

Thioflex 600



constructive solutions

Multi-component, gun and pouring grade, polysulphide sealant

Uses

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

Advantages

- A high quality, BSI 'Kite Marked' product, meeting key, international standards
- Forms a tough, elastic, rubber-like seal
- Accommodates continuous and pronounced cyclic movement
- Excellent adhesion to most common substrates
- High resistance to ageing reduces physical damage due to climatic extremes

Standards compliance

British Standard BS 4254: 1983.

British Standard BS 6920: 1988 (gun grade grey).

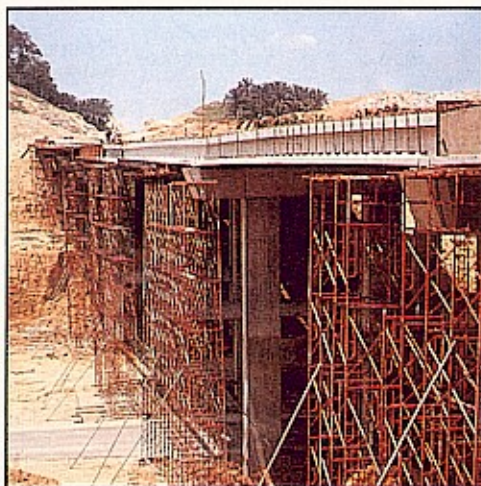
U.S. Federal Specification TT-S-00227E November 1969 (amended 1970).

Water Byelaws Scheme - Approved Product. Listing number 8810510 (gun grade grey).

DTp specification for Highway Works Dec 1991 series 1000 clause 1017.

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

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 4 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, reservoirs, 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 a comprehensive range of high performance, high quality construction products, backed by BS 5750 certification when manufactured in the UK. Fosroc offers a technical support package to specifiers and contractors which can include computer-aided design (CAD), standard details as well as on-site technical advice from staff with unrivalled experience in the industry at locations all over the world.

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;

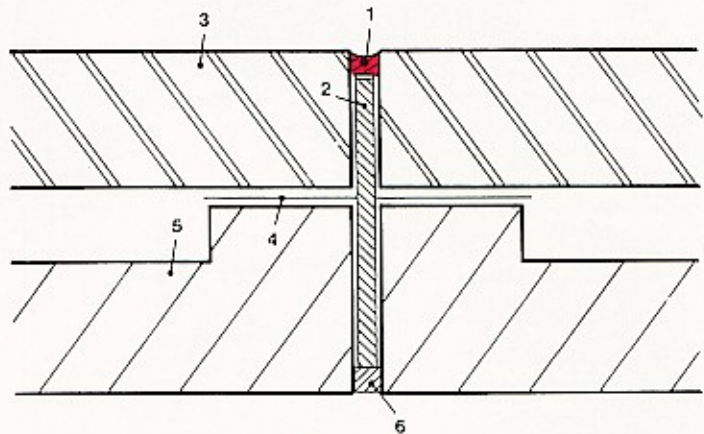
10 mm for all porous surfaces;

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.

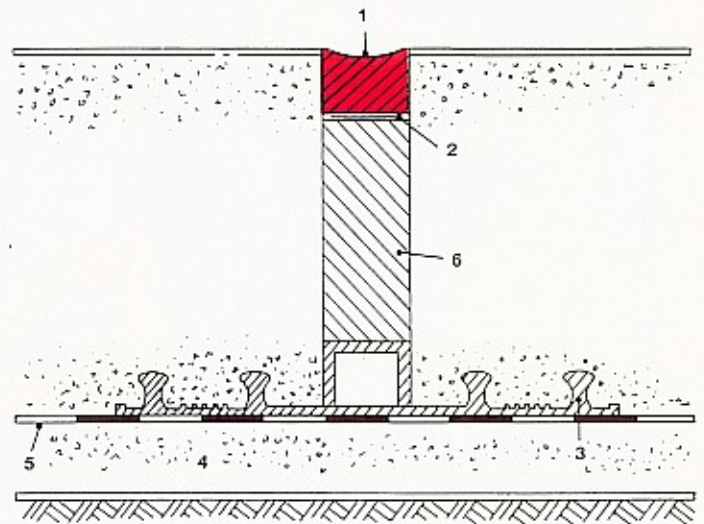
The use of a surface primer is always required on porous surfaces. On non-porous surfaces a primer is not normally required except where glass or glazed surfaces are to be permanently immersed in water.

Example of a sealed movement joint in brickwork/blockwork is shown below



- 1 Thioflex 600
- 2 Hydrocell
- 3 Brickwork
- 4 D.P.C.
- 5 Blockwork
- 6 Flamex One

Example of a sealed subway expansion joint is shown below



- 1 Thioflex 600
- 2 Bond breaking tape
- 3 Supercast Rearguard 'S' waterstop
- 4 Blinding concrete
- 5 Famflex membrane
- 6 Flexcell

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Properties

Form:	Multi-part, paste compound
Colours:	Gun grade: grey, stone, off white, black, mahogany, brick red. Pouring grade: grey
Movement accommodation factor (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:	Grey, black, mahogany, brick red: 4 weeks at 5°C 2 weeks at 15°C 1 week at 25°C Off white, stone: 8 weeks at 5°C 4 weeks at 15°C 2 weeks at 25°C
Application temperature:	5 to 50°C
Hardness shore 'A' 25°C:	Gun grade: grey, black, mahogany, brick red: 20 to 25 Stone, off white: 28 to 33 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 Fosroc **Thioflex 600**, two part, polysulphide sealant, manufactured by Fosroc to BS 4254 1983, 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 Fosroc Joint Cleaner.

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 Fosroc Hydrocell or Expandafoam cellular polyethylene expansion 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.



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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 for 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 Fosroc Equipment Cleaner.

Ancillary materials and equipment

Primer 4
Primer 7
Joint Cleaner
Equipment Cleaner
Expancell/Expandaf foam
Gun filling device, including follower plate
Paddle stirrer
G Gun

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 reservoirs or other water retaining structures.

Estimating

Packaging

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

Thioflex 600 Pouring Grade is supplied in 4 litre packs in cartons of two.



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Guide to quantities

Joint size in mm	Litres per metre run	Metre run per 2.5 litre pack	Metre run per 4 litre pack
5x5	0.025	100.00	160.00
5x10	0.050	50.00	80.00
10x5	0.050	50.00	80.00
10x10	0.100	25.00	40.00
20x10	0.200	12.50	20.00
20x15	0.300	8.30	13.30
20x20	0.400	6.20	10.00
40x20	0.800	3.10	5.00
40x25	1.000	2.50	4.00
40x30	1.200	2.00	3.20
40x40	1.600	1.50	2.40
50x25	1.250	2.00	3.20
50x30	1.500	1.60	2.60
50x40	2.000	1.25	2.00
50x50	2.500	1.00	1.60

1 litre of Primer 4 to 300 litres of Thioflex 600.

1 litre of Primer 7 to 30 litres of Thioflex 600.

These are theoretical yields. No allowance has been made for variation in joint width or wastage.

Storage

Storage life of 12 months in original containers when kept in dry conditions between 5°C and 27°C.

Precautions

Health and safety

Thioflex 600: Harmful if swallowed. The curing agent consists of a heavy metal based oxide. Avoid skin contact. Wear impervious rubber or PVC gloves and eye protection. Hands should be thoroughly washed with soap and water before eating or smoking. Cured sealant should not be burned off due to the generation of toxic fumes. Empty containers must be collected for careful disposal and not left lying about.

Primer 4: Highly flammable liquid. Flash point 10°C. Store away from heat. Do not use near a naked flame. Avoid skin contact. Wear eye protection and impervious rubber or PVC gloves. Splashes must be washed off immediately. Avoid breathing of vapour.

Primer 7: Highly flammable liquid. Flash point 23°C. Store away from heat. Do not use near a naked flame. Avoid breathing of vapour. Avoid skin contact. Wear eye protection and impervious rubber or PVC gloves. Water will not remove this primer. Wash hands thoroughly before eating or smoking. In the case of eye contact seek medical attention immediately.

Joint Cleaner: Flammable liquid. Flash point 43°C. Store away from heat. Do not use near a naked flame. Use in well ventilated surroundings. Avoid skin contact and inhalation of the vapour.

Equipment Cleaner: 1,1,1 trichloroethane is a non-flammable liquid, but use in well ventilated surroundings. Avoid skin contact and inhalation of the vapour.

Additional information

Technical data - ancillary materials

	Primer 4	Primer 7
Flash point:	10°C	23°C
Density:	0.80 kg/litre	1.04 kg/litre
Storage life:	6 months	12 months
Coverage:	60 m ² /litre	12 to 15m ² /litre
Application temperature:	5 to 50°C	5 to 50°C
Drying time:	2 to 15 mins	20 to 60 mins
Pack size:	250 ml	500 ml
		5 litres
	Equipment Cleaner	Joint Cleaner
Flash point:	Non-flammable	43°C
Density:	1.59 kg/litre	0.859 kg/litre
Storage life:	Indefinite	Indefinite
Application temperature:	5 to 50°C	5 to 50°C
Pack size:	5 litres	2.5 litres

As well as joint sealants and ancillary products, Fosroc also manufactures a wide range of complementary products which includes waterstops, waterproofing membranes, grouting, anchoring and specialised flooring materials. In addition, a wide range of products specifically designed for the repair and refurbishment of damaged reinforced concrete is available. This includes hand-placed and spray grade repair mortars, fluid micro-concretes, chemical-resistant epoxy mortars and a comprehensive package of protective coatings.



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Thioflex 600 the trademark of Fosroc International Limited



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Important note

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