Fosroc®
Nitoseal® SC600

constructive solutions

Highly chemical resistant, fast cure, durable, one-component joint sealant

Uses

Sealing joints in:

- Chemical bund areas
- Floor joints in chemical processing plants
- Concrete joints exposed to acid spillage
- Swimming pools
- Sewage processing tanks
- Food, wine and citrus processing areas

Advantages

- One component sealant - ready to use
- Fast rate of cure - reduced back to service times
- UV resistant - long life weathering resistance
- Highly resistant to biological attack such as sewers
- Highly resistant to a wide range of chemicals including strong acids and alkalis
- Highly resistant to pool chlorine, salt water chlorination and ozone treatment
- Suitable for use in contact with drinking water

Standards Compliance

Nitoseal SC600 has been tested to comply with AS4020:2018. Refer to AWQC Report 390488.

Copies of the report are available on the Fosroc website.

Description

Nitoseal SC600 is a one part, gun applied non sag joint sealant designed for sealing expansion and construction joints exposed to aggressive chemical environments. Nitoseal SC600 utilises unique polymer technology which provides outstanding chemical resistance and cures by reaction with atmospheric moisture to form a tough flexible seal. Once cured, Nitoseal SC600 is resistant to attack from most of the aggressive chemicals used in the food, mining and chemical processing industries.

Design Criteria

Nitoseal SC600 is designed for sealing movement joints between 10mm and 35mm wide however joints down to 5mm and up to 50mm wide can be sealed under suitable conditions.

The movement accommodation factor (MAF) of a joint sealant must be considered in the design width and spacing of movement joints in a structure.

The sealant Width to Depth ratio should be kept at a minimum depth of 10mm for joint widths between 10mm and 20mm and 2:1 for joint widths greater than 20mm.

This ratio is subject to the following overriding minimum sealant depths:

- 20mm minimum sealant depth in applications where the sealant is subject to a hydrostatic pressure.

Care must be taken to ensure joint movement does not exceed the sealant's movement accommodation capability.

If uncertain about any of the design criteria, contact Fosroc for further advice.

Properties

Form:	Non slump, thixotropic paste
Colours:	Concrete Grey, White, Pool Blue Other colours to batch order
Typical hardness:	32 ± 5 Shore A
Movement accommodation factor:	± 25% butt joints (50% total)
Modulus @ 100% extension:	0.4 MPa @ 100% elongation
Elongation at break:	>400% (>1.0 MPa)
Physical or chemical change:	Chemical cure, moisture activated
Application temperature:	Minimum 5°C
Service temperature:	Minus 50°C - 150°C
Tooling time:	20 minutes @ 25°C 65% RH
Cure rate:	Approx 3 mm in 24 hours, then 1 mm / day @ 25°C / 65%RH
VOC content:	49g / litre

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Chemical resistance - continuous immersion - (worst case testing - 6 months exposure)

* Important: Ensure that Nitoseal SC600 is fully cured before it is subjected to chemical exposure. (Note: Service life for intermittent exposure will be significantly longer than indicated below)

Acetic Acid 10%	Resistant, > 1 month
Acetic Acid 75%	Resistant, > 1 month
Acetic Acid Conc. (Glacial)	Resistant, > 1 month
Automotive Brake Fluid	Resistant, no attack
Chlorine (Sodium Hypochlorite) 2%	Resistant, no attack
Chlorine (Sodium Hypochlorite) 10%	Resistant, no attack
Citric Acid 10%	Resistant, no attack
Diesel Fuel 100%	Intermittent spillage OK
Detergent (GN8) 2%	Resistant, no attack
Ammonium Nitrate 100%	Resistant, no attack
Ethanol 100%	Resistant, > 1 month
Heptane	Not resistant, <24 hours *
Hydrochloric Acid 10%	Resistant, > 1 month
Hydrochloric Acid 20%	Resistant, > 1 month
Hydrochloric Acid Conc. 36%	Not resistant, >2 hours *
Glycol 100%	Resistant, no attack
Lactic Acid 10%	Resistant, may discolour
Lactic Acid 25%	Resistant, may discolour
Motor Oil (unused) 100%	Resistant, no attack
Motor Oil (used) 100%	Resistant, no attack
Nitric Acid 10%	Resistant, > 1 month
Nitric Acid 25%	Resistant, > 7 days
Nitric Acid Conc. 70%	Not resistant, <1 hour *
Petrol, unleaded 100%	Not resistant, <24 hours *
Phosphoric Acid 10%	Resistant, no attack
Sodium Hydroxide 10%	Resistant, no attack
Sodium Hydroxide 25%	Resistant, no attack
Sodium Hydroxide 30%	Resistant, no attack
Sodium Hydroxide Conc. 50%	Resistant, no attack
Sugar Solution (saturated)	Resistant, no attack
Sulphuric Acid 10%	Resistant, no attack
Sulphuric Acid 25%	Resistant, no attack
Sulphuric Acid 50%	Resistant, no attack
Sulphuric Acid 75%	Resistant, > 1 month
Sulphuric Acid 98%	Not resistant, >2 hours *
Skydrol 100%	Resistant, > 1 month
Wine (Red) 100%	Resistant, no attack
Xylene	Not resistant, <24 hours *

Note: * = suitable for intermittent exposure only.

Applications Instructions

Joint preparation

Ensure that all joint dimensions are as specified, and that the anticipated joint movement is within the movement accommodation capability of Nitoseal SC600. New concrete must be allowed to cure for a minimum of 28 days before sealant installation.

Joint faces must be sound and completely dry, clean and frost free. Oil, grease, curing compounds, form release agents, and all surface contaminants must be completely removed by grinding the joint faces or by using Fosroc Solvent 10.

Bond breakers and joint fillers

Joints subject to hydrostatic pressure must have the sealant supported by a suitable rigid joint filler such as Fosroc Hydrocell. Joints subject to hydrostatic pressure must also contain a suitable waterstop such as a Fosroc Supercast PVC.

In joints not subject to hydrostatic pressure, a backing rod such as Expandafoam Closed Cell Backing Rod may be used. In formed joints a polyethylene bond breaker tape must be used to prevent sealant from adhering to the back face of the joint.

Note: do NOT use masking tape, electrical insulation tape or 'Gafa' tape as a bond breaker tape. Nitoseal SC600 may bond to the tapes and result in the failure of the joint sealant.

Priming

All joint surfaces must be sound and free from any trace of surface contamination.

Priming is not normally required on glass, ceramic and metal surfaces which have been cleaned with Fosroc Solvent 10.

Adhesion to stainless steel may also benefit from light abrasion followed by solvent cleaning.

Where metal surfaces are treated with paints or other organic coatings, adhesion testing is recommended to ensure that adequate adhesion will be achieved.

While Nitoseal SC600 offers very good adhesion to concrete and masonry, the aggressive nature of the chemicals that may come into contact with the sealant demand that primers be used on masonry substrates. Use Fosroc Primer 13, a two part epoxy surface primer with exceptionally good hydrolytic stability which ensures good adhesion of Nitoseal SC600 to the substrate under prolonged submerged conditions. The ambient and substrate temperature needs to be above 5°C before and after the application of the primer. 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. 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.

For advice on other applications, or where Nitoseal SC600 is to be used with other substrates, contact Fosroc.

Application

Fit the sausage of Nitoseal SC600 into a suitable sausage gun and gun firmly into the joint. Ensure that the sealant is forced well against all joint surfaces to achieve good surface wetting and thus optimum adhesion. Guide the nozzle along the joint gradually, applying even pressure to the trigger. The joint must be filled completely at all points.

Tooling

Immediately after application the sealant should be tooled. Use a smooth tool to produce both the required surface finish and to assist in further forcing the sealant into good contact with the joint faces. The use of use soapy water as a tooling aid is not recommended as the cure of the sealant may be adversely affected.

Clean up

Equipment should be cleaned promptly by wiping with Fosroc Solvent 10, as cured sealant is very difficult to remove. Cured sealant can only be removed by mechanical methods. Soaking the equipment in Fosroc Solvent 10 makes removal of cured sealant easier.

Limitations

Elastomeric sealants such as Nitoseal SC600 should not be applied in direct contact with bituminous materials. Nitoseal SC600 is not designed to provide resistance to organic solvents. Contact Fosroc for advice if organic solvent resistance is required.

Stabilised Chlorine containing “trichloroisocyanuric acid” may cause the breakdown of surface layers of Nitoseal SC600. Also, crystallized deposits may form on the surface of the sealant from reaction of the above trichloroisocyanuric acid and urea if regular pool cleaning is not done.

Nitoseal SC600 has been tested for resistance to many chemicals including Sulphuric Acid, Hydrochloric Acid and Caustic solutions. For information regarding the resistance of Nitoseal SC600 to specific chemical solutions, contact Fosroc.

Supply

Nitoseal SC600 is supplied in 600ml foil sausages in cartons of 12.

Nitoseal SC600 Concrete Grey	FC920100-600ML
Nitoseal SC600 Pool Blue	FC920101-600ML
Nitoseal SC600 White	FC920102-600ML

Primer 13 is supplied in 2 component packs.
(Base and Hardener, supplied in the correct proportions
Complete units must be mixed to ensure correct curing)

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 and 20 litre drums	

Coverage

Each 600 ml sausage will seal approximately 3 metres of a 20 mm x 10 mm joint.

Storage

Nitoseal SC600 has a shelf life of 3 years when kept in its original, un-opened packaging and stored in dry conditions between +10ºC and 25ºC with 55% relative humidity, away from direct sunlight and moisture.

Important notice

A Safety Data Sheet (SDS) is available from the Fosroc website. Read the SDS and TDS carefully prior to use as application or performance data may change from time to time. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or a doctor for advice.

Product disclaimer

This Technical Data Sheet (TDS) summarises our best knowledge of the product, including how to use and apply the product based on the information available at the time. You should read this TDS carefully and consider the information in the context of how the product will be used, including in conjunction with any other product and the type of surfaces to, and the manner in which, the product will be applied. Our responsibility for products sold is subject to our standard terms and conditions of sale. Parchem does not accept any liability either directly or indirectly for any losses suffered in connection with the use or application of the product whether or not in accordance with any advice, specification, recommendation or information given by it.

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