Fosroc® Thioflex® 600 Gun Grade

FOSROC constructive solutions

Fuel resistant, low modulus, high joint movement accommodation, tough, two-component polysulphide joint sealant

Uses

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

Advantages

- Forms a tough, elastic, rubber-like seal
- Accommodates continuous and pronounced cyclic movement (± 30%)
- Adheres to most common substrates
- High resistance to ageing reduces physical damage due to climatic extremes
- Easy mixing and application

Description

Thioflex 600 Gun Grade is a two-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 primed surfaces including concrete, glass, aluminium and stainless steel.

Thioflex 600 Gun Grade is ideal for general applications and is packed in a ready-to-mix pack consisting of the base and curing agent in the correct proportions.

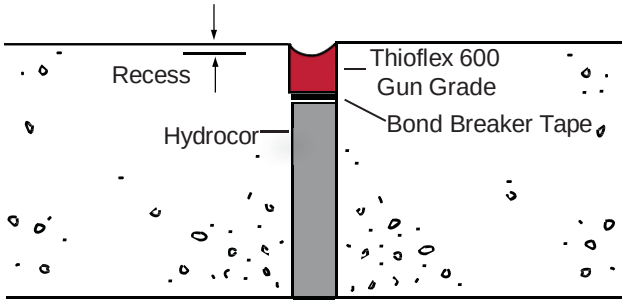
Thioflex 600 Gun Grade is particularly recommended for use in civil structures, high rise buildings and other applications where access for subsequent maintenance will be difficult and the risk of early movement failure must be minimised. It is also suitable for sealing joints in brickwork, retaining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

Design criteria

Thioflex 600 Gun Grade 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

All joints where repeated movement occurs should be designed and spaced so that the total movement in tension or compression does not exceed 30% (i.e. 60% total) of the joint width at time of sealing. The total movement in shear should not exceed 50% of joint width at the time of sealing where continuous cyclic movement is expected.



Example of a sealed expansion joint in traffic surfaces

Properties

Form:	2 component, paste
Colour:	Grey
Solids content:	100%
Density:	1.47kg / litre
VOC content:	10g / litre
Movement accommodation factor:	± 30% (60% total)
Physical/chemical change:	Chemical cure
Application life:	2 hours @ 25°C
Initial cure:	48 hours @ 15°C 24 hours @25°C
Cure time:	3 weeks @ 15°C 1 week @ 25°C
Application temperature:	5 - 50°C
Hardness shore 'A' @ 25°C:	15 - 20
Water immersion:	Thioflex 600 Gun Grade must be fully cured before permanent immersion in water

Chemical Resistance to occassional 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	Resistant
Dilute oxidising acids	Not resistant

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 Solvent 10.

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 tape.

Note: The use of a bond breaker tape is not required in expansion joints containing polyethylene foam joint fillers. For construction or contraction joints polyethylene bond breaker tape or back-up strip must be used.

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

Priming non porous surfaces

Primer 4: For use on metals, glass and ceramics. It is a one-component chemically active clear liquid for brush or pad application. One thin coat should be applied and allowed to dry for a minimum of 5 minutes prior to sealant application.

Priming porous surfaces

Primer 7: It is a one-component chemically active straw coloured liquid for brush application to concrete, stone, brickwork, timber and unglazed edges of ceramic tiles. Apply an even coat of Primer 7 to the bonding faces of the joint.

Excessively porous surfaces may need more than one coat – this is evident where applied primer does not give a smooth, glossy surface when dry. Allow final coat to become touch dry (approx. 1 hour) before application of Thioflex 600 Gun Grade.

Any primed areas not sealed within 8 hours of primer application will need to be re-primed 1 hour prior to sealant application.

Priming surfaces subject to immersion

Joints subject to water immersion should be primed with Primer 13, a two-component epoxy primer with exceptionally good hydrolytic stability.

Mix the two components of the primer by pouring the Hardener component into the Resin component, mix thoroughly for a minimum of one minute by stirring with a spatula, paint stirrer etc. paying attention to the product on the sides of the can.

Apply an even coat of primer by brush onto the bonding faces of the concrete, the base of the joint should have no primer residue present after the primer has been applied, then allow the primer to become touch dry before applying any sealant (typically 1 hour at 23°C). DO NOT APPLY SEALANT TO TACKY OR WET PRIMER. The sealant must be applied within 8 hours at normal temperatures - within 3 hours at elevated temperatures (above 30°C). The pot life (usable life) of mixed Primer 13 is 30 minutes @ 23°C and 20 minutes @ 30°C. Any unused mixed Primer 13 should be discarded after the pot life has expired. Allow Primer 13 to become touch dry (approx. 1 hour) before applying sealant.

Note: ceramic tiles with unglazed edges should have those edges primed as noted, except where they are to be permanently water immersed, they should be primed with Primer 13.

Important for all primers

Avoid over priming resulting in an excess of primer in the base of the joint or application beyond faces. The mixed Thioflex 600 Gun Grade 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. If joints are not sealed within 8 hours of primer application, they must be re-primed and allowed to become touch dry as previously stated.

Mixing

The base component and curing agent are supplied ready for mixing with the curing component packed in a separate container under the lid of the base component can. Mix thoroughly using a slow speed drill (300 - 500 rpm) fitted with a spiral mixing paddle for 5 minutes. Only thorough mixing of the entire contents of the tin, including material right at the bottom of the tin, will result in proper curing. In cold weather Thioflex 600 Gun Grade mixes more easily if stored overnight at about 23°C.

Immediately after mixing, load the sealant into a Fosroc 600ml Sealant Gun (using “Yellow” plungers sold separately) by drawing the sealant up into the gun through the nominated follower plate, and apply to the joint. Using 2 yellow plungers, back to back facing opposite direction will assist in a “sucking” then “pushing out” action of the sealant.

Finishing

Thioflex 600 Gun Grade should be tooled to a smooth finish. The use of surface lubricants such as detergent solution is not recommended as this may adversely affect colour stability and weathering performance of the sealant. Any masking tape should be removed immediately after tooling.

Cleaning

Clean equipment immediately after use with Fosroc Solvent 10.

Limitations

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

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

Thioflex 600 Gun Grade should not be used in joints in reservoirs or other water retaining structures which may be subject to high chlorination levels or biologically active conditions.

Supply

Thioflex 600 Gun Grade is supplied in 2 component 6 litre packs.		
Base of 6L pack:		FC920422-5.5L
Curing Compound of 6L pack:		FC920423-500ML
Primer 4 (250ml):		FC965207-250ML
Primer 7 (1 litre):		FC965209-1L
Primer 13 (250ml pack):	Base: Hardener:	FC965229-125ML FC965230-125ML
Primer 13 (1 litre pack MTO):	Base: Hardener:	FC965229-500ML FC965230-500ML
Fosroc Solvent 10:	4 litre: 20 litre:	FC600800-4L FC600800-20L
Fosroc 600ml Sealant Gun:		FC920210-UNIT
Follower Plate 6L:		FC170326-UNIT
Plunger kits (Yellow x2):		FC170521-UNIT

Guide to quantities

Joint size (mm)	Litres per metre run	Metre run per 6 litre pack
10 x 10	0.1	60
20 x 10	0.2	30
20 x 15	0.3	20
20 x 20	0.4	15
40 x 20	0.8	7.5
40 x 25	1	6
40 x 30	1.2	5.1
40 x 40	1.6	3.6
50 x 25	1.25	5.1
50 x 30	1.5	3.9
50 x 40	2.0	3
50 x 50	2.5	2.4

Primer coverage:

1 litre of Primer 4 to 100 litres of Thioflex 600 Gun Grade.

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

1 litre of Primer 13 to 30 litres of Thioflex 600 Gun Grade

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

Storage

Shelf life of 12 months in original containers when kept in dry conditions between 5°C and 30°C.

FOSROC

MATT INDIA CO

G-25, SECTOR -63,
GAUTAM BUDDH NAGAR,
UP-201307 INDIA

Phone No:
09555666476
09555655544
Emaiil:mattindia1@gmail.com