

Nitoseal® PU50

Single-Component, Polyurethane Hybrid Sealant.

Uses

Nitoseal PU50 is suitable for sealing expansion & control joints in concrete, brickwork, blockwork, precast panels, stone cladding, perimeter sealing around doors and windows, trafficked floor joints. damp surfaces.

Advantages

- Adhesion to most common building materials
- Single component with fast rate of cure
- Damp surface tolerant
- Non shrink
- Non staining
- High movement accommodation, MAF up to 50%
- Easy to apply
- UV resistant
- Primerless for most applications (see "Priming")

Description

Nitoseal PU50 is a single-component, non-sag, medium-modulus, moisture-cure, polyurethane hybrid joint sealant. It is formulated with a unique silane-terminated polyurethane polymer, that provides unequalled performance against stand-alone polyurethane sealants. Nitoseal PU50 is an extremely durable sealant in dynamic joints, offering persistent adhesion once fully cured. Nitoseal PU50 may be applied to joints between 5 and 50mm wide. To minimise stress imposed on the joint sealant, all moving joints should be designed to an optimum width to depth ratio of 2:1 with an overriding minimum depth of 5mm for non-porous surfaces and 10mm for porous surfaces.

For joint widths exceeding 50mm, please contact your local Fosroc Technical Service Department.

Properties

Parameters	Results	Standards
Colour	Grey & White	
Shore A Hardness	32	
Skinning time, hours (at 20°C / 50%RH)	2	-
Cure rate, hours(3mm) (At 20°C/50%RH)	24	-
Service temperature range,°C	(-)40 to 70	-
Tack free time, minutes (At 30°C)	90	Guidelines of ASTM C679
Volatile Organic Content, %	1.2	Guidelines of ASTM D2369
Heat ageing test:		Guidelines of ASTM C792
Weight loss, %	0.1	
Cracking	No visual cracking observed	
Adhesion in peel:		Guidelines of ASTM C794
Average peel strength, N	220	
Peak peel strength, N	260	
Sealant failure type	Cohesive failure	
Change in volume, %	3.1	Guidelines of EN ISO 10563
Tensile properties at extension		Guidelines of EN ISO 8340
Secant modules, MPa	2.1	
Elongation at brak, %	2.49	
Secant modulus at 100% extension, MPa	1.0	Guidelines of EN ISO 8339
Elastic recover, %	80	Guidelines of EN ISO 7389

Application instructions

Joint surfaces must be clean, dry 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. 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.

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

A primer is not normally required. In joints subjected to high movement or where intermittently immersed during service, Fosroc Primer 7 (porous substrates, drying time 30 minutes) or Fosroc Primer 4 (non-porous substrates, drying time 2-5 minutes) is recommended.

Prime the joint face using a clean, dry brush. Avoid over application of primer, to prevent causing puddles in the bottom of the joint.

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

(For further advice on priming required please contact your local Fosroc Technical Service Department).

Application and finishing

Sachets

Cut and remove the end of the sachet and place sachet in the Fosroc GX gun.

Fit the nozzle and cut at 45 degrees to a suitable size for sealing the joint.

Cartridges

Cut and remove the end of threaded stub on cartridge. Fit the nozzle and cut at 45 degrees to a suitable size for sealing the joint. Fosroc Primer 4 is highly flammable.

Fosroc Equipment Cleaner and Fosroc Solvent 102 are flammable. Refer to appropriate Product Safety Data Sheet.

Cleaning

Clean tools immediately after use with Fosroc Equipment Cleaner or Fosroc Solvent 102.

Estimating

Supply

Nitoseal PU50	600 ml sachets
Primer 4	125 ml
Primer 7E	0.5 litre
Nitoflor Sol	5 & 20 litre can

Guide to quantities

Joint size	Litres per metre run	Metre run per 600 ml sachet
10 x 6	0.06	10.00
12 x 10	0.12	5.00
20 x 10	0.20	3.00
25 x 12	0.30	2.00
30 x 15	0.45	1.33

Limitations

Not recommended for the following

- Unprimed joints that will be subjected to continuous water immersion.
- Joints that are contaminated with grease, wax, corrosion, bitumen or cement laitance.
- Horizontal joints in floors or decks where traffic or abuse is encountered.
- Special architectural finishes without proper testing due to large number of coatings available, it is advisable to carry out compatibility test before application of paint.

Application limitations

- Nitoseal PU50 must not be applied to frost-bearing surfaces if temperature will be below freezing for more than 24 hours.
- Tooling techniques using solvents or soapy solutions are not recommended.
- All surfaces must be evaluated for adhesion prior to product acceptance.

Storage

Shelf life

12 months if stored in the original unopened sachets in a cool dry place. Do not store in direct sunlight. Store in a dry and cool place with temperature + 35°C



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Precautions

Health and safety

Nitoseal PU50 may be harmful if swallowed or inhaled and may cause skin and eye irritation.

Should accidental skin contact occur, remove contaminated clothing and wash with warm soapy water. Do not scrub. If inhaled remove person to fresh air. Get medical advice if breathing becomes difficult. In case of contact with eyes, rinse immediately with plenty of clean water for at least 15 minutes and seek medical advice. If swallowed, give a glass of water to dilute and seek medical attention immediately - do not induce vomiting. For further information, refer to the appropriate Product Material Safety Data Sheet.

Fire

Nitoseal PU50 does not readily support flame. Primer4, Primer 7E and Nitoflor Sol is highly flammable liquid. Keep away from sources of ignition. No smoking. Containers should be tightly sealed when not in use. In the event of fire, extinguish with CO₂ or foam. Do not use water jet.

Disposal

Dispose according to local authority regulations. Do not dispose down drains or into local waterways.

Additional Information

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



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