



SPECIALITY ENGINEERING CHEMICALS

ENGINEERED SOLUTIONS

SpECseal 650HD

TWO PART, GUN GRADE POLYSULPHIDE JOINT SEALANT

DESCRIPTION

SpECseal 650HD is a two-component, low-modulus, gun-applied polysulphide sealant engineered for use in dynamic joint conditions. It is formulated from a liquid polysulphide base that, when combined with its curing agent, reacts to form a strong, flexible, rubber-like seal.

TYPICAL USES

- For sealing and resealing joints with high movement in building and civil engineering structures, including joints exposed to rapid and repeated movement.

ADVANTAGES

- Forms a tough, resilient, and long-lasting seal
- Provides a permanent, uniform watertight barrier
- Excellent adhesion to most common substrates
- Remains flexible with no cracking or brittleness under UV exposure
- Gun-grade consistency suitable for vertical and overhead use
- Strong resistance to chemicals and weathering
- Non-toxic after full cure
- High resistance to ageing
- Suitable for both non-trafficable (NT) and trafficable (T) areas

TECHNICAL DATA

PROPERTIES

VALUES

Typical Properties @ 20 ± 3 °C

Movement accommodation factor (ASTM C 719)	50% for butt joints
Pot life	1 hour
Tack-free	6 hours
Full cure time	7 days
Hardness (Shore 'A')	20 ± 3 @ 7 days
Appearance after curing	Rubber Like Solid
Tensile strength	0.35 N/mm ²
Elongation @ break	500%
Solids content	100%
VOC	1.29 g/l
Specific gravity	1.60 ± 0.05
Colour	Dark Grey

Complies with ASTM C920

CHEMICALS RESISTANCE

Resistance to UV & Ozone	Resistant
Resistance to staining	Resistant
Suphuric acid	Resistant
Hydrochloric acid	Resistant
Nitric acid	Resistant
Sodium hydroxide	Resistant
Calcium hydroxide	Resistant
Ammonium hydroxide	Resistant
Fuels (solvents)	Resistant
Oil	Resistant
Sewage water	Resistant
Subkha san	Resistant

DESIGN IMPLICATIONS

The joint sealant width should be at least four times the expected joint movement.

For joints subjected to cyclic movement, a width-to-depth ratio of 2:1 is recommended.

Minimum sealant depth requirements:

- 10 mm for porous substrates
- 20 mm for joints exposed to traffic and hydrostatic pressure
- 5 mm for non-porous surfaces such as metals and glass

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 nonporous 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 650HD should be applied after the primer is just touch dry. The sealant should be applied between 30 - 180 minutes after priming.

If the primer is left to dry longer than 3 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 650HD 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.

The components should be mixed for a minimum of 5 minutes to obtain a uniform colour, free from streaks. Keep scraping the inner wall of the container with spatula to avoid unmixed material sticking on the wall. Mixing should take place using a slow speed drill fitted with a SpECseal paddle mixer.

We do not recommend part mixing.

Application

Soon after mixing, the SpECseal 650HD 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 650HD should be 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	0°C
Maximum	90°C

PACKAGING & YIELD

SpECseal 650HD is supplied in 2.5 litre tins.

SpECseal Primer 25 is supplied in one litre 2 part packs.

ANCILLARY MATERIALS & EQUIPMENT

SpECseal Primer 25
SpECseal Cleaning Fluid
SpECseal paddle mixer
SpECseal 600ml solid barrel gun
SpECcord closed cell polyethylene back-up cord

USAGE RATES

Length of joint in metres filled/1 litre of SpECseal 650HD.

Depth (mm)	Width (mm)				
	10	15	20	25	30
10	10.0	6.7	5.0		
15	6.7	4.4	3.3	2.6	2.2
20	5.0	3.3	2.5	2.0	1.67
25		2.6	2.0	1.6	1.3

STORAGE & SHELF LIFE

To maintain the shelf life of 12 months, SpECseal 650HD 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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