Fosroc Nitoseal MS100

constructive solutions

One part, primer-less, non-staining facade sealant

Uses

Nitoseal MS100 has been formulated for stain-free sealing of joints in and around:

- Concrete
- Brick
- Masonry
- Pre-cast panels
- Stone cladding
- Fibre cement sheeting
- Windows and Doors

Advantages

- Will not stain masonry, marble or other surfaces
- Excellent primer-less* adhesion to most common building materials
- Can be applied to damp substrates
- Fast neutral cure
- Highly flexible with excellent application characteristics
- Low odour, environmentally friendly
- Low modulus and high movement capabilities
- Excellent UV and weather resistance
- Nitoseal MS100 may be used as a sealant to assist with sound insulation
- Good adhesion to silicone, polysulphide or polyurethane contaminant

* Refer to Priming section

Standard compliance

ISO 11600 Type F 25LM,
ASTM C793 after accelerated weathering,
ASTM C1248 - classified as non staining ,
ISO 9047 for a 50% MAF sealant.

Description

Nitoseal MS100 is a tough, durable elastomeric joint sealant. It is based upon hybrid silyl modified polyether technology. It is suitable for use over a wide range of external and internal building applications and has excellent weather resistance.

Nitoseal MS100 has excellent primer-less adhesion to a wide range of common building substrates and does not stain concrete, marble and other masonry surfaces.

Properties

Uncured sealant:		
Form	:	Smooth, non slump paste
Flash point	:	>65°C
Solids content	:	100%
Application temp range	:	5°C to 50°C
Skinning time (@20°C/50% RH)	:	25 mins
Cure rate (@20°C/50% RH)	:	3 mm in 24 hrs, 8mm in 7 days
Cured sealant		
Form	:	Elastic solid
Colour	:	White, Grey, Black, Portland, Buff, Rustic Red
Typical hardnesss Shore 'A' @ 20°C	:	20
Modulus classification	:	Low
U.V. resistance	:	Excellent
Service temperature range	:	-40°C to 70°C
MAF:		Butt joints 25% unprimed 50% primed Lap joints 50% unprimed 100% primed
Sound Reduction Index,dB (BS EN ISO 717-1:97)	:	54 (-1;-4) dB = Rw(C;Ctr)

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Design criteria

Movement Accommodation Factor (MAF)

The Movement Accommodation Factor is a figure quoted indicating the ability of a sealant to accommodate joint movement throughout the service life of that sealant, expressed as a percentage of the joint width at time of sealing.

To calculate the theoretical / minimum joint width knowing the expected maximum working movement of the joint:

W = M ÷ (MAF/100) + M
W= Joint width
M= Expected maximum working movement of joint
MAF= Movement Accommodation Factor of that sealant

For further advice on joint design see BS 6093 :1993.

Nitoseal MS100 may be applied to joints between 5 and 35 mm wide. To minimise stresses imposed on the joint sealant, all moving joints should be designed to an optimum width to depth ratio of 2:1.

This ratio is subject to these overriding minimum sealant depths:

5 mm minimum sealant depth at any point.

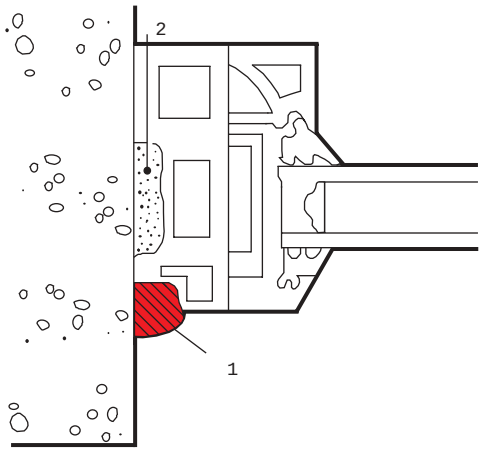
5 mm minimum bonding depth against metals, glass and other non-porous surfaces, providing that joint faces are in good condition.

8 mm minimum bonding depth against masonry or other porous surfaces, or any non-porous surfaces where joint faces are in poor condition.

Shear joints shall be a minimum joint width to depth ratio of 1:2 up to a maximum of 1:1. The total movement in shear should not exceed 80% of joint depth at time of sealing in these joints.

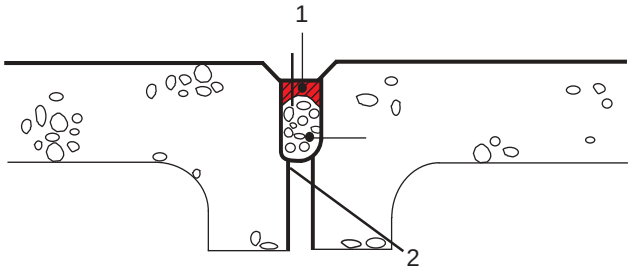
Sealants are now commonly used as weatherseals in place of flashings and scribers around window and door openings. These areas require greater attention to detail and standards of workmanship to perform successfully.

Example of sealed perimeter joint of plastic or metal frame



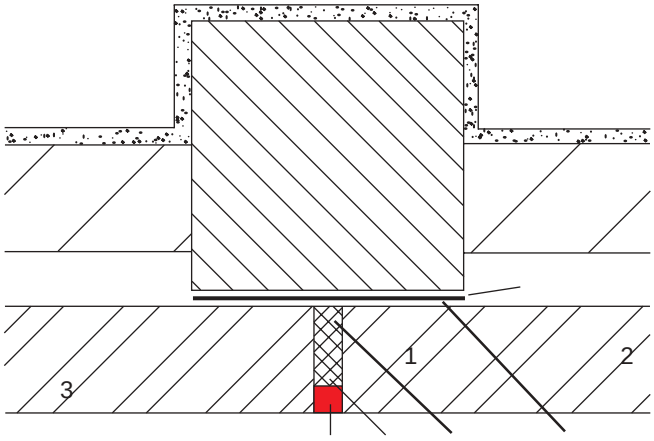
1 Nitoseal MS 100 2 Insulation foam

Example of sealed movement joint in external joint panels



1 Nitoseal MS100 2 Expandafoam cord

Example of brickwork expansion joint



1 Nitoseal MS 100 2 Hydrocell XL 3 DPM

Instructions for use

Preparation

Joint surfaces must be clean and free from frost and rag dry, preferably completely dry. Remove all dirt, laitence, loose materials and foreign matter. Remove all rust, scale and protective lacquers from metal surfaces. Non porous surfaces should be degreased using Fosroc Joint Cleaner.

In all joints an Expancell or Hydrocell XL polyethylene foam backing should be used to prevent sealant contact with the back of the joint, and hence allow optimum performance.

In shallow joints self adhesive debonding tape can be used.

Priming

Good adhesion can be gained on concrete, timber, metals, ceramics, brickwork and most coating surfaces without the use of primers. On some porous surfaces such as GRC, adhesion will be improved by the use of a primer - refer Fosroc Technical Service for further advice.

Application

Cartridge: Cut the end off threaded stub on cartridge, screw on nozzle and cut nozzle to desired bead size at a 45° angle.

Extrude the sealant firmly into joint to ensure complete contact with joint faces. Smooth finish if necessary with a spatula wetted with a dilute detergent solution.

Cleaning

Clean tools immediately after use with Fosroc Joint Cleaner.

Overpainting

The practice of overpainting sealants which experience a high degree of movement is discouraged as it can result in premature failure of the sealant.

However, Nitoseal MS100 may be overcoated with water-based elastomeric coatings such as Dekguard E2000 and exterior emulsion paints. Tests should be carried out to confirm compatability of sealant and proposed paint systems.

Nitoseal MS100 should be allowed to cure fully before the application of the coating or paint. For best results the sealant should be allowed to weather prior to overcoating.

Maintenance

Nitoseal MS100 does not require additional service during its lifetime. In the event of damage to Nitoseal MS100, the damaged sealant can be removed and replaced. Adhesion of new to old Nitoseal MS100 is excellent.

Estimating

Supply

Nitoseal MS100	**:**	380ml cartriges

To work out quantities (including wastage) use the following formula:

S ÷ (W X D) = Linear metres per pack

S = Packaging size in millilitres

W = Sealant profile width in millimetres

D = Sealant profile depth in millimetres

Guide to sealant quantities

Joint size in mm	Litre per metre run	Metre per 0.38 litre cartridge
3 x 5	0.015	25.3
3 x 10	0.030	12.66
5 x 5	0.025	15.2
5 x 10	0.050	7.6
10 x 5	0.050	7.6
10 x 10	0.100	3.8
15 x 10	0.150	2.54
20 x 10	0.200	1.9
25 x 15	0.380	1.0

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

Technical support

Fosroc offers a comprehensive range of high performance, high quality repair, maintenance and construction products. In addition, Fosroc offers a technical support package to specifiers, end users and contractors, as well as on site technical assistance in locations all over the world.

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Limitations

- Nitoseal MS100 is not suitable where adhesion is required to polyethylene, polypropylene, polybutylene, polycarbonate and bitumen.
- Use Nitoseal MS600 in situations demanding permanent immersion in water.
- Use Nitoseal MS300 for floor joints.
- Use Nitoseal MS600 for pipes or in other applications where the sealant may be subjected to hydrostatic or pneumatic pressures (other than wind pressure).
- Use Nitoseal MS600 for situations warranting continual exposure to aggressive solvents or chemicals.
- Avoid using Nitoseal MS100 in situations where timber or wood based products have been painted.
- Use the Flamex range of sealants around chimneys or flues.
- MS 100 should not be overpainted with oil based alkyd paint systems.
- Whilst Nitoseal MS100 has excellent adhesion to many types of residual sealant its use should not be considered a substitute for a good standard of joint preparation.
- Joint arrises should be primed where movment in excess of 40% is expected.

Storage

Cartridges: Shelf life 12 months when sealed and stored in cool, dry conditions.

Health and safety

No significant hazard. For additional information see relevant Product Safety Data Sheet.

Additional Information

Fosroc manufactures a wide range of complementary products which include :

- waterproofing membranes & waterstops
- joint sealants & filler boards
- cementitious & epoxy grouts
- specialised flooring materials

Fosroc additionally offers a comprehensive package of products specifically designed for the repair and refurbishment of damaged concrete. Fosroc's 'Systematic Approach' to concrete repair features the following :

- hand-placed repair mortars
- spray grade repair mortars
- fluid micro-concretes
- chemically resistant epoxy mortars
- anti-carbonation/anti-chloride protective coatings
- chemical and abrasion resistant coatings

For further information on any of the above, please consult your local Fosroc office - as below.

*** Denotes the trademark of Fosroc International Limited**

† **See separate data sheet**

Important note

Fosroc products are guaranteed against defective materials and manufacture and are sold subject to its standard Conditions for the Supply of Goods and Service. **All Fosroc datasheets are updated on a regular basis. It is the user's responsibility to obtain the latest version.**

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ISO 9001 / ISO 14001 OHSAS 18001 BUREAU VERITAS Certification

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