Fosroc® Nitoseal MS600

constructive solutions

One part, engineering sealant for immersed conditions

Uses

Nitoseal MS600 is suitable for sealing movement joints in buildings and civil engineering structures including joints that will be subject to intermittent or permanent immersion.

Typical applications include:

- Potable water tanks
- Reservoirs
- Sewage tanks
- Sea walls*
- Basements
- Subways
- Parapets
- Bridges
- Superstructures

* Refer to Limitations section

Advantages

- Approved for use in contact with potable water
- Meets key international standards
- Resistant to aerobic and anaerobic bacteriological attack
- Exhibits excellent water resistance
- Excellent resistance to dilute acids and alkalis
- Cures to a tough, elastic rubber seal
- Accommodates continuous and pronounced cyclic movement
- High resistance to ageing, reduces physical damage due to climatic extremes
- Single component yet fast rate of cure
- Easy to apply at low temperature
- Can be applied to damp substrates
- Isocyanate free technology

Description

Nitoseal MS600 is a one part medium modulus sealant based on hybrid silyl modified polyether technology. It has a fast rate of cure and forms a tough, highly durable and water resistant elastomer.

Standards compliance

- ASTM C920 Type S, Grade NS, Class 25
- IS0 11600 Type F25HM
- British Standard BS 6920 : Part 1:2000



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DoP UK9-201

Fosroc® Nitoseal MS600

EN 14188:2:2004
Joint sealants for concrete pavements - cold applied

System	1 component (s)
Type	ns-type
Class	Class A
Polymer base	MS-polymer
Extrudability	> 70ml/min.
Full immersion cure	14 days
Resistance to flow	≤ 2mm
Change in mass/volume	≤ 5%
Resistance to hydrolysis	Shore A ≤ ± 50%
Resistance to flame	No flow, cracking, flaking, hardening, ignition
Adhesion/Cohesion properties at variable temperatures	No failure
Tensile properties at maintained extension	No failure at 23ºC and -20ºC
Elastic recovery	≥70 %
Artificial weathering by UV irradiation	≤ ± 20%
LEED EQc4.1 SCAQMD Rule 1168 BAAQMD Reg 8 Rule 51	Passes

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Design criteria

Nitoseal MS600 should be applied to joints between 5 and 35mm 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: 5mm for metals, glass and other non-porous surfaces; 8mm for all porous surfaces; 20mm for joints subject to hydrostatic pressure.

To ensure that the sealant remains within its stated movement capacity (25% MAF), sealing slot widths should be designed in accordance with the recommendations of BS 6093.1993. 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.

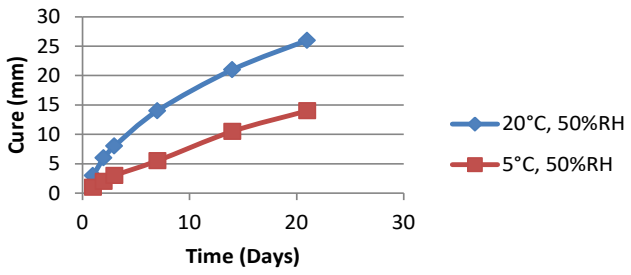
To calculate the theoretical minimum joint width knowing the expected maximum working movement of the joint:

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

W = Joint width
M = Expected maximum working movement of joint
MAF = Movement Accommodation Factor of that sealant

Properties

Form:	Smooth, non-slumping paste
Colour:	Grey For special colours contact Fosroc for further Information
Solids content:	100%
Movement Accommodation factor:	25% butt joints 50% lap joints
Skinning time 23°C/50%RH	55 minutes
Cure rate:	



Application	+5°C to +50°C
Service temperature:	Dry –30°C to +80°C Wet up to +40°C
E-Modulus ISO 8339	>0.6N/mm²
Elongation ASTM D412	>600%
Hardness shore 'A' 20°C:	32
Chemical resistance:	Resistant to occasional spillage of many chemicals: see limitations
Biological resistance:	Nitoseal MS600 has been evaluated in microbiologically active situations and has been shown to have resistance to aerobic and anaerobic conditions
UV resistance:	Excellent
Water immersion:	Nitoseal MS600 must be fully cured before permanent immersion in water
Accelerated weathering:	Pass ASTM C793

Application instructions

Joint surfaces must be clean and free from frost. Remove all dirt, laitance, loose material and foreign matter. Remove all rust, scale and protective lacquers from metal surfaces. Removal can be achieved by rigorous wire brushing, grinding or grit blasting.

Joints in concrete should preferably be sawn. After sawing, all saw slurry must be flushed away and the joint allowed to dry.

When resealing, the existing sealant should be removed from the joint and the arris cleaned back to sound clean concrete. All debris should be removed.

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.

The use of a bond breaker is not required in expansion joints containing cellular polyethylene joint filler such as Hydrocell XL or Expandafoam. For construction or contraction joints a bond breaker tape or back-up strip should be used.

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

Priming

Fosroc Primer MS2 is required for all joints.

When using primer, empty the entire contents of the hardener tin into the base tin and replace the base tin lid. Mix thoroughly by shaking for at least 2 minutes. Prime the joint face using a clean, dry brush. Avoid over application of primer causing puddles in the bottom of the joint.

Nitoseal MS600 can be applied between 30 minutes and 4 hours after priming. Ensure that the primer has become touch dry before sealing.

If a joint is left unsealed for more than 4 hours, the primer should be removed by grit blasting or grinding and the joint re-primed.

The pot life of Fosroc Primer MS2 is 4 hours.

Fosroc® Nitoseal MS600

Do not split packs of Fosroc Primer MS2.

Application and finishing

Cut the end off the sachet and place in the Fosroc GX gun. Fit the nozzle and cut at 45 degrees at a suitable size for sealing the joint.

Extrude the sealant firmly in to the joint. Tool flush within 5 minutes of application to ensure good contact between the sealant and the substrate.

Curing

Prior to immersion in potable water, allow to cure for 21 days at 7°C or above.

Cleaning

Clean tools immediately after use with Fosroc Equipment Cleaner.

Estimating

Guide to quantities

Joint	Litres per metre run	Metre run per 600ml sachet
6 x 10	0.06	10.00
12 x 10	0.12	5.00
20 x 20	0.40	1.50
25 x 12	0.30	2.00
30 x 15	0.45	1.33

Limitations

- Should not be applied at temperatures below 5°C
- Not suitable for contact with bituminous materials
- Not suitable for contact with solvents, oil or petrol
- Whilst Nitoseal MS600 has excellent adhesion to many types of residual sealant, its use should not be considered a substitute for a good standard of joint preparation
- Nitoseal MS600 must be allowed to cure for 7 days before sea water or sewage immersion. Tidal sea and river wall joints can be sealed provided this condition is met.

Packaging

Nitoseal MS600 – 10 no x 600ml sachets per box

Fosroc Primer MS2 – 0.75 litre packs

Storage

Shelf life of 12 months if kept in a dry store at 10 – 20°C in original unopened packaging. If stored at high temperatures and / or high humidity, the shelf life may be significantly reduced.

Precautions

Health and safety

Nitoseal MS600 is considered safe in normal use. For further information refer to appropriate Product Safety Data Sheet.

Fosroc Primer MS2 is highly flammable, see material safety data sheet for details.

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