

# Nitoseal MS 100

**One part, primerless, non-staining facade sealant, can be applied to damp substrates**

## Uses

Nitoseal MS100 has been formulated for sealing joints in and around concrete, brick, masonry, pre-cast panels, stone cladding, windows, doors and fibre cement sheeting.

## Advantages

- One part.
- Excellent primerless\* adhesion to most common building materials.
- Can be applied to damp substrates
- Will not stain masonry, marble or other surfaces.
- Very durable and resistant to U.V.
- Fast neutral cure.
- Highly flexible with excellent application characteristics.
- Low odour, environmentally friendly.
- Low modulus and high movement capabilities.
- Nitoseal MS100 may be used as a sealant to assist with sound insulation.
- Good adhesion to silicone, polysulphide or polyurethane contaminant.

\* Refer to Primers section.

## Standard compliance

ISO 11600 Type F 25LM

## Description

Nitoseal MS100 is a tough, durable elastomeric joint sealant suitable for use over a wide range of external and internal building applications. It is based upon hybrid silyl modified polyether technology resulting in a unique combination of properties ideally suited to UK climatic conditions. Nitoseal MS100 has excellent primerless adhesion to a wide range of common building substrates and does not stain concrete, marble and other masonry surfaces.

## 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.

## Properties

### Uncured sealant:

<b>Form:</b>	Smooth, non slump paste
<b>Flash point:</b>	>65°C
<b>Solids content:</b>	100% approximately
<b>Application temperature</b>	
<b>range:</b>	5°C to 50°C
<b>Skimming time:</b>	25 mins, 20°C/50% RH
<b>Cure rate:</b>	3 mm in 24 hrs, 8 mm in 7 days 20°C/50% RH

### Cured sealant:

<b>Form:</b>	Elastic solid
<b>Colour:</b>	Light grey, white, black, rustic red, buff and portland stone

### Typical hardness

<b>Shore 'A' @ 20°C:</b>	20
<b>100% modulus:</b>	Low
<b>U.V. resistance:</b>	Excellent
<b>Chemical resistance:</b>	Good to dilute acids and alkalis
<b>Service temperature</b>	
<b>range:</b>	-40°C to 70°C
<b>MAF:</b>	Butt joints 25% Lap joints 50%

## 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:

$$W = \frac{M}{MAF/100} + M$$

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.

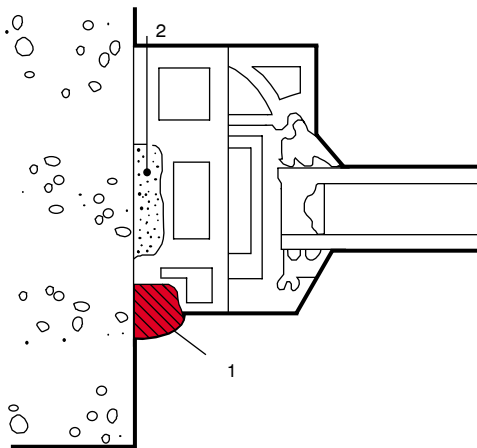
5 mm minimum bonding depth against metals, glass and other non-porous surfaces, providing that joint faces are in good condition.

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.

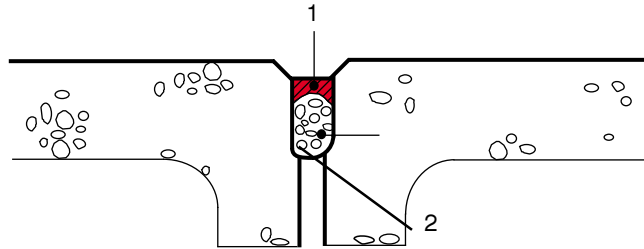
Sealants are now commonly used as weatherseals in place of flashings and scribes around window and door openings. These areas require greater attention to detail and standards of workmanship to perform successfully.

**Example of sealed perimeter joint of plastic or metal frame**



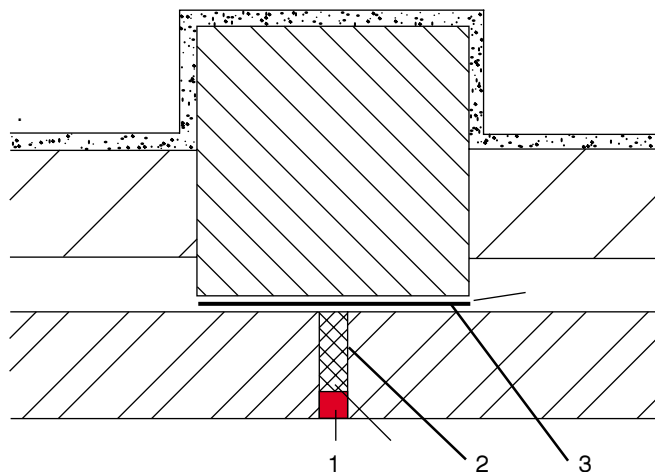
1 Nitoseal MS 100 2 Secofoam

**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 3 DPM

**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 Elastic and exterior emulsion paints such as Dekguard W. Tests should be carried out to confirm compatibility 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.

## Limitations

Nitoseal MS100 must not be used as follows:

- Where adhesion is required to polyethylene, polypropylene, polybutylene, polycarbonate and bitumen.
- Where it is subjected to permanent immersion in water.
- With structural glazing or floor joints.
- With pipes or in other applications where it may be subjected to hydrostatic or pneumatic pressures (other than wind pressure).
- Where continual exposure to aggressive solvents or chemicals will occur.
- Where timber or wood based products have been painted.
- Nitoseal MS100 is a combustible material. Do not seal around chimney or flues. For fire rated sealants the Fosroc Flamex range is available.
- Do not overpaint with oil based alkyd paint systems.

## 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 Expandafoam polyethylene foam backing cord 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 advice.

Where priming is necessary, sealing slot walls should be primed using Fosroc Primer 13X. Decant the entire contents of primer curing agent into the primer base and stir thoroughly until mixed. Apply the primer using a clean dry paint brush working well in to ensure complete coverage. Allow to dry for 30 minutes prior to application of the sealant. If the primer coating is left for more than 2 hours, re-prime.

## 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.

## Estimating

Nitoseal MS100 is supplied in 380 ml cartridges.

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

$$\frac{S}{W \times D} = \text{Lineal metres per pack}$$

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

1 tin Fosroc Primer 13X to 50 metres of joint

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

## 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

Nitoseal MS100 is one product in the Fosroc range of sealants. Other product ranges include concrete surface treatments, concrete repair and protection, waterproofing, hydrophilic and PVC waterstops, grouts, floor toppings, concrete admixtures and architectural coatings.

## 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 Services, 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.