

Multi-component, gun and pouring grade, polysulphide sealant

Uses

Sealing movement joints in building and civil engineering structures, including superstructures, floors, basements and subways.

Advantages

- A high quality product which meets key international standards
- Forms a tough, elastic, rubber-like seal
- Accommodates continuous and cyclic movement
- Excellent adhesion to most common substrates

Standards compliance

- ISO 11600 : 1993.
- British Standard BS 4254: 1983.
- U.S. Federal Specification TT-S-00227E November 1969 (amended 1970).
- DTP specification for Highway Works Dec 1991 series 1000 clause 1017
- ASTM C920 - 87, Type M, Class 25.

Description

Thioflex 600 is a multi-component joint sealant, based on a liquid polysulphide polymer, which when mixed and applied, cures to form a tough, rubber-like seal. The cured sealant exhibits excellent adhesion to most surfaces including primed concrete, glass, aluminium and stainless steel.

Thioflex 600 is available in gun and pouring grades. The gun grade is ideal for general application, and is available in a range of colours. It is packed in a ready to mix, two and a half litre tin containing the base and curing agent in the correct proportions. The pouring grade for joints in horizontal surfaces is supplied in grey only in 5 litre packs with the base and curing agent in separate tins.

Thioflex 600 is particularly recommended for use in high rise buildings and other applications where access for subsequent maintenance will be difficult and the risk of early movement failure must be minimised. It is also suitable for sealing joints in brickwork, retaining walls, basements and subways.

Thioflex 600 pouring grade is recommended for sealing expansion joints and stress relief joints in floors or other horizontal surfaces.

Technical support

Fosroc offers comprehensive technical support, including help at the design stage, application advice and on site problem solving. Specifiers and Contractors are encouraged to contact our trained staff for answers to their questions.

For further information please contact Fosroc.

Design criteria

Thioflex 600 may be applied to joints between 5 and 50 mm wide. Joints which are expected to experience cyclic movements should be designed to an optimum width:depth ratio of 2:1, subject to the overriding recommended minimum sealant depths set out below:

- 5 mm for metals, glass and other non-porous surfaces;
- 10 mm for all porous surfaces;
- 20 mm for trafficked joints and those subject to hydrostatic pressures.

To ensure that the sealant remains within its stated movement capacity (25% MAF), sealing slot widths should be designed in accordance with the recommendations of BS 6093.

The use of a surface primer is always required on porous surfaces. On non-porous surfaces a primer is not normally required except where glass or glazed surfaces are to be permanently immersed in water.

Typical Properties

Form: Multi-part, paste compound

Colours: Gun grade: grey,
Pouring grade: grey

Movement accommodation factor (ASTM E1399-97 Or BS 6093): 25% butt joints
50% lap joints

Physical or chemical change:	Chemical cure
Pot life:	2 hours @ 25°C
Setting time:	72 hours at 5°C 36 hours at 15°C 18 hours at 25°C
Cure time:	4 weeks at 5°C 2 weeks at 15°C 1 week at 25°C
Application temperature:	5 to 50°C
Hardness shore 'A' 25°C:	Gun grade: 20 to 25 Pouring grade: 15 to 23
Water immersion:	Thioflex 600 must be fully cured before permanent immersion in water.
Chemical resistance to occasional spillage:	Dilute acids resistant Dilute alkalis resistant Petrol resistant Aviation fuels resistant Diesel fuel resistant Kerosene resistant Lubricating oils resistant Skydrol resistant White spirit resistant Chlorinated solvents not resistant Aromatic solvents not resistant Dilute oxidising acids not resistant
Biological resistance:	Thioflex 600 has been evaluated in microbiologically active situations and has been shown to have resistance to aerobic conditions.
Solids content:	100%
Density:	1.62 to 1.73 kg/litre according to colour
Flash point:	Over 65°C
Flammability:	Burns but does not readily support combustion.

Maintenance

No special requirements, any damage identified during normal building inspections should be repaired or replaced as appropriate.

Specification clauses

Joints shall be sealed using FosrocThioflex 600, two part, polysulphide sealant, manufactured by Fosroc to BS 4254 1983, and ASTM C920-87 under British Standard Kite Mark licence. Joints shall be prepared and the sealant mixed and applied in accordance with the manufacturer's current data sheet.

Application instructions

Joint preparation

The joint surfaces must be thoroughly dry, clean and frost free. Remove all dust and laitance by rigorous wire brushing, grinding or grit blasting. Remove all rust, scale and protective lacquers from metal surfaces. Remove any oil or grease with suitable solvent.

Any expansion joint filler must be checked to ensure it is tightly packed and no gaps or voids exist at the base of the sealing slot before positioning a bond breaker.

Note: The use of a bond breaker is not required in expansion joints containing Expancell or Expandafoam cellular polyethylene joint fillers. For construction or contraction joints a bond breaker tape or back-up strip should be used. Where hydrostatic pressure exists, only bond breaking tapes must be used, not foamed back-up strips.

Where a particularly neat finish is required, mask the face edges of the joint before priming and remove immediately after tooling is completed.

Priming

When Primers 4 or 7 are required, these should be used as follows:

Primer 4: For use on glass and ceramics which are to be permanently immersed in water. It is a one part chemically active clear liquid or brush or pad application. One thin coat should be applied and allowed to dry for 2 to 5 minutes prior to sealant application.

Primer 7: It is a one part chemically active clear liquid for brush application to concrete, stone, brickwork, timber and unglazed edges of ceramic tiles. One thin coat should be applied using a clean, dry brush, ensuring complete coverage. Avoid over priming resulting in an excess of primer in the base of the joint or application beyond faces. The mixed Thioflex 600 must be applied when the primer is tack free, that is after the evaporation of the solvent but before the primer film has completely reacted. After 3 hours the surfaces must be re-primed before applying the sealant.

Iron and steel must be protected with an anti-corrosion primer prior to sealing.

Mixing

Gun Grade: The base component and curing agent are supplied ready for mixing in a single tin. Mix thoroughly using a slow speed drill (300-500 rpm) fitted with a Fosroc Paddle Stirrer for 5 minutes. Only thorough mixing, including material right at the bottom of the tin, will result in proper curing. In cold weather Thioflex 600 mixes more easily if stored overnight at room temperature.

Immediately after mixing, load the sealant into a Fosroc 'G' Gun using the follower plate, and apply to the joint.

Pouring Grade: Thioflex 600 Pouring Grade is supplied in two separate containers. The small container contents should be transferred to the other tin, and mixed as per the gun grade instructions. The pouring grade may be poured directly into horizontal joints or for application to horizontal joints less than 15 mm wide loaded into a Fosroc 'G' Gun. For quantity application, a Fosroc 1.5 litre gun is available.

Finishing

Thioflex 600 should be tooled to a smooth finish. A minimum of surface lubricant such as dilute detergent solution may be used to assist the process. Any masking tape should be removed immediately after tooling.

Cleaning

Clean equipment immediately after use with suitable solvent.

Contract application

The designer or contractor may wish to use the services of a specialist sub-contractor for joint sealing work. Names of preferred sub-contractors are available from Fosroc.

Limitations

Over-painting of sealants is not recommended because of the inability of paint films to accept movement. However, if definitely required, trials should be carried out to determine compatibility.

Thioflex 600 should not be used in direct contact with materials containing pitch or bitumen.

Only Thioflex 600 Gun Grade grey should be used in vertical or horizontal joints in water retaining structures.

Not recommended for use in chlorinated water, such as on swimming pool.

Packaging

Thioflex 600 Gun Grade is supplied in 2.5 litre tins in cartons of four.

Thioflex 600 Pouring Grade is supplied in 5 litre packs in cartons of two



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