

(Previously known as Emer-Seal Roadseal® SL)

Very low modulus, self-smoothing, one component silicone joint sealant

Uses

Sealing sawn joints in:

- Asphalt roads & pavements
- Slot sealing of cable installations in asphalt and concrete pavements
- Abutment joints between concrete and asphalt pavements

Advantages

- Ready to use - No mixing required
- Fast rate of cure
- Excellent adhesion to clean dry concrete and sawn asphalt
- Excellent weathering - UV and ozone resistant
- Dispensed from a bulk container by hand or air powered pump
- Large joint movement accommodation

Standards Compliance

Nitoseal SC820 complies to all the requirements of ASTM D5893-16(2021), Standard specification for cold-applied, single-component, chemically curing silicone joint sealant for portland cement concrete pavements.

Copy of the report is available on request from Fosroc.

Description

Nitoseal SC820 is a very low modulus, self-smoothing, one-part, gun applied, silicone joint sealant utilising Roadseal® technology, designed to effectively seal joints in concrete and asphalt roads, runways, carparks and pavements. The extra low modulus characteristics of Nitoseal SC820 allow it to accommodate large cyclic joint movements of plus 100% and minus 50% in both concrete and asphalt pavements, while not generating high tensile stresses in weak asphalt substrates. Nitoseal SC820 may be applied to the joints using a suitable sealant gun, and self-smooths after application thereby eliminating the need for tooling. This property makes Nitoseal SC820 ideal as a slot sealant to encapsulate electrical signal and sensor cables which may be laid in sawn pavement joints.

Design Criteria

Nitoseal SC820 is designed for use in sawn joints in both concrete and asphalt pavements between 5mm and 25mm wide however wider joints 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 7mm for joints <10mm wide; 10mm for joint widths between 10mm and 20mm wide and 2:1 for joint widths greater than 20mm.

The sealant should be applied and tooled so that the sealant surface is 3 to 5mm below the pavement surface.

For further details contact Fosroc for specific advice.

Properties

Form:	"Self-smoothing liquid"
Colour:	Charcoal Grey
Physical or chemical Change:	Chemical cure, moisture activated
VOC content:	23g / litre
Hardness:	10 (+/-2) Shore A
Hardness (ASTM C661):	16 @ -29°C (Type A-2 Durometer) 73 @ 73°C (Type OO Durometer)
Application temperature:	Minimum 5°C
Service temperature:	Minus 50°C - 150°C
Tooling time:	20 minutes @ 23°C
Tack free time:	45 - 60 minutes @ 23°C
Cure rate:	Approx 3 mm in 24 hours, then 1 mm / day @ 25°C / 65%RH
Flow after 21 days cure (ASTM D5893 (9.8):	No flow @ 93°C - Pass
Movement accommodation factor:	+100% / -50%
Bond (ASTM D5893 (9.6):	Non-immersed - Pass Water-immersed - Pass Oven-aged bond - Pass
Elongation (ASTM D412):	829%
Tensile stress (ASTM D412):	0.19 @ 150% elongation
Heat aging (ASTM C792):	Pass: No cracking or chalking
Accelerated weathering (ASTM C793):	Pass; no visual change after 5000 hours
Chemical resistance to occasional spillage:	Resistant to dilute acids and alkalis. Not resistant to organic solvents

Application Instructions

Joint preparation

All concrete joints to which Nitoseal SC820 is to be applied must be a minimum of 7 days old. All joint surfaces must be clean, dry and free from any concrete slurry, oil, dirt or loose material, form release or curing compounds. All joints in asphalt pavements must have clean, dry saw cut joint faces. Freshly laid asphalt should be allowed to cool to ambient temperature.

Saw cut joints in concrete must be thoroughly cleaned of all concrete slurry by a high pressure water wash, followed by drying with high pressure compressed air. After air blasting the surface water away, the joints must be allowed to dry normally for an additional 16 hours. Where atmospheric conditions are not conducive to good drying e.g. low temperatures, high humidity or rain; Primer 10 or primer 13 should be used.

Where previously sealed joints are to be re-sealed, mechanically remove all of the existing sealant prior to saw cutting the joint. Care should be taken not to melt any residual asphaltic sealant and spread it onto the joint faces with the hot saw blade.

Before application of the Nitoseal SC820 remove any wind blown debris from the joints with a blast of dry, oil free, compressed air.

A closed cell polyethylene backer rod or bond breaker tape must be installed into the joint before sealant application. When placing the backer rod allow for a 3 - 5mm set down of the sealant from the pavement surface.

Priming

Priming is not normally required provided the joint faces are clean and free from any trace of laitance and surface contamination.

On concrete and masonry surfaces, Primer 10 is recommended to achieve the best possible adhesion. A primer must be used if the sealant is to be submerged for intermittent periods, such as joints in a flood crossing or in warehouse floors where chemical spillage may occur.

Sawn joints in asphalt do not require priming provided that a large percentage of the joint faces are made up of sawn aggregate.

Primer 13 must be used on both asphalt or concrete in applications where Nitoseal SC820 is to be subjected to long term water immersion or on asphalt which has not been cut with a saw. If in doubt, consult Fosroc for advice on priming.

Application

Nitoseal SC820 is applied from 600ml sausages or bulk containers into the joints using a suitable sealant gun. On larger projects, an air assisted gun and pump may be used allowing faster application. Within 10 minutes after application, the sealant should be tooled in order to improve contact with the joint faces, and to lower the sealant surface to a level about 3mm below the pavement surface.

Equipment

Complete high volume application units include an air powered pump, follower plate, hose, gun, and applicator nozzle. The extrusion pumps are available with various output capacities. The hoses and connections must not allow moisture penetration. Teflon lined hoses are recommended because of their low moisture permeability. It should be noted that the rate of sealant delivery is affected by air pressure, hose length, hose diameter and nozzle diameter.

Clean up

Equipment may be cleaned of uncured sealant by wiping, or soaking and wiping with Fosroc Solvent 10. Any sealant allowed to cure becomes very difficult to remove and can only be removed using Fosroc Solvent 10 in combination with steel wool.

Limitations

Joints in asphalt pavements must be sealed with Nitoseal SC820. The standard Nitoseal SC800 product is designed for use in concrete pavements, has a higher tensile modulus and is not suitable for joints in asphalt.

Other sealants from the Fosroc range may also be unsuitable for use in asphalt roads.

Nitoseal SC820 may only be used without a primer in sawn joints which are clean and dry and where a large percentage of the sawn joint faces are made up of sawn aggregate. Where asphalt is not sawn or the aggregate content is low, Primer 13 must be used.

Where asphalt is to be applied over a concrete pavement containing joints sealed with Nitoseal SC820, a siliconised paper bond breaker tape must be applied over the cured sealant to prevent direct contact with the asphalt and to prevent the asphalt from bonding to the sealant surface. In the case of joints wider than 10mm a steel plate may be laid over the sealed joints to support the asphalt topping and to allow compaction of the asphalt. Where large joint movements may be experienced, joints in the concrete base slab may need to be carried up through the asphalt topping.

Supply

Nitoseal SC820 is supplied in 600ml sausages in cartons of 12; 20 litre and 200 litre drums.

Nitoseal SC820	600ml sausage:	FC920140-600ML
Charcoal Grey:	20 litre drum:	FC920140-20L
	200 litre drum:	FC920140-200L
Primer 10:	250ml can:	FC965214-250ML
Primer 13 (250ml pack):	Base:	FC965229-125ML
	Hardener:	FC965230-125ML
Primer 13 (1 litre pack MTO):	Base:	FC965229-500ML
	Hardener:	FC965230-500ML
Fosroc Solvent 10:	4 litre:	FC600800-4L
	20 litre:	FC600800-20L

Fosroc®

Nitoseal® SC820

Coverage

As a guide, each 600ml sausage will seal approximately 6 metres of joint with a 10mm wide by 10mm deep sealant bead.

As a guide, each 20 litre drum will seal approximately 200 metres of joint with a 10mm wide by 10mm deep sealant bead.

Storage

Shelf life is 3 years when kept in its original, un-opened packaging and stored in dry conditions between +10°C and 25°C 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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