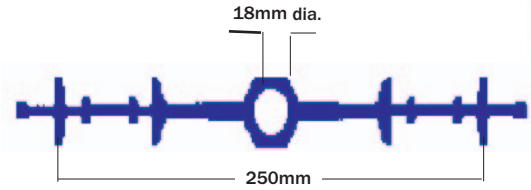
Profiles	
Form	Extruded PVC profiles
Colour	Blue
Hydrostatic head	Up to 12m
Joint movement	Up to 12mm
PVC Compound	
Tensile strength min.	14.7 N/mm²
Elongation at break min.	300%
Shore A hardness	80-90°

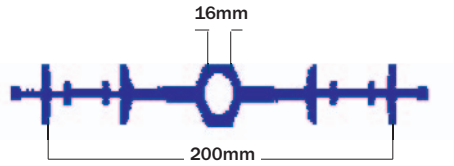


SPECTITE PVC WATERSTOP

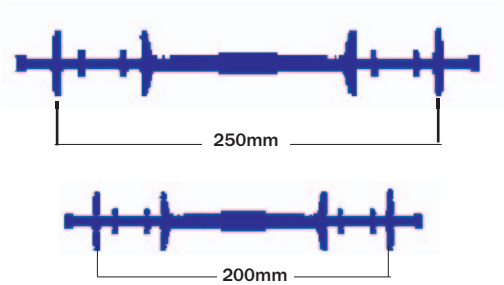
INTERNAL PROFILES

Internal Expansion Joint (IEJ) sections are used in expansion joints. The centre bulb allows for cyclical movement in the structure and has a flat top section for seating of expansion joint fillers and formwork.





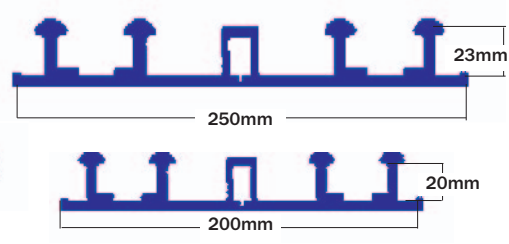
Internal Construction Joint (ICJ) plain web sections are used in construction joints. Grout excluding fins are incorporated to give a positive area to locate formwork and control grouts loss.



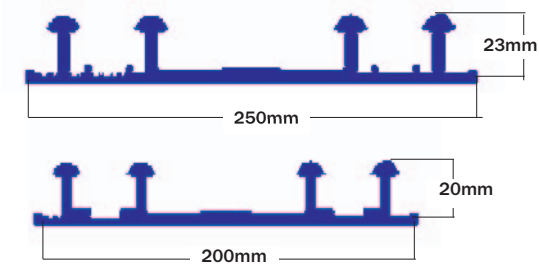
IEJ and **ICJ** sections incorporate an eyeletted reinforced edge flange, which enables the profile to be securely wired to adjacent rebar.

EXTERNAL PROFILES

External Expansion Joint (EEJ) sections are used in expansion joints. The centre box allows movement accommodation and has a flat top section for easy seating of expansion joint fillers and formwork.



External Construction Joint (ECJ) sections are used in construction joints and incorporate grout excluding fins to give a positive area to locate formwork and control grout loss.

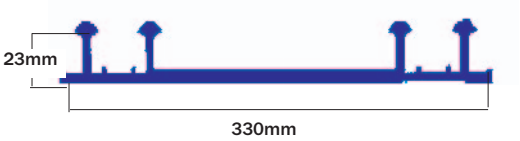


EEJ and **ECJ** sections incorporate a nailing flange with a reinforced edge to provide secure fixing that will resist tearing.

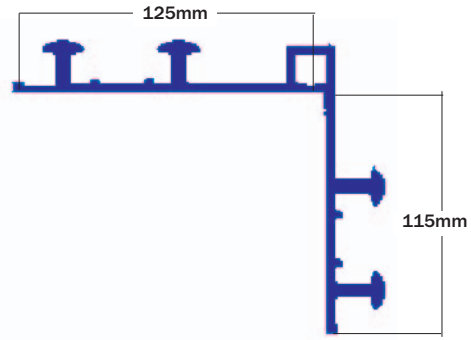
NOTE:

150mm wide sections and **extra heavy duty (XHD)** profiles are available if required. Please contact SpEC Technical Department for more details.

ECJ Kicker is an extended width profile to be used when a separate kicker is cast between floor slab and wall construction which spans the 2 joints formed.



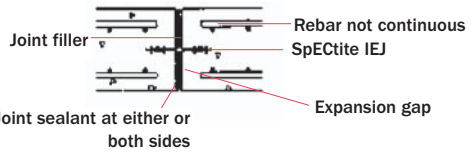
External Angle Joint (EAJ) sections are used mainly in pile cap locations when the ground slab meets the pile cap or the joint line is along a change of level of slabs. The section can be linked with the 250mm EEJ and 250 ECJ.



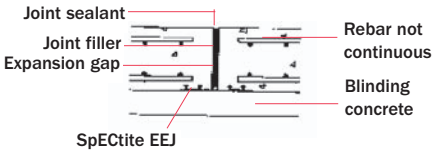
TYPICAL DETAILS OF MOVEMENT/CONSTRUCTION JOINTS

WATER RETAINING STRUCTURES

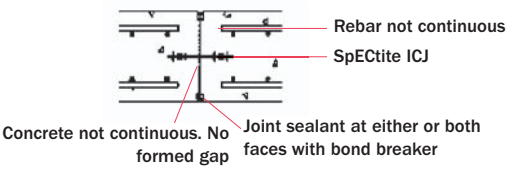
Expansion joint - wall



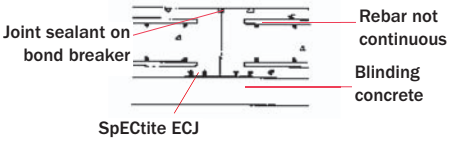
Expansion joint - floor



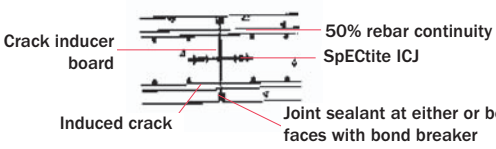
Formed contraction joint - wall



Formed contraction joint - floor



Induced partial contraction joint - wall

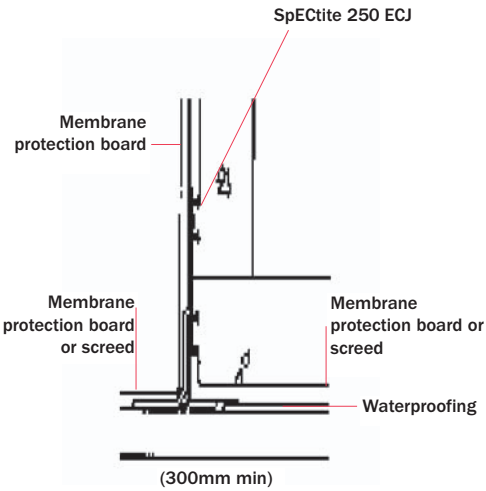


Induced partial contraction joint - floor

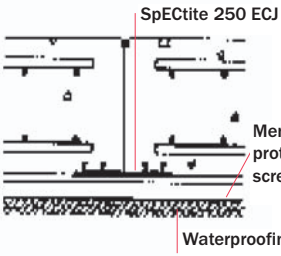
Details comply with BS007, Design of concrete structures for retaining aqueous liquids

WATER EXCLUDING STRUCTURES

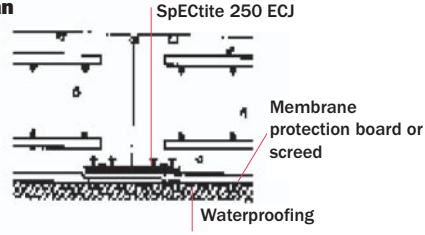
Junction of wall and ground slab.



Floor - section



Wall - plan



Details comply with BS102: 1990. Protection of structures from water from the ground

SPECTITE PVC WATERSTOP

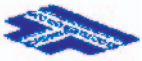
STANDARD JUNCTION PIECES

Factory fabricated junctions are available for all **SpECtite PVC Waterstop** profiles. Flat junctions have a leg length of 230mm from centre line. Vertical or on edge junctions have a leg length of 75mm. Leg lengths for EAJ sections are 300mm.

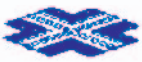
IEJ/ICJ

Flat mitre

Flat 3-way



Flat 4-way

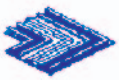


Vertical T-piece

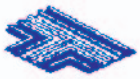
90° Edge mitre

EEJ/ECJ

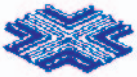
Flat mitre



Flat 3-way



Flat 4-way



90° Edge mitre

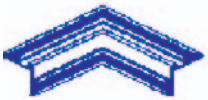
EEJ/IEJ AND ECJ/ICJ

Vertical T-piece

90° Edge mitre

250 EAJ JUNCTIONS

Internal Type 1



External Type 2

Internal Type 3

External Type 4

SITE JOINTING WELDING EQUIPMENT

Site jointing of **SpECtite Waterstop** is carried out utilising **SpECtite** metal jointing jigs and electric heater blades.

WIDTH OF WATERSTOP

For concrete members of 250mm or above, use the 250mm profile. For concrete members less than 250mm thick, select the waterstop width to be equal to or greater than the width of the concrete wall or slab.

PACKAGING

SpECtite PVC Waterstop

250mm wide 12m rolls
200mm wide 15m rolls
150mm wide 20m rolls
ECJ Kicker 12m roll
EAJ 3m roll

SpECtite Heater Blades

110v and 220v, 350w blades are available.
Warning: Ensure that heater blades are earthed by the green/yellow wire.

HEALTH & SAFETY

Hot welding of PVC waterstop will liberate hydrogen chloride vapour which may exceed the operational exposure limit of 5 parts per million in confined still air spaces. A suitable respirator or forced ventilation should be provided in these situations.

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SpECtite Swellseal Waterstop

HYDROPHILIC WATERSTOPS

DESCRIPTION

SpECtite Swellseal Waterstop is a hydrophilic waterstop for construction joints formulated from a mixture of natural sodium bentonite and mineral oil. SpECtite Swellseal Waterstop presents unique characteristics of swelling many times its dry volume when in contact with water to form an impenetrable gel capable of resisting hydrostatic pressures of up to 70 metres.

TYPICAL USES

SpECtite Swellseal Waterstop is a very effective waterstop seal in the following situations:

- Construction joints
- Penetrations
- New to existing concrete
- Irregular concrete surfaces

ADVANTAGES

- Quick and easy to use
- No special intersections required
- No on-site welding
- No rigid joints
- No split form or splicing
- No water tracking
- Totally flexible
- Face fixed - no pre-formed chases
- Self injects, sealing localised honeycombing and minor fractures
- Effective against hydrostatic pressures of up to 70 metres
- WRC approved for use in potable water installations
- All temperature application
- Low installation cost - Not labour intensive

TECHNICAL DATA

Chemical Composition	
Bentonite / Mineral oil (by weight)	24.9% ASTM D-297
Bentonite	70.0% Max SS-S-210-A
Volatile matter	Below 1% ASTM D-6
Physical Properties	
Specific gravity @ 25°C	1.40+/-0.1 ASTM D-71
Softening point	ASTM D-30
Penetration	ASTM D-217
150 GTL	58
300 GTL	85
Max. head pressure	5 bar Hydrostatic pressure test
Adhesion to concrete	Mechanical Fastening or adhesive
Service temperature range	-40 to 100°C

APPLICATION

Surface Preparation

All surfaces to which **SpECtite Swellseal Waterstop** is to be applied should be clean and free of standing water. Any loose or flaking concrete must be removed. (The preferred practice of scabbling joints is recommended).

Application

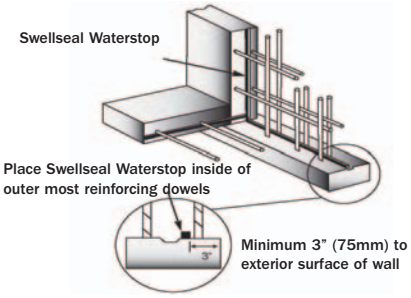
Uncoil a length of **SpECtite Swellseal Waterstop** and apply exposed face to concrete, noting that **SpECtite Swellseal Waterstop** must be given a minimum of 75mm of concrete cover on all sides.

Push against release paper, to force **SpECtite Swellseal Waterstop** into undulations of concrete. When sufficient **SpECtite Swellseal Waterstop** has been positioned remove backing paper.

To join successive lengths of **SpECtite Swellseal Waterstop**, simply cut and butt ends. Do not overlap.

When installing **SpECtite Swellseal Waterstop** vertically, work from the base up to prevent material deformation/elongation.

FOOTING WALL JOINT



Fixing

The location and fixing of any hydrophilic waterstop is key to its performance.

Once located it is recommended that **SpECtite Swellseal Waterstop** is fixed using **Revofix** mesh. Position **Revofix** over **SpECtite Swellseal Waterstop** just overlapping successive sections. Nail through overlaps and @ 300mm centres. Uncoil **SpECtite Swellseal Waterstop**, and leaving the release paper intact, apply exposed/black face against concrete, pushing firmly against release paper to force **SpECtite Swellseal Waterstop** into concrete undulations. Release paper can remain, as it provides some protection from rainfall, but MUST be removed prior to placing concrete.

SpECtite Swellseal Waterstop junctions are as for 'installing **SpECtite Swellseal Waterstop** with **Revofix** Mesh'.

LIMITATIONS

- Where **SpECtite Swellseal Waterstop** is to used in potentially contaminated water/ground conditions please consult SpEC Technical Department.
- **SpECtite Swellseal Waterstop** must be confined within a concrete joint and not applied to an exposed surface.
- Exposed lengths of **SpECtite Swellseal Waterstop** should not be submerged in water for any extended periods of time prior to containment.
- If **SpECtite Swellseal Waterstop** swells 1.50 times its original size prior to encapsulation by concrete, it must be replaced with new material.

- SpECtite Swellseal Waterstop should not be used in movement or expansion joints. Please contact **SpEC Technical Department**.

APPLICATION TEMPERATURE RANGE

-15°C to 52°C

PACKAGING & YIELD

SpECtite Swellseal Waterstop

For use in construction joints in all sub-terrain structures, basements, subways, etc.

Cross-section:	19 x 25mm (nominal)
Coil Length:	5.00 Lin m (nominal)
Coils per Carton:	6 No.
Carton Content:	30.00 Lin m
Carton Dimension:	400 x 400 x 300mm
Carton Weight:	25kg

Revofix

Fixing mesh to secure **SpECtite Swellseal Waterstop**. See manual for fixing instructions.

Cross-section:	to contain 19 x 25

SpECtite Swellseal Waterstop

Section Length:	600mm
Sections per Carton:	50 No.
Carton Content:	30m
Carton Dimension:	620 x 110 x 45mm
Carton Weight:	1.75kg

STORAGE & SHELF LIFE

SpECtite Swellseal Waterstop has indefinite shelf life when stored in cool dry environment.

HEALTH & SAFETY

SpECtite Swellseal Waterstop is harmful if ingested.

Keep out of reach of children.

FLASH POINT

SpECtite Swellseal

185°C

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QA-054

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Grouts

Cement and resin based precision grouts and anchors where complete load transfer is essential

Cementitious

- **SPECgrout** C1
  General purpose grout
- **SPECgrout** C2
  High flow precision grout
- **SPECgrout** C3
  Thick section, high flow grout
- **SPECgrout** C5
  Thick section, high flow grout (ASTM C1107-Grade B)

Epoxy

- **SPECgrout** E Series
  Epoxy resin based grouts

Resin Injection

- **SPECinject** EP
  Injection resin

Resin Anchors

- **SPECloc** EX
  Resin anchors

SpECgrout C1

HIGH STRENGTH, SHRINKAGE COMPENSATED CEMENTITIOUS GROUT

DESCRIPTION

SpECgrout C1 is a ready to use, one-part cementitious grout. The addition of clean mixing water, produces a non-shrink grout of predictable performance.

TYPICAL USES

SpECgrout C1 may be used in grouting applications, where a fluid/flowable grout is required and where consistency of performance is essential. Typical applications are as follows:

- Anchor bolts
- Turbine base plates
- Generator base plates
- Pressing and milling machine base plates

ADVANTAGES

- Non-shrink
- Consistent performance
- High bond strength to concrete and steel
- High compressive strength at early ages allowing minimal downtime on machinery
- Low permeability

RELEVANT STANDARDS

U.S. Corps of Engineers CRD-C621
ASTM C1107M
ASTM C109M
BS EN 12390-3
BS EN 196-3

TECHNICAL DATA

Typical results @ 20 °C

Compressive strength (N/mm²)

	FLUID	FLOWABLE
W/P Ratio	0.29	0.24
1 Day	25.0	35.0
3 Days	44.0	50.0
7 Days	55.0	65.0
28 Days	65.0	75.0

Flexural strength

28 Days	6 N/mm²

Setting time

Initial set	6 hours
Final set	7 hours

Gap Width

Minimum	10mm
Maximum	100mm

APPLICATION

Preparation

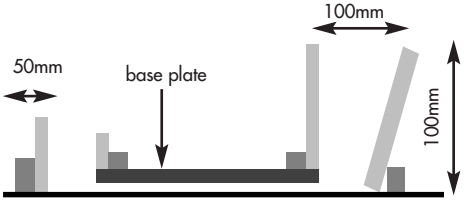
It is essential that adequate preparation is carried out prior to the application of

SpECgrout C1. This preparation should ensure the removal of all grease, oil and loose material.

To avoid absorption and reduction in flow characteristics, it is essential that the prepared substrate is soaked with clean water for a few hours prior to grouting. Before placing the grout, any water remaining on the surface should be removed by blowing clean with oil-free compressed air.

The underside of the base plate to be grouted should be clean and any oil or grease MUST be removed. The underside should preferably have no geometry, which would impede the flow of grout. Should cruciforms be present, it is essential that air release holes are drilled through the base plate to avoid trapping air consequently reducing the total contact area.

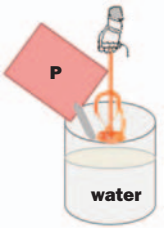
All formwork should be sealed to prevent loss of grout during pouring. The formwork should be tight to the base plate and parallel to the direction of flow. A gap of around 100mm is required at the pouring hopper with a gap of around 50mm at the opposite end. (see sketch)



Cross-section of typical grouting formwork

Mixing

SpECgrout C1 is a one-part cementitious grout.



SpECgrout C1 must be mixed using a slow speed electric drill fitted with a **SpEC Mixing Paddle**. This method is suitable for small quantities and for larger quantities it may be necessary to consider the use of a grout pump. Please contact **SpEC Technical Department** for more advice on the type of pumps available.

The product cannot be mixed by hand

Good planning is essential to ensure a continuous flow of grout once pouring commences.

The specified water quantity should be measured in an accurately graduated vessel and added to the mixing vessel. The bagged powder is then added slowly whilst mixing. A mixing time of not less than five minutes is required to ensure adequate dispersal of the ingredients. The recommended water used per 25kg bag is 7.5 litres for fluid consistency and 6.0 litres for plastic/flowable.

Application

The grout should be poured immediately after mixing and certainly not more than 20 minutes after mixing is complete to take full advantage of the high flow properties.

Planning is imperative to ensure that sufficient grout is available to allow continuity of placing.

The mixed product should always be poured from the hopper end of the formwork. On no

account should grout be poured from more than one side of the base plate. Maintenance of a fluid head is essential to avoid air entrapment.

CURING

Once the grouting has been completed, all exposed areas of grout should be cured immediately using a **SpECcure** curing membrane.

PACKAGING AND YIELD

SpECgrout C1 is supplied in 25kg bags. Each bag when mixed with 6.0 to 7.25 litres of water will provide approximately 15.5 - 16.0 litres of mixed material depending on water addition.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using water as, on hardening, the material can only be removed mechanically.

APPLICATION TEMPERATURE RANGE

Minimum 5°C

Maximum 35°C

At temperatures above this range the material should be stored in shade and cool water used for mixing.

STORAGE AND SHELF LIFE

SpECgrout C1 has a shelf life of 12 months when stored original containers in a cool, dry environment.

HEALTH AND SAFETY

SpECgrout C1 contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing.

Gloves, goggles and a dust mask must be worn. If skin contact occurs wash with plenty of soap and water. Contact with eyes should be treated by immediately washing with copious amounts of clean water followed by medical attention.

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SpECgrout C2

HIGH FLUIDITY, SHRINKAGE COMPENSATED CEMENTITIOUS GROUT

DESCRIPTION

SpECgrout C2 is a pre-bagged, one part cementitious grout. After the addition of clean water, the material produces a free-flowing grout, which provides maximum contact area to the structure being grouted. This is due to the unique shrinkage compensation system utilised in the manufacturing process.

TYPICAL USES

SpECgrout C2 may be used in all grouting applications, where maximum contact area is required and where high flow characteristics are desired, such as during the installation of:

- Anchor bolts
- Precast units
- Crane rails
- Turbines
- Generators
- Pressing and milling machines
- By altering the material's consistency, other operations may be carried out, for instance, filling holes due to formwork ties

ADVANTAGES

- Unique non-metallic shrinkage compensation provides maximum contact between baseplate and hardened grout
- Consistent high performance
- Extremely high flow characteristics with excellent retention of flow, even at high ambient temperatures
- Suitable for placing by pump
- High bond strength to steel and concrete
- High compressive strength at early stages allowing minimal downtime on machinery
- Good impact and fatigue resistance
- Micro silica content enhances strength and durability
- Extremely low permeability

RELEVANT STANDARDS

U.S. Corps of Engineers CRD-C621
ASTM C1107M
BS EN 12390-3
BS EN 196-3
ASTM C469-02

TECHNICAL DATA

Typical results @ 20 °C	
(25kg bag + 7.25 litres of water)	
Compressive strength	
3 Days	45 N/mm²
7 Days	52 N/mm²
28 Days	67 N/mm²
Flexural strength	
28 Days	8.4 N/mm²
Setting time	
Initial set	5.5 hours
Final set	6.5 hours
Flow Characteristics	
(Efflux time) CRD-C Cone	20 - 24 secs
Young's Modulus	30 kN/mm²

Fresh Wet Density	2000 kg/m³
Gap width	
Minimum	10mm
Maximum	100mm

APPLICATION

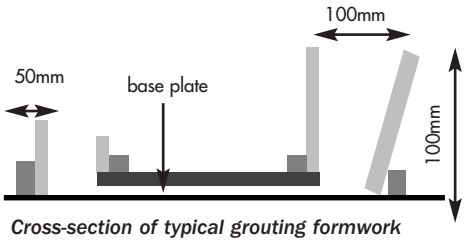
Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECgrout C2**. This preparation should ensure the removal of all grease, oil and loose material.

To avoid absorption and reduction in flow characteristics, it is essential that the prepared substrate is soaked with clean water for a few hours prior to grouting. Prior to placing the grout, any water remaining on the surface should be removed by blowing clean with oil free compressed air.

The underside of the base plate to be grouted should be clean and any oil or grease MUST be removed. The underside should preferably have no geometry, which would impede the flow of grout. Should cruciforms be present, it is essential that air release holes are drilled through the base plate to avoid trapping air hence reducing the total contact area.

All formwork should be sealed to prevent loss of grout during pouring. The formwork should be tight to the base plate and parallel to the direction of flow. A gap of around 100mm is required at the pouring hopper with a gap of around 50mm at the opposite end. (see sketch)



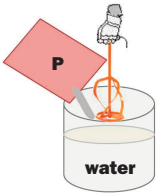
Cross-section of typical grouting formwork

Mixing

SpECgrout C2 is a one-part cementitious grout.

SpECgrout C2 must be mixed using a slow speed electric drill fitted with a **SpECgrout mixing paddle**. This method is suitable for small quantities. For larger quantities it may be necessary to consider the use of a grout pump. Advice can be provided by our **Technical Service Department** on the type of pumps available.

Good planning is essential to ensure a continuous flow of grout once pouring commences.



The specified water quantity should be measured in an accurately graduated vessel and added to the mixer. The bagged powder is then added slowly whilst mixing. A mixing time of not less than five minutes is required to ensure adequate dispersal of the ingredients.

The recommended water used per 25kg bag is 7.25 litres.

The product cannot be mixed by hand.

Application

The grout should be poured immediately after mixing and certainly not more than 20 minutes after mixing is complete, to take full advantage of the high flow properties.

Again, planning is imperative to ensure that sufficient grout is available to allow continuity of placing.

The mixed product should always be poured from the hopper end of the formwork. On no account should grout be poured from more than one side of the base plate. Maintenance of a fluid head is essential to avoid air entrapment. Once the grouting has been completed, all exposed areas of grout should be cured immediately using **SpECcure AC** curing membrane.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using water as, on hardening the material can only be removed mechanically.

APPLICATION TEMPERATURE RANGE

Minimum 5°C

Maximum 35°C

At temperatures above this range the material should be stored in shade and cool water used for mixing.

PACKAGING AND YIELD

SpECgrout C2 is supplied in 25kg bags. Each bag when mixed with 7.25 litres of water will provide approximately 16.0 litres of mixed material.

STORAGE AND SHELF LIFE

SpECgrout C2 has a shelf life of 12 months when stored in a cool, dry environment.

HEALTH AND SAFETY

SpECgrout C2 contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing.

Gloves, goggles and a dust mask must be worn. If skin contact occurs wash with plenty of soap and water. Contact with eyes should be treated by immediately washing with copious amounts of clean water followed by medical attention.

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SpECgrout C3

SHRINKAGE COMPENSATED, HIGH FLUIDITY FILLED GROUT

DESCRIPTION

SpECgrout C3 is supplied in 25kg hermetically sealed polyethylene bags and only requires the addition of the specified amount of clean water to produce a fluid grout for pouring or pumping into large voids under machine base plates or between structural units.

SpECgrout C3 consists of Portland cement, selected graded silica aggregates and additives. The low water/powder ratio ensures a grout of high compressive strength and excellent flow characteristics.

TYPICAL USES

SpECgrout C3 is recommended for grouting gaps where the thickness is not less than 75mm and not greater than 500mm.

In general, pre-bagged cementitious grouts without aggregate are only suitable for gaps up to 100mm. Grouting larger gaps normally requires the addition of larger aggregate to reduce the exotherm produced during the hydration process and the consequent risk of thermal cracking.

SpECgrout C3 contains aggregate that reduces excessive heat build up making the product especially suitable for deep voids under machine base plates, voids around and beneath ground tanks and large bolt pockets.

ADVANTAGES

- Unique non-metallic shrinkage compensation system providing maximum contact between baseplate and hardened grout.
- Extremely high flow characteristics with excellent retention of flow.
- Suitable for placing by pump.
- Extremely low permeability.
- High compressive strength at early stages allowing minimal downtime on machinery.
- No requirement for site addition of aggregate.

RELEVANT STANDARDS

BS EN 12390-3

BS EN 196-3

TECHNICAL DATA

Typical test data

Compressive strength	
3 Days	50 N/mm²
7 Days	60 N/mm²
28 Days	75 N/mm²
Setting time	
Initial set	2 hours @ 25°C
Final set	2.5 hours @ 25°C
Shrinkage	<250 microstrain

APPLICATION

Preparation

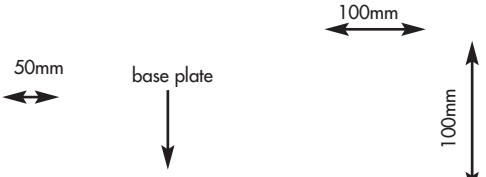
The substrate must be clean and completely

free from contaminants including greases, oil and loose material.

To avoid absorption and reduction in flow characteristics, it is essential that the prepared substrate is soaked with clean water for a few hours prior to grouting. Prior to placing the grout any water remaining on the surface should be removed by blowing clean with oil free compressed air.

The underside of the base plate to be grouted should be clean and any oil or grease MUST be removed. The underside should preferably have no geometry, which would impede the flow of grout. Should cruciforms be present, it is essential that air release holes are drilled through the base plate to avoid trapping air hence reducing the total contact area.

All formwork should be sealed to prevent loss of grout during pouring. The formwork should be tight to the base plate and parallel to the direction of flow. A gap of around 100mm is required at the pouring hopper with a gap of around 50mm at the opposite end. (see sketch)



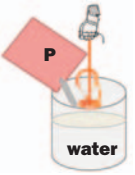
Cross-section of typical grouting formwork

Mixing

SpECgrout C3 is a one-part cementitious grout.

SpECgrout C3 must be mixed using a slow speed electric drill fitted with a suitable mixing paddle. This method is suitable for small quantities and for larger quantities it may be necessary to consider the use of a grout pump. Please contact **SpEC Technical Department** for more advice on the type of pumps available.

Good planning is essential to ensure a continuous flow of grout once pouring commences.



The specified water quantity should be measured in an accurately graduated vessel and added to the mixer. The bagged powder is then added slowly whilst mixing. A mixing time of not less than five minutes is required to ensure adequate dispersal of the ingredients.

The recommended water used per 25kg bag is 3.3 litres.

The product cannot be mixed by hand.

Application

The grout should be poured immediately after mixing and certainly not more than 20 minutes after mixing is complete to take full advantage of the high flow properties.

Again, planning is imperative to ensure that sufficient grout is available to allow continuity

of placing.The mixed product should always be poured from the hopper end of the formwork. On no account should grout be poured from more than one side of the base plate. Maintenance of a fluid head is essential to avoid air entrapment.

Once the grouting has been completed, all exposed areas of grout should be cured immediately using **SpECcure AC** curing membrane.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using water as, on hardening the material can only be removed mechanically.

APPLICATION TEMPERATURE RANGE

Minimum 5°C
Maximum 35°C

At temperatures above this range the material should be stored in shade and mixed using chilled water.

PACKAGING AND YIELD

SpECgrout C3 is supplied in 25kg bags. Each bag when mixed with 3.3 litres of water will provide approximately 12.5 litres of mixed material.

STORAGE AND SHELF LIFE

SpECgrout C3 should be stored in dry cool conditions for maximum shelf life.

Under the above conditions the product has a shelf life of 12 months minimum.

HEALTH AND SAFETY

SpECgrout C3 contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing.

Gloves, goggles and a dust mask must be worn. If skin contact occurs wash with plenty of soap and water. Contact with eyes should be treated by
immediately washing with copious amounts of clean water followed by medical assessment.

FLAMMABILITY

SpECgrout C3 is non-flammable.

Issue 8: 11/2013

QA-054

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ECO FRIENDLY PRODUCT

SpECgrout C5

HIGH STRENGTH SHRINKAGE COMPENSATED CEMENTITIOUS GROUT

DESCRIPTION

SpECgrout C5 is a pre-bagged, one part cementitious grout. After the addition of clean water the material exhibits free flowing characteristics. **SpECgrout C5** is shrinkage compensated by the use of a non-gaseous system that acts during the material's early-hardened state.

TYPICAL USES

SpECgrout C5 as a general purpose grout may be used in a variety of situations such as the installation of:

- Anchor bolts
- Structural column base-plates
- Mixing and storage vessels
- Turbines
- Generators
- Pressing and milling machines

ADVANTAGES

- Non-gaseous, non-metallic shrinkage compensation, provides maximum contact between baseplate and hardened grout.
- Consistent high performance
- Excellent retention of flow even at high ambient temperatures
- High bond strength to steel and concrete
- High compressive strength at early stages allowing minimal downtime on machinery
- Good impact and fatigue resistance
- Oxidizing catalyst free
- Extremely low permeability
- Chloride free
- Bleed resistant

RELEVANT STANDARDS

ASTM C1107-91 (Grade B)
ASTM C109-05
ASTM C348-02
BS EN 196-3
ASTM C469-02

TECHNICAL DATA

Typical Results @ 20 °C	
Compressive Strength	
1 Day	22.0 N/mm²
7 Days	45.0 N/mm²
28 Days	70.0 N/mm²
Flexural strength	
28 Days	6.0 N/mm²
Setting Time	
Initial set	3.5 hours
Final set	4.5 hours
Flow Characteristics	
(Efflux time) CRD-C Cone	24-30 secs
Young's Modulus	30 kN/mm²
Fresh Wet Density	2000 kg/m³

APPLICATION

Preparation

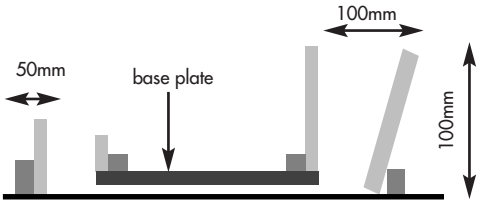
It is essential that adequate preparation is carried out prior to the application of **SpECgrout C5**. This preparation should

ensure the removal of all grease, oil and loose material.

To avoid absorption and reduction in flow characteristics, it is essential that the prepared substrate is soaked with clean water for a few hours prior to grouting. Before placing the grout any water remaining on the surface should be removed by blowing clean with oil free compressed air.

The underside of the base plate to be grouted should be clean and any oil or grease MUST be removed. The underside should preferably have no geometry which would impede the flow of grout. Should cruciforms be present, it is essential that air release holes are drilled through the base plate to avoid trapping air hence reducing the total contact area.

All formwork should be sealed to prevent loss of grout during pouring. The formwork should be tight to the base plate and parallel to the direction of flow. A gap of around 100mm is required at the pouring hopper with a gap of around 50mm at the opposite end. (see sketch)



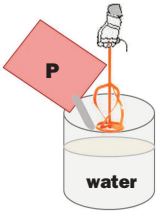
Cross-section of typical grouting formwork

Mixing

SpECgrout C5 is a one-part cementitious grout.

SpECgrout C5 must be mixed using a slow speed electric drill fitted with a mixing paddle of the Metabo accessories type 31 043. This method is suitable for small quantities, for larger quantities it may be necessary to consider the use of a grout pump. Advice can be provided by our **Technical Service Department** on the type of pumps available.

Good planning is essential to ensure a continuous flow of grout once pouring commences.



The specified water quantity should be measured in an accurately graduated vessel and added to the mixer. The bagged powder is then added slowly whilst mixing. A mixing time of not less than 5 minutes is required to ensure adequate dispersal of the ingredients.

The recommended water used per 25kg bag is 7.25 litres.

The product cannot be mixed by hand.

Application

The grout should be poured immediately after mixing and certainly not more than 20 minutes after mixing is complete to take full advantage of the high flow properties.

Again, planning is imperative to ensure that sufficient grout is available to allow continuity of placing. The mixed product should always be poured from the hopper end of the formwork.

On no account should grout be poured from more than one side of the base plate. Maintenance of a fluid head is essential to avoid air entrapment. Once the grouting has been completed, all exposed areas of grout should be cured immediately using **SpECcure AC** curing membrane.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using water, as on hardening the material may only be removed mechanically.

APPLICATION TEMPERATURE RANGE

Minimum 5°C
Maximum 35°C

At temperatures above this range the material should be stored in shade and mixed using chilled water.

PACKAGING AND YIELD

SpECgrout C5 is supplied in 25kg bags. Each bag when mixed with 7.25 litres of water will provide approximately 16.0 litres of mixed material.

STORAGE AND SHELF LIFE

SpECgrout C5 has a shelf life of 12 months when stored in original containers in a cool dry environment.

HEALTH AND SAFETY

SpECgrout C5 contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing.

Gloves goggles and a dust mask must be worn. If skin contact occurs wash with plenty of soap and water. Contact with eyes should be treated by immediately washing with copious amounts of clean water followed by medical attention.

FLAMMABILITY

SpECgrout C5 is non-flammable.

Issue 6: 01/2011
QA-054

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ECO FRIENDLY PRODUCT

SpECgrout E12

FREE-FLOW EPOXY RESIN GROUT

DESCRIPTION

SpECgrout E12 is a two part, solvent-free, low viscosity epoxy resin system when mixed in the proportions supplied forms a strong permanent bond and seal in cracks in concrete and masonry. **SpECgrout E12** is designed to be injected into static cracks using suitable resin injection equipment provided by specialist installers.

TYPICAL USE

- For injecting into static cracks in concrete or masonry, to form a permanent bond or seal.

ADVANTAGES

- Low viscosity allows penetration into the finest cracks
- Formulated for hot climates
- Suitable for structural repairs
- Excellent bond to concrete, brick and masonry
- Minimum creep under sustained load
- Resistant to wide range of chemicals
- Non-shrink, adheres with no loss of bond

DESIGN CRITERIA

SpECgrout E12 is designed to seal and bond static cracks in concrete and masonry. Crack widths of between 0.25mm and 12mm can be treated. Consult **SpEC Technical Department** for further details.

TECHNICAL DATA

Test method for Typical results	
Compressive strength @ 20°C ±3 (BS 6319 part 2)	
3 days	65 N/mm²
7 days	85 N/mm²
Tensile strength @ 20°C ±3 (BS 6319 part 1)	
7 days	30 N/mm²
Flexural strength @ 20°C ±3 (BS 6319 part 3)	
7 days	72 N/mm²
Pot life	
20°C	60 mins
30°C	30 mins
40°C	15 mins

APPLICATION

Surface preparation

Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae.

Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser.

Blow the cracks and treated surface with oil free air to ensure complete removal of all dust and loose particles. Ensure that the surfaces are blown dry.

Fixing Injection Packers

The injection packers shall be inserted into pre-drilled holes at intervals along the length of each crack. The distance between each packer shall be close enough to ensure that the resin will penetrate along the crack to the next point of injection.

The surface of the cracks between the packers shall be sealed with a thick band of **SpECcoat BC**, typically 50mm wide x 2mm thick. Cracks that go all the way through a wall or slab must have packers located on both sides with those at the back placed at midway points between those at the front.

SpECcoat BC shall be allowed to cure for 8 hours at 20°C but at lower temperatures, the curing time will be extended and the applicator should ensure that the surface sealant has adequately cured prior to continuing. One end of the injection hose shall be attached to the lowest packer on vertical cracks or to either end of the horizontal cracks.

If alternative methods are proposed then please contact **SpEC Technical Department** for their comments.

Application

Thoroughly mix the entire hardener and base resin contents until the liquid becomes clear.

SpECgrout E12 should be used with standard injection equipment having closed containers. The injection pressure should be at least 0.4 N/mm² (4 bar).

Only mix sufficient resin that can be used within the pot life of the material.

Following completion of the injection works, the injection system shall be allowed to cure for 24 hours and shall be left undisturbed for this time.

When using two-component injection machine, mixing takes place in the injection machine.

CURING

Remove the packers and make good any holes or voids with **SpECcoat BC** and allow to cure. The **SpECcoat BC** can be ground off or softened with a blow lamp and peeled off. Do not allow to burn.

EQUIPMENT CLEANING

SpECgrout E12 and **SpECcoat BC** should be removed tools, equipment and mixers with S**pECtop Cleaning Solvent** immediately after use. Hardened material can only be removed mechanically.

PACKAGING AND YIELD

SpECgrout E12 is supplied in 1.5 litre pack. Bulk supply is available on request.

SpECcoat BC is supplied in 3 and 5 kg packs which yield around 1.7 and 3.0 litres respectively of mixed product.

STORAGE AND SHELF LIFE

SpECgrout E12 has a shelf life of 12 months if stored in dry, original and unopened containers.

HEALTH AND SAFETY

SpECgrout E12 contains resins, which may cause sensitisation by skin contact.

Avoid contact with the skin and eyes.

Wear gloves and eye protection.

Accidental contact with the skin should be cleared immediately with soap and water and any eye contact should be treated by rinsing with copious amount of clean water. DO NOT use solvent.

SpECcoat BC and **SpECtop Cleaning Fluid** should not come into contact with eyes or skin or be ingested.

When using **SpECtop Cleaning Fluid** ensure adequate ventilation and avoid inhalation of vapour. Wear adequate protective clothing including gloves and eye protection.

If contact with skin occurs, rinse with water then clean using soap and water.

If eye contact occurs, rinse with copious amounts
of water and seek medical assistance.

If swallowed, DO NOT induce vomiting. Seek medical attention immediately.

FLAMMABILITY

SpECgrout E12 is non-flammable.

FLASH POINT

SpECtop Cleaning Solvent	34°C

Issue 1: 02/2011

QA-054

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SpECgrout E60

FILLED EPOXY RESIN GROUT

DESCRIPTION

SpECgrout E60 is a solvent free epoxy based grout designed for gap thicknesses from 12 to 150mm.

TYPICAL USES

SpECgrout E60 is a free-flow grout for use in situations where high dynamic loading is anticipated. It is suitable as a bedding layer for mechanical joint systems

ADVANTAGES

- Resistant to dynamic loading
- Non-shrink ensuring maximum contact area
- High strength
- Early strength gain
- Chemically resistant

TECHNICAL DATA

Test method for Typical results

Compressive strength @ 20°C ±3 (BS 6319 part 2)

3 days	65 N/mm²
7 days	90 N/mm²

Tensile strength @ 20°C ±3 (BS 6319 part 1)

7 days	16.5 N/mm²

Flexural strength @ 20°C ±3 (BS 6319 part 3)

7 days	36 N/mm²

Pot life

20°C	100 mins
30°C	50 mins
40°C	25 mins

CHEMICAL RESISTANCE

SpECgrout E60 products are resistant to mild acids, alkalis, sea water, oils, greases, fresh and sea water and most common chemicals.

APPLICATION INSTRUCTIONS

Preparation

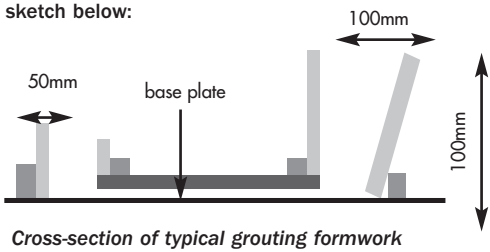
All substrates should be sound and free from oils and greases and must be dry. Concrete surfaces must be scabbled or grit blasted to a sound base. Dust and debris must be removed.

Steel surfaces, particularly the underside of base plates, should be grit blasted to clean bright metal.

Baseplate Grouting

Formwork

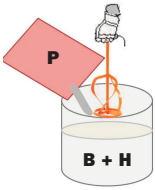
Formwork must be constructed which is leak proof and be similar to that shown in the sketch below:



Cross-section of typical grouting formwork

Mixing

SpECgrout E60 is supplied in a three-component pack consisting of one tin of resin, one tin of hardener and one bag of specially selected fillers.



the base and hardener should be first mixed together in a 25 litre steel container and the powder component added slowly while mixing with a slow speed drill and paddle. Complete mixing will take at least 3 minutes.

Placing

The mixed material should be poured at a uniform rate into the hopper end of the formwork only.Pouring should be continuous to avoid entrapment of air.

Good planning is essential to ensure sufficient material is available to complete the pour. A guide on typical flow distances for **SpECgrout E60** using a 100mm head is provided below:

Temperature (C°)	Gap (mm)	Maximum Flow (mm)
10	25	800
20	25	2000
30	25	3000

EQUIPMENT CLEANING

SpECgrout E60 should be cleaned from tools and mixing equipment using **SpECcoat Cleaning Fluid**.

PACKAGING AND YIELD

SpECgrout E60 is supplied in 12 litre units.

STORAGE AND SHELF LIFE

SpECgrout E has a shelf life of 12 months when stored in original containers in a cool dry environment @ 20°C.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided when using **SpECgrout E60** grouts. Inhalation of vapours should be avoided.

Wear gloves, goggles and eye and face protection.

Eye Contact	rinse with copious amounts of clean water and seek medical attention.
Skin Contact	rinse with copious amounts of clean water followed by thorough cleaning with soap and water.
Ingestion	seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECgrout E60 is not flammable.

FLASH POINT

SpECgrout E60 >150°C

Issue 2: 11/2013

QA-054

Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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ECO FRIENDLY PRODUCT

SPEC

SPECgrout PC

MULTI-PURPOSE, EPOXY RESIN GROUT FOR PILE CAP WATERPROOFING

DESCRIPTION

SpECgrout PC, solvent free epoxy resin grout is designed for levelling and waterproofing pile caps at depths between 20-80mm. It is supplied as a three component system consisting of epoxy base, epoxy hardener and specially graded aggregate. The components are supplied in the correct mix proportions designed for whole pack mixing on site and no other materials should be added.

TYPICAL USES

- For free flow grouting where the mechanical properties, low permeability and chemical resistance of the hardened grout are required
- Pile cap waterproofing

ADVANTAGES

- High flexural strength and adhesion to substrate ensures excellent performance
- High compressive, flexural and tensile strengths ensure durability and long term service life
- Very low permeability ensures integrity as part of a waterproofing system

TECHNICAL DATA

Typical properties

Compressive strength @ 35°C (BS 6319 part 2)	
7 days	87 N/mm²
Tensile strength @ 35°C (BS 6319 part 7)	
7 days	13 N/mm²
Flexural strength @ 35°C (BS 6319 part 3)	
7 days	26 N/mm²
Pot life	
20°C	60 mins
30°C	30 mins
40°C	15 mins

APPLICATION INSTRUCTIONS

Preparation

Pile Caps

Concrete must be free from oil, grease, or any loosely adherent material. If the concrete surface is defective or has laitance, it must be cut back to a sound base.

Mixing

The entire contents of the hardener should be poured into the base container and mixed until homogeneous. Place the mixed base and hardener into a suitable forced action mixer making sure that the entire volume is poured in. Add the aggregate and mix for 2-3 minutes or until uniform colour is achieved.

Placing

Place the grout within the pot life of the material. After this time, unused material will have stiffened and should be discarded.

Smooth to level using a steel trowel or screed bar.

EQUIPMENT CLEANING

All tools and equipment should be cleaned with **SpECcoat Cleaning Fluid**.

PACKAGING AND YIELD

SpECgrout PC is supplied in 12 litre units. **SpECcoat Cleaning Fluid** is supplied in 5 litre units.

STORAGE AND SHELF LIFE

SpECgrout PC has a shelf life of 12 months when stored in unopened containers in a cool dry environment.

HEALTH AND SAFETY

Do not use solvent. The use of goggles is recommended but should accidental eye contamination occur, wash thoroughly with plenty of clean water and seek medical attention immediately.

FLAMMABILITY

SpECcoat Cleaning Fluid is flammable. No smoking. Use in well ventilated areas away from sources of heat and naked flames.

FLASH POINT

SpECcoat Cleaning Fluid	>40°C

Issue 3: 11/2013

QA-054

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SpECinject EP

LOW VISCOSITY EPOXY INJECTION RESIN SYSTEM

DESCRIPTION

SpECinject EP is a two part, solvent-free, low viscosity epoxy resin system when mixed in the proportions supplied forms a strong permanent bond and seal in cracks in concrete and masonry. **SpECinject EP** is designed to be injected into static cracks using suitable resin injection equipment provided by specialist installers.

TYPICAL USE

- For injecting into static cracks in concrete or masonry, to form a permanent bond or seal.

ADVANTAGES

- Low viscosity allows penetration into the finest cracks
- Formulated for hot climates
- Suitable for structural repairs
- Excellent bond to concrete, brick and masonry
- Minimum creep under sustained load
- Resistant to wide range of chemicals
- Non-shrink, adheres with no loss of bond

DESIGN CRITERIA

SpECinject EP is designed to seal and bond static cracks in concrete and masonry. Crack widths of between 0.25mm and 12mm can be treated. Consult **SpEC Technical Department** for further details.

TECHNICAL DATA

Typical results at 25 ± 2 °C

Compressive Strength (BS6319)	85 N/mm²
Tensile Strength (BS6319)	25 N/mm²
Flexural Strength (BS6319)	35 N/mm²
Gel time (200g max.)	>60 mins
Specific gravity	1.10
Viscosity	1.0 - 1.20 poise

APPLICATION

Surface preparation

Clean the surface and remove any dust, unsound or contaminated material, plaster, oil, paint, grease, corrosion deposits or algae.

Oil and grease deposits should be removed by steam cleaning, detergent scrubbing or the use of a proprietary degreaser.

Blow the cracks and treated surface with oil free air to ensure complete removal of all dust and loose particles. Ensure that the surfaces are blown dry.

In the presence of running water, please refer to the **SpECinject PU** injection resin system.

Fixing Injection Packers

The injection packers shall be inserted into pre-drilled holes at intervals along the length of each crack. The distance between each packer shall be close enough to ensure that the resin will penetrate along the crack to the next point of injection.

The surface of the cracks between the packers shall be sealed with a thick band of **SpECcoat BC**, typically 50mm wide x 2mm thick. Cracks that go all the way through a wall or slab must have packers located on both sides with those at the back placed at midway points between those at the front.

SpECcoat BC shall be allowed to cure for 8 hours at 20°C but at lower temperatures, the curing time will be extended and the applicator should ensure that the surface sealant has adequately cured prior to continuing. One end of the injection hose shall be attached to the lowest packer on vertical cracks or to either end of the horizontal cracks.

If alternative methods are proposed then please contact **SpEC Technical Department** for their comments.

Application

Thoroughly mix the entire hardener and base resin contents until the liquid becomes clear.

SpECinject EP should be used with standard injection equipment having closed containers. The injection pressure should be at least 0.4 N/mm² (4 bar).

Only mix sufficient resin that can be used within the pot life of the material.

Following completion of the injection works, the injection system shall be allowed to cure for 24 hours and shall be left undisturbed for this time.

When using two-component injection machine, mixing takes place in the injection machine.

CURING

Remove the packers and make good any holes or voids with **SpECcoat BC** and allow to cure. The **SpECcoat BC** can be ground off or softened with a blow lamp and peeled off. Do not allow to burn.

EQUIPMENT CLEANING

SpECinject EP and **SpECcoat BC** should be removed tools, equipment and mixers with S**pECtop Cleaning Solvent** immediately after use. Hardened material can only be removed mechanically.

PACKAGING AND YIELD

SpECinject EP is supplied in 1.0 litre pack. Bulk supply is also available on request.

SpECcoat BC is supplied in 3 and 5 kg packs which yield around 1.7 and 3.0 litres respectively of mixed product.

STORAGE AND SHELF LIFE

SpECinject EP has a shelf life of 12 months if stored in dry, original and unopened containers.

HEALTH AND SAFETY

SpECinject EP contains resins, which may cause sensitisation by skin contact.

Avoid contact with the skin and eyes.

Wear gloves and eye protection.

Accidental contact with the skin should be cleared immediately with soap and water and any eye contact should be treated by rinsing with copious amount of clean water. DO NOT use solvent.

SpECcoat BC and **SpECtop Cleaning Fluid** should not come into contact with eyes or skin or be ingested.

When using **SpECtop Cleaning Fluid** ensure adequate ventilation and avoid inhalation of vapour. Wear adequate protective clothing including gloves and eye protection.

If contact with skin occurs, rinse with water then clean using soap and water.

If eye contact occurs, rinse with copious amounts
of water and seek medical assistance.

If swallowed, DO NOT induce vomiting. Seek medical attention immediately.

FLAMMABILITY

SpECinject EP is non-flammable.

FLASH POINT

SpECtop Cleaning Solvent	34°C

Issue 3: 05/2010

QA-054

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SpECloc EX

HIGH PERFORMANCE 100% PURE EPOXY RESIN ANCHORING GROUT

DESCRIPTION

SpECloc EX is a high performance 100% epoxy resin anchoring grout, which has been specifically developed for simplicity in use, fast cure and exceptional performance characteristics.

TYPICAL USES

SpECloc EX is suitable in the following applications:

- Anchoring sleeves or inserts, studs, threaded rods or sockets in brickwork, concrete block or concrete
- Heavy duty anchoring of reinforcing steel, threaded anchor rods in rock or reinforced concrete
- Very high performance anchoring for civil engineering projects such as buildings, bridges, tunnels, roads, etc.
- Where solvent or styrene based products are not acceptable

ADVANTAGES

- Simplicity in use
- Fast cure
- Solvent-free - non hazardous
- No odour
- VOC free
- High performance
- Can be used underwater or in wet conditions
- Can be used at temperatures down to +5°C
- Can be used in diamond drilled holes
- Non-flammable

RELEVANT STANDARD

NF P18-831 – NF P18-836 (for reinforcing steel)

TECHNICAL DATA

Resin		White colour
Hardener		Black colour
Mixed product		Grey thixotropic soft paste
Mixing ratio by volume		1:1
Density		1.5 kg/m²
Relevant times		
Temp	*Open times*	*Curing times*
5°C	20 mins	2-3 hr
20°C	12 mins	1 hr
30°C	6 mins	40 mins
35°C	4 mins	30 mins

APPLICATION

The supplied dual cartridge is used with a special manual or pneumatic gun (**SpECloc EX gun**).

Mixing takes place within the mixing nozzle fixed at the end of the cartridge.

PACKAGING

SpECIoc EX is supplied in two component parallel cartridges: 400 ml.

STORAGE & SHELF LIFE

SpECIoc EX may be stored for a maximum of 9 months in a cool dry warehouse. Store away from sun at temperatures <40°C.

HEALTH & SAFETY

SpECIoc EX should not come into contact with eyes or skin or be ingested.

If contact with skin occurs, rinse with water then clean using soap and water.

If eye contact occurs, rinse with copious amounts of water and seek medical assistance.

If swallowed, DO NOT induce vomiting. Seek medical attention immediately.

FLAMMABILITY

SpECIoc EX is non-flammable.

FLASHPOINT

SpECIoc EX

>200°C

POST-INSTALLED REINFORCING STARTER BARS - ANCHOR LENGTH AND WORKING LOAD

Dia. of rebar (mm)	Dia. of hole (mm)	Concrete grade C25/30 Anchor length (mm)		Concrete grade C25/30 Working load (kN)		Concrete grade C35/45 Anchor length (mm)		Concrete grade C35/45 Working load (kN)	
		Min	Max	Min	Max	Min	Max	Min	Max
8	10	80	285	4	16	80	222	5	16
10	12	100	357	7	25	100	277	9	25
12	14	120	428	10	36	120	333	12	36
14	16	140	510	13	50	140	396	17	50
16	20	160	580	17	65	160	451	23	65
20	25	200	728	28	102	200	566	36	102

CHEMICAL RESISTANCE

Products	Long Term Immersion	Temporary Immersion	Short Term Immersion
Freshwater	•		
Sea water	•		
Hot water < 45°C	•		
Xylene	•		
Petrol	•		
Soda (50%)		•	
Sulphuric acid (20%)		•	
Hydrochloric acid (10%)		•	
Phosphoric acid (5%)		•	
Toluene		•	
Nitric acid (10%)		•	
Acetone			•
Methanol			•
Acetic acid			•
Sodium hypochlorite			•

• Signifies resistance

Issue 4: 09/2007

QA-054

SPECIALITY ENGINEERING CHEMICALS

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Adhesives

Adhesives and grouts for tiling, concrete bonding adhesives and primers

Tiling

- **SPECtite** WTA
  Waterproof tile adhesive
- **SPECtite** WTA Latex
  Polymer modified waterproof mortar/ adhesive forceramic tiles, stone and marble
- **SPECtite** ETA
  Chemically resistant waterproof tile adhesive
- **SPECtite** Tile Grout
  Cementitious tile grout

Bonding Adhesives

- **SPECbuild** BA10
  Multi-purpose, water resistant latex additive and bonding agent
- **SPECbond** PVA
  PVA bonding compound

Primers

- **SPECbuild** Primer E1
  Epoxy resin bonding agent
- **SPECbuild** Primer S1
  Styrene butadiene resin bonding agent
- **SPECtop** Primer F1
  Low viscosity epoxy resin floor primer
- **SPECtop** Primer FX
  Moisture tolerant epoxy primer
- **SPECcoat** Primer SA
  Penetrating silane-siloxane primer for concrete and masonry
- **SPECcoat** Zn25
  Single component epoxy zinc primer
- **SPECseal** Primer Series
  Single component primers

SpECtite WTA

CEMENTITIOUS WATERPROOF TILE ADHESIVE

DESCRIPTION

SpECtite WTA is a cementitious adhesive which is particularly suited to the interior and exterior fixing of ceramic tiles and other such materials in, for example, swimming pools, or in other permanently submerged or high risk conditions. The material provides an excellent bond and a waterproof bed for tiling.

TYPICAL USES

SpECtite WTA is designed to provide permanent fixing for rigid materials, such as ceramic tiles, stone cladding, brick slips, glass mosaics, insulation and acoustic boards.

ADVANTAGES

- High bond strength
- Excellent waterproof characteristics
- Suitable for use onto a variety of substrates

RELEVANT STANDARDS

ANSI 118-1

TECHNICAL DATA

Pot life @ 25°C	45 minutes
Colour	grey and white

APPLICATION INSTRUCTIONS

Preparation

The substrate must be clean and dust free. All contaminants such as friable material, grease and oil should be completely removed.

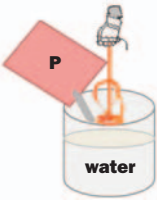
Presoak the substrate but ensure that no standing water remains.

Mixing

SpECtite WTA is a one-component cementitious adhesive.

4.75 to 6.0 litres of water are required for each 25kg bag of **SpECtite WTA** depending on the consistency required.

Generally, the lower water addition would be used for vertical application and the higher water addition for horizontal application.



Pour the measured volume of water into an appropriately sized plastic or metal drum. The powder should be added to the water slowly whilst mixing with a spiral paddle attached to a slow speed electric drill. Mixing should continue for a minimum of 5 minutes until a uniform, lump free consistency is produced. Allow the product to stand for 15 minutes. Remix for 1 - 2 minutes prior to using.

Application

Apply **SpECtite WTA** at a depth of 3 - 6mm into a working area not exceeding 1m².

For ceramic floor tiles, decorative stone cladding and in wet conditions in general, solid-bed fixing

is recommended. In other situations, the adhesive may be combed with a notched trowel prior to fixing.

Press the dry tiles into place using a twisting action to ensure good contact with the adhesive. Tapping with a rubber hammer ensures good contact with the adhesive. Remove any excess adhesive from the surface of the tiles with a damp cloth prior to the material setting.

Allow the **SpECtite WTA** to cure for a minimum of 24 hours before attempting further grouting of joints between ceramic wall/floor tiles. After fixing ceramic floor tiles, no traffic should be allowed for a minimum of 4 days.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using water, as on hardening the material may only be removed mechanically.

PACKAGING AND YIELD

SpECtite WTA is supplied in 25kg packs, each pack produces approximately 15.5 litres of mixed material, but will depend on the water addition used.

Coverage

Solid bed fixing 3 - 6mm depth (3-6 litres/m²) @ 3-6mm a 25kg bag will provide sufficient mixed materials for 2.6 - 5.2m².

Notched trowel fixing 3mm depth) 1.5 litres/m²) @ a 3mm combed finish a 25kg bag will provide sufficient mixed material for 10.4m².

HEALTH AND SAFETY

SpECtite WTA contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing. Gloves, goggles and a dust mask must be worn.

Eye contact

Rinse with copious amounts of clean water and seek medical attention.

Skin contact

Rinse with copious amounts of clean water followed by thorough cleaning with soap and water. DO NOT USE SOLVENTS.

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SpECtite WTA Latex

POLYMER MODIFIED WATERPROOF MORTAR/ADHESIVE FOR CERAMIC TILES, STONE AND MARBLE

DESCRIPTION

SpECtite WTA Latex is a two component waterproof mortar, consisting of a powder component and a liquid component.

TYPICAL USES

- Installation of ceramic tiles and stone/ marble over masonry, concrete and wooden type surfaces. Application areas include interior and exterior, wet and dry areas, walls, floors and ceilings.
- Interior and exterior use over concrete, plaster, masonry, blockwork and gypsum boards

ADVANTAGES

- Flexible and shock resistant
- Easy to use
- Economical

TECHNICAL DATA

Pot life @ 25°C	20 minutes
Colour	grey or white

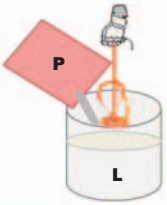
APPLICATION INSTRUCTIONS

Surface Preparation

Substrates should be structurally sound, free from dust, dirt, grease, sealers and curing compounds. Remove old paints, coatings and adhesives. Pre-wet porous substrates but remove standing water.

Mixing

SpECtite WTA Latex is supplied as a two component pack consisting of a liquid component and a powder component.



In a clean mixing vessel pour the total contents of the liquid component and slowly add the powder component whilst mixing using a slow speed drill (300rpm) and paddle. Mix until smooth consistency is obtained (2-3 minutes). Leave to stand for 10 minutes and remix.

Application

Apply **SpECtite WTA Latex** to a clean substrate with the flat edge of the trowel, then comb the product to the desired profile with the notched side of the trowel. Beat the tile with a rubber mallet to fully embed in the adhesive.

EQUIPMENT CLEANING

Tools and equipment should be cleaned immediately using water, as on hardening the material may only be removed mechanically.

PACKAGING AND YIELD

SpECtite WTA Latex is supplied as a 30kg pack consisting of 25kg of powder and 5 kg of liquid. The yield is approximately 14 litres.

Coverage

- 9.40 m² per pack using a 3mm x 3mm notched trowel
- 4.62 m² per pack using a 6mm x 6mm notched trowel
- 2.38 m² per pack using a 12mm x 12mm notched trowel

HEALTH AND SAFETY

SpECtite WTA Latex powder contains alkalis and protection should be provided to prevent contact with skin and eyes. Inhalation of dust must be avoided whilst mixing. Gloves, goggles and a dust mask must be worn.

Eye contact	Rinse with copious amounts of clean water and seek medical attention
Skin contact	Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS.

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SpECtite Tile Grout

CEMENT BASED GROUT FOR JOINTS IN CERAMIC TILES

DESCRIPTION

SpECtite Tile Grout is a blend of high purity silica sands, Portland cements and organic polymers which, when mixed with water produce a paste-like material. Once hardened, the product is resistant to water and the growth of mould.

SpECtite Tile Grout is designed for use with **SpECtite WTA**.

TYPICAL USES

SpECtite Tile Grout may be used as a grout for dry tile joints. Typical applications are in shower cubicles, kitchens, bathrooms, swimming pools etc.

ADVANTAGES

- Resistant to mould growth
- Water resistant
- May be used in permanently submerged situations
- Non slump
- Single component
- Designed for use in hot climates
- Special colours available as **SpEC Rainbow Grout**
- Standard colours grey and white

TECHNICAL DATA

Compressive strength	5.0 N/mm2 @ 24 hrs
Open time	40 mins @ 35°C

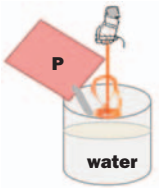
APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtite Tile Grout**. Tiles must be firmly fixed in place and perfectly clean prior to the application of **SpECtite Tile Grout**. The gap between tiles should be approx. 2-8mm, but should not exceed 8mm.

Mixing

SpECtite Tile Grout is supplied as a one component blend of silica sands, portland cements and organic polymers.



Place around 8 litres of water in a mixing pail with capacity of around 25 litres and slowly add the **SpECtite Tile Grout** whilst mixing using a slow speed electric drill, fitted with a **SpECbuild Mixing Paddle**. Always add powder to water and mix for around 5 minutes to achieve a lump-free paste. Leave the material to stand for 10-15 minutes prior to application.

Application

Apply **SpECtite Tile Gout** using a small sponge or cloth, ensuring that the product is thoroughly worked into the joints and edges.

Be careful to remove surplus material with a dry cloth and profile the joint either by the use

of a jointing tool or the tip a gloved finger.

Once the grout has dried, use a wet sponge to carry out the final tile cleaning.

It is essential to clean tiles, which have a surface profile, prior to the grout hardening.

EQUIPMENT CLEANING

SpECtite Tile Grout should be removed immediately from tools etc. using clean water.

Cured material can only be removed by mechanical means.

PACKAGING AND YIELD

SpECtite Tile Grout is supplied in 25kg bags and a typical usage rate is around 0.20 - 0.30 kg /m², although this is very dependent on spacing and type of tiles.

STORAGE AND SHELF LIFE

SpECtite Tile Grout has a shelf life of 12 months when stored in original bags in a cool dry environment. If stored at high ambient temperatures or at high humidity the shelf life will be reduced by as much as 50 - 60%.

HEALTH AND SAFETY

SpECtite Tile Grout being based on cement, should not come into contact with skin or eyes. Inhalation of dust should be avoided.

If swallowed, DO NOT induce vomiting. Seek medical attention immediately.

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QA-054

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SpECtite ETA

EPOXY RESIN CERAMIC TILE ADHESIVE AND GROUT

DESCRIPTION

SpECtite ETA is a two-component solvent-free epoxy resin adhesive, which provides excellent adhesion and chemical resistance.

TYPICAL USES

SpECtite ETA is designed to provide permanent fixing for ceramic tiles where a hygienic, chemically resistant and waterproof adhesive is required. **SpECtite ETA** is designed as an impervious, high strength adhesive and grouting material offering excellent chemical resistance.

The product is recommended for wall and floor tiling where hygiene is of paramount importance, particularly food processing areas, swimming pools and hospital applications.

SpECtite ETA should be used in critical situations where traditional cementitious adhesives are inappropriate particularly in aggressive environments.

SpECtite ETA has good resistance to commonly encountered dilute acids, alkalis, salts, oils and fats.

ADVANTAGES

- Excellent adhesion even in immersed conditions
- Hygienic – will not encourage bacterial growth
- Excellent application characteristics
- Excellent chemical resistance

TECHNICAL DATA

Typical results @ 25°C	
Compressive strength	85 N/mm² @ 7 days
Tensile strength	13 N/mm² @ 7 days
Flexural strength	25 N/mm² @ 7 days
Water absorption	< 0.1%
Pot life	@ 20°C - 8 hours
	@ 35°C - 4 hours

CHEMICAL RESISTANCE CHART

10% Lactic acid	Very good
10% Citric acid	Very good
40% Phosphoric acid	Very good
50% Hydrochloric acid	Very good
50% Sulphuric acid	Very good
Concentrated bleach	Very good
Saturated sugar solution	Very good
Saturated urea solution	Very good
White spirit	Very good
Oil	Very good
Petrol	Very good
Greases	Very good
Xylene	Very good
10% Ammonia	Very good
50% Caustic soda	Very good
Butanol	Good
Skydrol	Good

APPLICATION

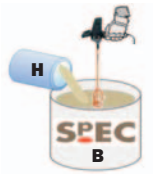
Surface Preparation

The substrate must be clean and dust free. All contaminants such as friable material, grease and oil should be removed completely.

Mixing

SpECtite ETA is supplied as a two-component pack consisting of a base component and a curing agent.

The total contents of the hardener can should be emptied into the base component and



stirred thoroughly using a suitable spatula or a drill and paddle until a smooth paste which is uniform in colour, is obtained.

Application

The mixed material should be applied to the substrate using a toothed tiling comb. The tiles should be pressed firmly in place using a twisting action to ensure good contact with the adhesive.

Typical adhesive depth will be approx. 3 - 4mm.

Remove any excess adhesive from the surface of the tiles with a dry cloth immediately.

The joints between tiles may be grouted using **SpECtite ETA** applied by plastic spatula, working on a maximum area of 0.5m² at a time.

EQUIPMENT CLEANING

Tools may be cleaned using **SpECtop Cleaning Fluid** whilst the product is in its uncured state.

Once hardened the product can only be removed by mechanical means.

APPLICATION TEMPERATURE RANGE

Minimum	+5°C
Maximum	+35°C

PACKAGING & YIELD

SpECtite ETA is supplied in 4.5 litre and 15 litre packs.

STORAGE & SHELF LIFE

SpECtite ETA has a shelf life in excess of 6 months when stored in original containers in a cool dry environment. At temperatures above 35°C, the pot life will be reduced.

HEALTH & SAFETY

SpECtite ETA & SpECtop Cleaning Fluid should not come into contact with eyes or skin, nor should it be ingested.

When using **SpECtop Cleaning Fluid** ensure adequate ventilation and avoid inhalation of vapour.

Wear adequate protective clothing including gloves and eye protection.

If contact with skin occurs, rinse with water than clean using soap and water.

If eye contact occurs, rinse with copious amounts of water and seek medical assistance.

If swallowed, DO NOT induce vomiting.

Seek medical attention immediately.

FLAMMABILITY

SpECtite ETA is non-flammable.

FLASHPOINT

SpECtite ETA	>150°C
SpECtop Cleaning Fluid	>40°C

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SpECbuild BA10

WATER RESISTANT ADDITIVE AND BONDING AGENT FOR CEMENT SYSTEMS

DESCRIPTION

SpECbuild BA10 is an SBR co-polymer latex, which has been specifically designed for use with cementitious mixes.

It can be used to form water and vapour resistant bonding coats, prior to application of renders, plasters or screeds. Due to its exceptional adhesive properties, it can be used to bond slip bricks, tiles, coping stones, kerb stones, etc., to a variety of substrates, including asphalt and glass. When incorporated into cement mortar mixes, it forms polymer modified systems which exhibit excellent adhesion, improved tensile, flexural, and compressive strengths, excellent resistance to water and water vapour and improved chemical resistance.

SpECbuild BA10 modified mixes are non-toxic and can be used in contact with potable water.

TYPICAL USES

SpECbuild BA10 modified mixes can be used for the following applications:

- Floor repairs
- Spalled concrete
- Bedding tiles
- Fixing slip bricks

TECHNICAL DATA

Compressive strength (BS 6319, Pt 2)	50 N/mm²
Flexural strength (BS 6319, Pt 3)	7 N/mm²
Water vapour permeability	Reduced by 96%
Adhesion	Excellent to concrete, steel, brick & glass
Chemical resistance	Resists mild acids, alkalis, sulphates, chlorides etc.
Shrinkage during cure	0.01%
Appearance	White liquid
Specific gravity	1.01 at 20°C
Solids	46%

For economical use, **SpECbuild BA10 30%** with 10% solids content is also available.

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECbuild BA10** modified mixes.

Ensure the complete removal of all laitance, oil, grease, moulds oil, curing compounds etc. A wire brush, bush hammer, or for large floor areas, a captive grit blasting machine may be used. Ensure that reinforcing steel is clean and free from corrosion deposits, grease or oil. When repairing spalled or damaged concrete, ensure the substrate is cut back to sound material.

Bonding Slurry

Ensure that absorbent surfaces such as concrete, brick, stone etc., are well dampened down, ensuring the surface is wet but has no free standing water.

Prepare a bonding slurry consisting of 2 parts cement to 1 part **SpECbuild BA10**, mixed to a lump free consistency. Using a stiff brush, work the bonding slurry well into the dump surface ensuring that no pinholes are visible. Do not apply bonding slurry at thickness' in excess of 2mm.

It is important that **SpECbuild BA10** modified mixes are applied to a wet bonding slurry. If a second coat is necessary, it must be applied after allowing the first coat to dry.

Cement

SpECbuild BA10 is compatible with all types of OPC, sulphate resisting and high alumina cements.

Mixing

SpECbuild BA10 is supplied as a one-component kit.

Mixing should preferably be carried out in a concrete mixer although hand batching is permissible where the total weight of the mix does not exceed 25 kgs.

Charge the mixer with the required quantity of sand and cement, and premix for approximately one minute. Pour in the desired quantity of **SpECbuild BA10** and mix for 2 to 3 minutes. Finally, add the water little by little, until the required consistency is achieved. Due to the strong plasticising properties of **SpECbuild BA10**, it is best to add the water cautiously as rapid thinning can occur.

Curing

It is preferable to cure **SpECbuild BA10** modified screeds as soon as they are laid to prevent rapid evaporation of water essential for hydration. This can be achieved by using polythene, damp hessian, or a suitable concrete curing membrane, such as **SpECcure WE**.

EQUIPMENT CLEANING

All tools should be cleaned immediately after use using water, as on hardening the material can only be removed mechanically.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above this range the material should be stored in shade and cool water used for mixing.

PACKAGING AND YIELD

Available in 20 and 200 litre drums.

Curing

It is preferable to cure **SpECbuild BA10** modified screeds as soon as they are laid to prevent rapid evaporation of water essential for hydration. This can be achieved by using

polythene, damp hessian, or a suitable concrete curing membrane, such as **SpECcure WE**.

EQUIPMENT CLEANING

All tools should be cleaned immediately after use using water, as on hardening the material can only be removed mechanically.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above this range the material should be stored in shade and cool water used for mixing.

PACKAGING AND YIELD

Available in 20 and 200 litre drums.

STORAGE AND SHELF LIFE

Indefinite in manufacturers sealed containers. Protect from frost. Avoid prolonged storage in excessive heat.

HEALTH AND SAFETY

Cementitious mortars and slurries contain cement powder which, when mixed or become damp, release alkalis which can be harmful to the skin.

During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment.

Eye contact
Rinse with copious amounts of clean water and seek medical attention.

Skin contact
Rinse with copious amounts of clean water followed by thorough cleaning with soap and water. DO NOT USE SOLVENTS

Ingestion
Seek immediate medical attention. DO NOT INDUCE VOMITING

SpECbuild BA10 modified mixes are non-toxic after cure and can be safely used in contact with potable water.

FLAMMABILITY

SpECbuild BA10 is not flammable.

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QA-054

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SpECbond PVA

POLYVINYL ACETATE ADHESIVE

DESCRIPTION

SpECbond PVA can be used as a multi-purpose adhesive based on a plasticised polyvinyl acetate and is in the form of a viscous opaque emulsion which dries to a transparent film, **SpECbond PVA** will bond most common building materials, concrete, brick, timber etc., to themselves and to each other - the exceptions being plastic, rubber and polyethylene.

TYPICAL USES

SpECbond PVA can be used as a multi-purpose adhesive, primer, sealer and admixture for cement systems.

ADVANTAGES

- Versatile and economical.
- Quick drying high strength adhesive.
- Excellent shelf life under normal conditions.
- Conforms to British Standard 5270.

TECHNICAL DATA

Specific gravity	1.08 @ 20°C
pH	4.5 to 5.5
Viscosity	@ 23°C Brookfield 150-350 poise
Solids Content	40% ± 1%
Non-toxic	
Chloride content	Nil
Minimum film forming temperature	2-4°C
Low temperature stability	-18°C
High temperature stability	1 week @ 50°C

APPLICATION

Preparation

To achieve results it is important that preparation is carried out thoroughly. Although **SpECbond PVA** has exceptional adhesive properties it will not perform efficiently on contaminated surfaces. Remove all flaking and cracking paint, unsound plaster, oil, grease and friable matter to provide a stable substrate. Highly absorbent surfaces such as Concrete, Foam and Slag blockwork may require pre-wetting before application of **SpECbond PVA** sealer. Please note that PVA should not be used as a bonding agent where wet conditions are continuous or in highly humid areas - see data of **SpECbuild BA10**.

For use as an adhesive

When bonding wood to wood apply a thin coat to one face only and press together firmly. On large surface areas, certainly with laminated plastic, clamping or weights may be required for up to 24 hours. Very porous surfaces will need to be primed with 1 part **SpECbond PVA** diluted with 3 parts water and allowed to dry before carrying out the adhesive operation. It is not recommended that unmodified **SpECbond PVA** be used for gap filling where gap filling

in necessary perhaps in the bonding of plasterboard, polystyrene, acoustic board etc., a suitable filler should be used to modify **SpECbond PVA**. Mixing equal parts with water and adding fillers such as plaster, cement, fine sand or sawdust would accommodate the gap filling requirement - consult our Technical Services Department if a detailed specification is required.

For use as a plaster, cement/sand render & screed bonding agent

Normally, on most surfaces, no mechanical hacking or keying is required before application of gypsum plaster. Mix **SpECbond PVA** with an equal part of water, apply to prepared substrate and allow to become tacky before plastering in the normal manner. For heavier rendering using sand/cement systems, seal and prime as above but employ an intermediate bonding slurry prepared by mixing 1 part ordinary Portland Cement with 1 part **SpECbond PVA** to 3 parts water. Apply the slurry to the still tacky primer with a stiff brush to achieve a rough surface or stippled surface. Allow to harden, check adhesion to substrate and apply rendering. When rendering on glazed tiles or highly polished surfaces it is suggested that light pick hammering should be carried out before following the above recommendations.

For use as an admixture in cement/sand or granolithic screeds

This incorporation of **SpECbond PVA** allows for reduced thickness floor screeds to be laid without recourse to setting out bays. The ability to lay at reduced thickness enables the operator to redress unacceptable differences in levels but resolution of these levels should be confined to between 9 to 19mm thickness of screed.

Areas subjected to light traffic should be primed as recommended and screeded with a mix of 3parts sharp sand, 1 part cement and gauged with 8 litres of **SpECbond PVA** per 50 kg of cement.

Where heavy traffic is envisaged use a mix of 1 part sand, 1 part cement and 2 parts granite (6 to 3mm) - gauge with **SpECbond PVA** at the rate of 10 to 15 litres per 50kg of cement and add a little water if necessary but this type of screed should be mixed semi-dry, never overwet. Lay the screed on a tacky bonding coat, tamp and trowel to a smooth finish. **SpECbond PVA**/sand/cement screeds can normally be opened to light foot traffic in 36 to 48 hours and granolithic 24 to 36 hours. Before opening to heavier traffic allow 3 to 7 days depending on the type and weight of traffic.

For use in repairs to concrete

Prepare damaged or worn concrete as recommended and attempt to cut-back perimeter edges of the area to minimise the necessity for

feather-edging'. Prime with equal part **SpECbond PVA** and water and repair whilst primer is still tacky.

The repair mix should consist of 1-part cement and 2-part sand gauged with a mixture of 1 part **SpECbond PVA** to 3 parts clean water. Compact firmly but do not over-trowel.

CURING

Cure using a suitable curing agent such as **SpECcure WE**.

EQUIPMENT CLEANING

Equipment and tools should be cleaned with water immediately after use.

PACKAGING & YIELD

Supplied in 5 litre, 20 litre and 200 litre units.

When used as an adhesive, coverage will vary according to the degree of porosity of the surface to which **SpECbond PVA** is applied but the following average will provide a guide.

Undiluted	-	9m²/litre
Diluted 1:1	-	20m²/litre
Diluted 1:3	-	32m²/litre

STORAGE & SHELF LIFE

Store under cover and away from extremes of heat and cold. The shelf life of the product is in excess of 12 months in unopened containers.

HEALTH & SAFETY

SpECbond PVA should not be allowed to come into contact with skin or eyes, or be swallowed. See Health and Safety Data.

FLAMMABILITY

SpECbond PVA is non-flammable.

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QA-054

SPECIALITY ENGINEERING CHEMICALS

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SPECbuild Primer E1

EPOXY RESIN BONDING AGENT FOR CEMENTITIOUS MATERIALS

DESCRIPTION

SpECbuild Primer E1 is a two-part epoxy resin bonding agent used to produce a high quality bond between existing concrete surfaces and subsequently applied cementitious or epoxy based materials.

TYPICAL USES

SpECbuild Primer E1 may be applied onto clean, sound substrates to promote a high strength bond to cementitious materials such as in the following situations:

- Concrete repair applications
- Granolithic floor screeds
- Bonding newly poured concrete to existing concrete

ADVANTAGES

- High mechanical strength
- Produces a bond that exceeds the cohesive strength of the parent substrate
- Provides an impervious barrier to the passage of chlorides
- Solvent free

TECHNICAL DATA

Typical results after 7 days @ 20 °C

Compressive strength (BS 6319: Pt 2)	50 N/mm²
Slant Shear strength (BS 6319: Pt 4)	40 N/mm²

Typical results @	**20°C**	**30°C**
Pot life	6 hrs	3 hrs
Max. overlay time	20 hrs	10 hrs
Initial hardness	48 hrs	24 hrs
Full cure	7 days	7 days

APPLICATION

Preparation

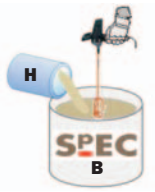
It is essential that adequate preparation is carried out prior to the application of **SpECbuild Primer E1**.

The prepared surface should be free from laitance, dust, algae, oil and grease.

Mixing

SpECbuild Primer E1 is supplied in a two component kit, consisting of a base component and a curing agent.

Both of the components should be briefly stirred to ensure that any settlement products are fully suspended.



The entire contents of the curing agent should be emptied into the base component, ensuring that the sides of the curing agent tin are carefully scraped to remove all the material.

The combined materials should then be mixed using a suitable slow-speed drill and mixing paddle for 2 minutes until uniform. The sides of the tin should then be scraped and mixing should continue for a further 2 minutes.

Application

The mixed product may be applied by brush. The theoretical consumption rate is 5 m^2/litre.

Where **SpECbuild Primer E1** is used as part of the **SpECbuild** concrete repair system, care should be taken to ensure an unbroken coating. One coat should be applied and allowed to gel. A second coat should then be applied and used to provide the bond.

Where a subsequent repair product is to be applied by spray, then sharp sand may be broadcast into the surface of the second coat of the primer.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

To improve mixing and application characteristics, at temperature below 5°C, the material should be stored in an environment above this temperature.

At temperature above 35°C the material may be applied, however, the pot life will be reduced. In these situations therefore, we would recommend that the material should be stored in a cool environment.

PACKAGING AND YIELD

SpECbuild Primer E1 is supplied in 1, 2 and 5 litre units. The theoretical consumption rate is 5 m^2/litre.

EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

STORAGE AND SHELF LIFE

SpECbuild Primer E1 has a shelf life of 12 months when stored in original, unopened containers in a cool, dry environment.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact	Rinse with copious amounts of clean water and seek medical attention.
Skin contact	Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion Seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop Cleaning Fluid is flammable. Do not expose to naked flame or other sources of ignition.

FLASHPOINT

SpECbuild Primer E1	>150°C
SpECtop Cleaning Fluid	>40°C

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SpECbuild Primer S1

STYRENE BUTADIENE RESIN BONDING AGENT FOR CEMENTITIOUS MATERIALS

DESCRIPTION

SpECbuild Primer S1 is a single-component bonding agent for cementitious repair systems.

TYPICAL USES

SpECbuild Primer S1 may be applied onto clean, dry substrates to promote a high strength bond between cementitious materials and particularly with **SpECbuild** cementitious repair mortars.

ADVANTAGES

- Single component. No mixing
- Suitable for use in hot climates
- Economical in use

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECbuild Primer S1**.

The prepared surface should be free from laitance, dust, algae, oil and grease.

SpECbuild Primer S1 is applied to a thoroughly prepared substrate which has been pre-soaked with clean water for one hour prior to affecting the repair.

Scrub into the substrate avoiding the formation of puddles of excess material.

The selected repair mortar should be applied while the primer is still tacky.

EQUIPMENT CLEANING

SpECbuild Primer S1 may be removed with water immediately after use.

Cured material can only be removed mechanically.

PACKAGING AND YIELD

SpECbuild Primer S1 is supplied in 1 litre and 5 litre units. Coverage will be in the range of 6 - 8 m^2/litre.

STORAGE AND SHELF LIFE

SpECbuild Primer S1 has a shelf life of 12 months when stored in original, unopened containers in a cool, dry environment.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided.

FLAMMABILITY

SpECbuild Primer S1 is non-flammable.

Issue 5: 03/2010

QA-054

Whilst the information and/or specifications given are, to the best of our knowledge, true and accurate, no warranty is given or implied in connection with any recommendations or suggestions made by us, our representatives, agents or distributors as the conditions of use and labour involved are beyond our control.

If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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SpECtop Primer F1

LOW VISCOSITY EPOXY RESIN FLOOR PRIMER

DESCRIPTION

SpECtop Primer F1 is a two-part, low viscosity epoxy resin, for priming concrete surfaces prior to the application of an epoxy floor topping.

TYPICAL USES

SpECtop Primer F1 is suitable for providing an excellent bond between cementitious surfaces and the **SpECtop** epoxy resin range of floor toppings and also as a primer for **SpECbuild EM** epoxy mortar.

ADVANTAGES

SpECtop Primer F1 has low viscosity properties, which enable the material to penetrate the substrate. This penetration and the chemical bond, which forms between the primer and the subsequently applied topping, provides a bond greater than the cohesive strength of the concrete.

TECHNICAL DATA

Typical results @ 25°C	
Specific gravity	0.97
Solid content	50%

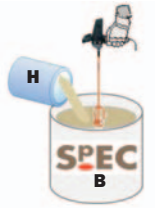
APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop Primer F1**. This preparation should ensure the removal of all grease, oil and loose material. Cracked and damaged areas should be made good using **SpECbuild** repair mortars.

Mixing

SpECtop Primer F1 is supplied as a two component pack consisting of a base component and a curing agent.



The contents of the curing agent tin should be emptied into the base component and stirred with a spatula until the product appears uniform.

Application

The mixed primer should then be applied to the prepared substrate by a stiff brush. Care should be taken to avoid over application.

If the primer is easily absorbed into the floor, it will be necessary to apply a second coat once the initial coat is tack free.

Certain subsequently applied **SpEC** products require the **SpECtop Primer F1** to be tack free before application, others require a tacky primed surface. Therefore we would strongly recommend that the appropriate Data Sheet is carefully read before any work begins.

PACKAGING AND YIELD

SpECtop Primer F1 is supplied in 1, 5 and 15 litre units. The theoretical coverage rate is 10-15 m^2/litre.

EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

At temperatures above this range the pot life of the material will be reduced, therefore the material should be stored in a cool environment.

STORAGE AND SHELF LIFE

SpECtop Primer F1 has a shelf life of 12 months when stored in original containers in a cool, dry environment.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact	Rinse with copious amounts of clean water and seek medical attention.
Skin contact	Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

DO NOT USE SOLVENTS

Ingestion	Seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop Primer F1 & **SpECtop Cleaning Fluid** are flammable. Do not expose to naked flame or other sources of ignition.

FLASHPOINT

SpECtop Primer F1	>60°C
SpECtop Cleaning Fluid	>40°C

Issue 8: 05/2011

QA-054

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If it is proven that the product does not perform as described in our TDS, SpEC's liability extends solely to the free replacement of product, once the claim has been accepted after due investigation by SpEC. SpEC will not entertain any claims involving any form of consequential costs or damages such as shipping costs, custom duties, damages to third parties, damages to structures, penalties from delay of a project or any other form of consequential damage.

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SpECtop Primer FX

MOISTURE TOLERANT EPOXY RESIN PRIMER

DESCRIPTION

SpECtop Primer FX is a two-part solvent free epoxy resin primer used to produce a high quality bond for epoxy coatings and toppings where it is impossible to provide a dry substrate.

TYPICAL USES

- When concrete floors can be prepared but not thoroughly dried.
- When it is impossible to wait for concrete to dry out completely.
- When it is necessary to suppress rising damp in concrete floors.

ADVANTAGES

- High mechanical strength.
- Produces a bond that exceeds the cohesive strength of the parent substrate.
- Provides an impervious barrier to the passage of moisture.
- Solvent free.

TECHNICAL DATA

Typical results @	**20°C**	**30°C**
Pot life	2 hrs	1 hr
Max. overlay time	24 hrs	12 hrs
Gel time @ 25°C	2½ hrs	
Mixed SG @ 25°C	1.10	

APPLICATION

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECtop Primer FX**.

The prepared surface should be free from laitance, dust, algae, oil and grease.

Mixing

SpECtop Primer FX is supplied in a two component kit, consisting of a base component and a curing agent.

The entire contents of the curing agent should be emptied into the base component. The combined materials should then be mixed using a suitable slow-speed drill and mixing paddle for 2 minutes until uniform. The sides of the tin should then be scraped and mixing should continue for a further 2 minutes.

Application

The mixed product may be applied by brush at a theoretical consumption rate of 12 - 15 m^2/litre/coat.

On particularly porous substrates, a second coat may be required.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	35°C

To improve mixing and application characteristics, at temperature below 15°C, the material should be stored in an environment above this temperature. At temperature above 35°C the material may be applied, however, the pot life will be reduced. In these situations therefore, we would recommend that the material should be stored in a cool environment.

PACKAGING AND YIELD

SpECtop Primer FX is supplied in 5 litre units with a theoretical consumption rate of 10 - 15 m^2/lt/coat.

EQUIPMENT CLEANING

All equipment may be cleaned of uncured material using **SpECtop Cleaning Fluid**.

STORAGE AND SHELF LIFE

SpECtop Primer FX has a shelf life of 12 months when stored in original, unopened containers in a cool, dry environment.

HEALTH AND SAFETY

Contact with skin and eyes should be avoided. It is essential that adequate ventilation is provided and that all personnel avoid inhaling the vapours produced. If working is necessary in a confined area it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact: Rinse with copious amounts of clean water and seek medical attention.

Skin contact: Rinse with copious amounts of clean water followed by thorough cleaning with soap and water. DO NOT USE SOLVENTS

Ingestion: Seek immediate medical attention. DO NOT INDUCE VOMITING

FLAMMABILITY

SpECtop Cleaning Fluid is flammable. Do not expose to naked flame or other sources of ignition.

FLASHPOINT

SpECtop Primer FX	>150°C
SpECtop Cleaning Fluid	>40°C

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SpECcoat Primer SA

PENETRATING SILANE-SILOXANE PRIMER FOR CONCRETE AND MASONRY

DESCRIPTION

SpECcoat Primer SA is based on silane siloxane and acrylic resin.

TYPICAL USES

SpECcoat Primer SA penetrates the concrete, cement plaster or masonry and impregnates the host substrate to form a hydrophobic barrier which cures with the influence of atmospheric humidity and condenses to a tack free film. Stone, brick and masonry treated with **SpECcoat Primer SA** will act to repulse water.

ADVANTAGES

- Tack-free
- Repels water

TECHNICAL DATA

Solids (vol %)	5±2
Surface dry	
10°C	5 hours
23°C	3 hours
40°C	1 hour
Through dry	
10°C	10 hours
23°C	6 hours
40°C	2 hours
Minimum dry to recoat	
10°C	10 hours
23°C	6 hours
40°C	2 hours
Colour	Clear liquid

APPLICATION

Surface preparation

Surfaces must be sound, clean, dry, free from dust, oil, grease and laitance etc. All traces of release agents must be removed. On chalky and dusty surfaces, all loose material must be removed by stiff bristle brushing.

Mixing

Mix well before use.

Application

Apply in two flood coats applying the second a minimum of 2 hours @ 40°C after the initial application.

Application is best achieved using a low pressure knapsack portable spray unit, brush or roller.

EQUIPMENT CLEANING

SpECcoat Primer SA should be removed from tools using water immediately after use.

APPLICATION TEMPERATURE RANGE

Minimum	10°
Maximum	35°C

PACKAGING & YIELD

SpECcoat Primer SA is available in 5 litre pack, 20 litre pack and 200 litre drum with a theoretical coverage of 8-10 m²/litre/coat depending on substrate porosity.

STORAGE AND SHELF LIFE

SpECcoat Primer SA must be kept in a cool and well ventilated place, protected from heat and direct sunlight. Containers must be kept tightly closed.

HEALTH AND SAFETY

SpECcoat Primer SA should not come into contact with skin and eyes or be swallowed. Avoid inhalation of vapour/spray. Use only in well ventilated areas.

In case of insufficient ventilation, wear suitable respiratory protection.

Wear suitable protective clothing, gloves and eye/face protection.

Should accidental skin contact occur, remove immediately with a suitable skin cleanser, followed by washing with soap and water.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed seek medical attention immediately - do not induce vomiting.

Refer to the Material Safety Data Sheet for additional information.

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SpECcoat Zn25

ONE PART ZINC EPOXY PRIMER

DESCRIPTION

SpECcoat Zn25 is a one-part primer based on a blend of epoxy resin and zinc.

TYPICAL USES

SpECcoat Zn25 is recommended as a primer for exposed reinforcement where a corrosion resistant primer is specified. It is specifically developed for use with **SpECbuild** cementitious repair mortars.

ADVANTAGES

- One part
- High metallic zinc content inhibits corrosion
- Compatible with **SpECbuild** cementitious mortars

TECHNICAL DATA

Specific Gravity		1.925		
Overcoating time:				
@	**10°C**	**20°C**	**30°C**	**40°C**
(max)	120min	60min	40min	20min
(min)	60min	30min	20min	10min
Typical wft		150 microns		
Typical dft		45 microns		

APPLICATION INSTRUCTIONS

Preparation

It is essential that adequate preparation is carried out prior to the application of **SpECcoat Zn25**. If it is determined that chloride ingress was the cause of the corrosion, the grit blasted area should be treated by high pressure washing.

Any corroded reinforcing steel should be grit blasted to bright metal, to remove all scale and corrosion products. It is essential this treatment continues over the rear of the reinforcing steel.

Application

It is essential that there is no delay in the application of **SpECcoat Zn25** once the steel is dry. Delays greater than one hour should be avoided.

Stir the contents of the tin to ensure that any settlement is redispersed.

The product should be applied by brush ensuring continuous coverage over the total surface area of the exposed steel. It may be necessary to apply a second coat if it is felt that some gaps may exist in the first coat. In this case allow the first coat to dry fully before application of the second coat. (Refer to Technical Data).

Once the priming operation is complete and has fully dried, it is essential that the repair mortar is applied as soon as possible. In environments where high temperature & high humidity prevail, this period should not exceed three days.

PACKAGING & YIELD

1 litre, 2.5 litre and 5 litre tins.

COVERAGE

Typically 7.0 m²/litre.

EQUIPMENT CLEANING

Use **SpECcoat Cleaning Fluid** immediately after use.

STORAGE AND SHELF LIFE

SpECcoat Zn25 has a shelf life of 6 months when stored in a dry cool store in unopened packaging.

HEALTH AND SAFETY

SpECcoat Zn25 & **SpECcoat Cleaning Fluid** should not be permitted to contact skin and eyes.

It is essential that adequate ventilation is provided and that all personnel should avoid inhaling the vapours produced. If working is necessary in confined areas, it is strongly recommended that sealed respiratory equipment is utilised.

Eye contact	Rinse with copious amounts of clean water and seek medical attention.
Skin contact	Rinse with copious amounts of clean water followed by thorough cleaning with soap and water.

Do NOT USE SOLVENTS

Ingestion Seek immediate medical attention.

DO NOT INDUCE VOMITING

FLAMMABILITY

SpECcoat Zn25 and **SpECcoat Cleaning Fluid** are flammable. Do not expose to naked flames or other ignition sources.

FLASHPOINT

SpECcoat Zn25	>40°C
SpECcoat Cleaning Fluid	>40°C

Issue 7: 05/2011

QA-054

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SpECseal Primer 25

MOISTURE TOLERANT EPOXY RESIN PRIMER

DESCRIPTION

SpECseal Primer 25 is a liquid primer used in the preparation of joint surfaces prior to the use of **SpECseal 625.**

TYPICAL USES

SpECseal Primer 25 is use when preparing porous surfaces such as concrete, brickwork, stonework, asbestos and timber and non-porous surfaces such as stainless steel and ceramics.

TECHNICAL DATA

Colour	Clear
Specific Gravity	0.98
Cure/Dry Time	½ - 2½ hrs
Pot life	>24 hrs

APPLICATION

Surface preparation

Joint surfaces to be primed must be completely dry and free from all dirt, dust, cement laitance and other loose and deleterious matter. This is best achieved by grit or sand blasting or thorough wire brushing and then blowing clean with oil free compressed air prior to the installation of backer rod or bond breaker tape.

Mixing

SpECseal Primer 25 is a two component primer. The base and hardener components should be mixed together for 2 minutes to produce a uniform consistency.

Application

The primer should be applied to clean, dry surfaces prior to the installation of backer rod or bond breaker tape. The freshly mixed **SpECseal 625** should be applied after the primer solvent has been released and when it is just touch dry. The sealant should be applied ½ - 2½ hours after priming.

If the primer is left to dry longer than 2½ hours the surfaces must be re-primed prior to applying the sealant. Allow to become tacky before installing **SpECseal 625**.

EQUIPMENT CLEANING

Clean equipment with **SpECseal Cleaning Fluid** immediately after the tooling is finished.

APPLICATION TEMPERATURE RANGE

Minimum	5°C
Maximum	40°C

PACKAGING & YIELD

SpECseal Primer 25 is available in 1 litre pack.

STORAGE AND SHELF LIFE

SpECseal Primer 25 must be kept in a cool and well ventilated place, protected from heat and direct sunlight. Containers must be kept tightly closed.l

HEALTH AND SAFETY

SpECseal Primer 25 should not come into contact with skin and eyes or be swallowed. Avoid inhalation of vapour/spray. Use only in well ventilated areas. In case of insufficient ventilation, wear suitable respiratory protection.

Wear suitable protective clothing, gloves and eye/face protection. Should accidental skin contact occur, remove immediately with a suitable skin cleanser, followed by washing with soap and water. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.If swallowed seek medical attention immediately - do not induce vomiting.

FLAMMABILITY

SpECseal Primer 25 is flammable.

FLASH POINT

SpECseal Primer 25	>30°C

Issue 2: 09/2013

QA-054

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Conversion Tables

Metric Measures and Equivalents

Length

1 millimetre (mm)			=	0.0394 in
1 centimetre (cm)	=	10 mm	=	0.3937 in
1 metre (m)	=	100 cm	=	1.0936 yd
1 kilometre (km)	=	1000 m	=	0.6214 mile

Area

1 sq cm (cm^2)	=	100 mm^2	=	0.1550 in^2
1 sq metre (m^2)	=	10,000 cm^2	=	1.1960 yd^2
1 hectare (ha)	=	10,000 m^2	=	2.4711 acres
1 sq km (km^2)	=	10 ha	=	0.3861 $mile^2$

Volume/Capacity

1 cu cm (cm^3)			=	0.0610 in^3
1 cu decimetre (dm^3)	=	1000 cm^3	=	0.0353 ft^3
1 cu metre (m^3)	=	1000 dm^3	=	1.3080 yd^3
1 litre (l)	=	1 dm^3	=	0.2200 gal
1 hectolitre	=	100 l	=	21.997 gal

Mass (Weight)

1 milligram (mg)			=	0.0154 grain
1 gram (g)	=	1000 mg	=	0.0353 oz
1 kilogram (kg)	=	1000 g	=	2.2046 lb
1 tonne (t)	=	1000 kg	=	0.9842 ton

Imperial Measures and Equivalents

Length

1 inch (in)			=	2.54 cm
1 foot (ft)	=	12 in	=	0.3048 m
1 yard (yd)	=	3 ft	=	0.9144 m
1 mile	=	1760 yd	=	1.6093 km
1 int nautical mile	=	2025.4 yd	=	1.852 km

Area

1 sq inch (in^2)			=	6.4516 cm^2
1 sq yard (yd^2)	=	9 ft^2	=	0.8361 m^2
1 acre	=	4840 yd^2	=	4046.9 m^2
1 sq mile ($mile^2$)	=	640 acres	=	2.59 km^2

Volume/Capacity

1 cu inch (in^3)			=	16.387 cm^3
1 cu foot (ft^3)	=	1728 in^3	=	0.0283 m^3
1 fluid ounce (fl oz)			=	28.413 ml
1 pint (pt)	=	20 fl oz	=	0.5683 l
1 gallon	=	8 pt	=	4.5461 l

Mass (Weight)

1 ounce (oz)	=	437.5 grains	=	28.35 g
1 pound (lb)	=	16 oz	=	0.4536 kg
1 hundredweight (cwt)	=	112 lb	=	50.802 kg
1 ton	=	20 cwt	=	1.011 t

Temperature Conversion Celsius (°C)/Fahrenheit (°F)

$$°C = \frac{5}{9}(F - 32) \qquad °F = \frac{9}{5}(C+32)$$

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