

Two-part polysulphide sealant

Uses

Thioflex 600 is a two part sealant based on a liquid polysulphide polymer. This is available in two grades Gun grade and Pourable grade. Thioflex 600 PG is a Pourable version designed for use in horizontal joints. Adhesion is excellent to most common building substrates. The product is particularly recommended for sealing horizontal structural expansion joints in most civil engineering structures like building superstructures, subways, basements, floors and reservoirs.

Advantages

- Forms a tough elastic rubber-like seal.
- Accommodates continuous and pronounced cyclic movement.
- Excellent adhesion to most common substrates.
- High resistance to ageing influences, physical damage and climatic extremes.

Standards compliance

British Standard BS:4254:1983

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

IS12118 (PT 1&2) - 1987

IRMRA certification

ASTM C920-87, Type M, grade NS, Class 25.

Description

Thioflex 600 is a two part joint sealant based on a liquid polysulphide polymer. It is supplied as a 2.5 L pack containing a base component and curing agent in the correct proportions which, when mixed together, cure to form a tough rubber-like material. When cured, the sealant exhibits excellent adhesion to most surfaces including concrete, aluminium and stainless steel. Priming is recommended for porous surfaces and for some specific surfaces and applications.

Thioflex 600 is available in two grades. Gun grade for general applications and Pouring grade for joints in horizontal surfaces.

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 subways, basements, retaining walls, reservoirs and brick-work joints.

Joint size

Thioflex 600 may be applied to horizontal 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 nonporous surfaces. 10mm 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) the width of the designed sealing slot should be in accordance with the recommendations of BS:6093:1981 6.2.2 and 6.2.6.

Technical Support

The Company provides a technical advisory service supported by a team of specialists in the field.

Properties

Form	:	Two-part Compound Base : paste Curing agent : paste
Colour(Mixed material)	:	Grey
Storage life	:	12 months in original containers in dry conditions within the range 5°C -27°C
Flash point	:	Over 65°C
Solids content	:	100%
Density	:	1.60 - 1.65 Kg/ltr
Curing change	:	Chemical cure
Application Temperature-	:	5°C to 50°C
Pot life	:	Min. 2 hrs at 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

Water immersion : Thioflex 600 must be fully cured before permanent immersion in water.

Toxicity : The curing agent contains heavy metal oxide. It does not contain Phenol. Cured sealant must not be burned off as toxic fumes are generated. When used for sealing joints

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in potable water tanks, the maximum permissible heavy metal content of 0.1 p.p.m. is not reached until the surface area of the sealant exceeds 9.5 mm²/litre of water, it is recommended that the exposed sealant surfaces should not exceed 5mm²/litre of water.

Shore 'A' Hardness @ 25°C	:	18±2
Flammability	:	Burns but does not readily support combustion.

Chemical resistance to occasional spillage

Dilute acids	resistant
Dilute alkalis	resistant
Petrol	resistant
Aviation fuels	resistant
Diesel fuel	resistant
Kerosene	resistant
Lubricating oils	resistant
White spirit	resistant
Chlorinated solvents	not resistant
Aromatic solvents	not resistant
Dilute oxidising acids	not resistant
Biological	Thioflex 600 has been evaluated resistance in micro- biologically active situations and has been shown to have resistance to aerobic conditions.
Movement accommodation factor (MAF)	25% butt joint, 50% lap joints : (see also under 'Joint size)

Specification clauses

Joint shall be sealed using Fosroc Thioflex 600, two part, poly-sulphide sealant, manufactured by Fosroc to BS 4254 - 1983. Joint 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 Nitoflor

Sol. 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. For construction or contraction joints breaker or back up tape 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 requirements

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

Priming

Use Primer 4 on glass, ceramics and metals. The one part chemically active clear liquid is to be applied by brush or pad. One thin coat should be applied and allowed to dry for 2-5 minutes prior to sealant application.

Primer 7E is a two part high performance chemically active, non-toxic liquid for brush application to prime all concrete, stone, brickwork, timber and unglazed edges of ceramic tiles. Add component A of Primer 7E to component B and mix thoroughly until a homogeneous dispersion is achieved. Apply one thin coat 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 6 hours at 20°C, or 3 hours at 35°C, the surfaces must be re-primed before applying the sealant.

Steel Surfaces

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

Mixing

Gun grade

Both 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 paddle stirrer for a full 5 minutes. Only thorough mixing 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 the gun by means of Gun Filling Device and apply to the joint.



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Pouring grade

Thioflex 600 pouring grade is supplied in two separate containers. The small container contents should be poured into the other tin, and mixed as per the gun grade instructions. The pouring grade may be poured directly into horizontal joints or loaded into the Gun for application to horizontal joints less than 15mm wide.

Finishing

Thioflex 600 shall be tooled to a smooth finish. A minimum of surface lubricant such as dilute detergent solution or white spirit may be used to assist the process. Any masking tape should be removed immediately after tooling. Normally, joints in Thioflex 600 polysulphide sealant will be flush and unpainted.

Maintenance

No special requirement, damage should be repaired if and when it occurs.

Cleaning equipment

Clean equipment immediately after use with Nitoflor Sol, solvent.

Estimating

Packaging

Thioflex 600 (Both Gun Grade and Pourable Grade)	2.5 L pack
Primer 7E	500 ml cans
Primer 4	125ml
Nitoflor Sol	5, 20 L Packs

Coverage

Primer 7E	8 -10 m ² / ltr
Primer 4	7.5 m ² /pack

Guide to Thioflex 600 quantities

Joint size	Litres/meter run	Meter run / in mm 2.5L pack
5 x 5	0.025	100.00
10 x 5	0.050	50.00
10 x 10	0.100	25.00
20 x 10	0.200	12.50

15 x 10	0.300	8.33
20 x 20	0.400	6.25
40 x 20	0.800	3.12
40 x 25	1.000	2.50
40 x 30	1.200	2.08
40 x 40	1.600	1.56
50 x 25	1.250	2.00
50 x 30	1.500	1.66
50 x 40	2.000	1.25
50 x 50	2.500	1.00

Guide to surface conditioner quantities

1.5 litre of Primer 7E to 150m length of 10x20mm joint.

1 litre of primer 4 to 150m length of 10 x 20mm joint

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

Storage

Thioflex 600, polysulphide sealant shall be stored in cool, dry conditions in original tightly sealed containers. The shelf life of Thioflex 600 and Primer 7E is 12months and 6 months for Primer 4.

Precaution

Health and Safety instructions

Thioflex 600, polysulphide sealant is poisonous. The curing agent consists of a heavy metal based oxide. Skin contact shall be avoided. Impervious rubber or PVC gloves and eye protection shall be worn. Hands shall be thoroughly washed with soap and water before eating or smoking. Cured sealant should not be burnt off due to the generation of toxic fumes. Empty containers must be collected for careful disposal and not left lying about.

Primer 7E highly flammable liquid. Shall be stored away from heat. and shall not be used near a naked flame. Skin contact shall be avoided. Eye protection and impervious rubber or PVC gloves shall be worn. Splashes must be washed off immediately. Prolonged breathing of vapour shall be avoided.

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Hands shall be washed thoroughly before eating or smoking.
In the case of eye contact, medical attention shall be sought immediately.

Flash Point

Primer 7E : 23°C
Primer 4 : 10°C

Additional information

Technical data and guidance can be provided on a wide range of admixtures, concreting aids, grouts, repair products and protective coatings, and the Nitoflor range of industrial flooring systems which includes non-metallic floor hardeners, epoxy floor coatings and self levelling floor toppings, epoxy heavy duty abrasion resistant screeds, and water proofing systems and adhesives.

For more details, please contact your local Fosroc office.

Important note :

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard terms and conditions of sale, copies of which may be obtained on request. Whilst Fosroc endeavours to ensure that any advice, recommendation specification or information it may give is accurate and correct, it cannot, because it has no direct or continuous control over where or how its products are applied, accept any liability either directly or indirectly arising from the use of its products whether or not in accordance with any advice, specification, recommendation or information given by it.



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