



NanoInjection Resin

Low viscosity epoxy injection resin

Description	NanoInjection Resin is a two components, low viscosity epoxy resin material for the repair of cracked concrete by the injection process. Suitable for use in tropical climates.														
Uses	A low viscosity system for the injection of cracks between 0.25 mm and 9 mm wide in concrete where both sides of the crack can be sealed to prevent resin drainage. It not only forms an effective barrier against water infiltration of corrosion promoting media, but also structurally bonds the concrete sections together.														
Advantages	<ul style="list-style-type: none"> • Low viscosity: Permits maximum resin penetration. • Suitable in both, dry and damp conditions. • Adhesion: Achieves high strength bond to dry or wet concrete • Minimum creep: Material designed for low creep. • Non-shrink: No loss of bond or surface contact • High strength: High compressive, tensile and flexural strengths • Chemical resistance: Withstands most chemicals, acids and alkalis, also water and frost 														
Specifications	ASTMC 881 Type 1, Grade 1, Class B+C														
Technical Information	<p>The following properties were obtained for NanoInjection Resin at a temperature of 20°C:</p> <p>Mechanical Strengths (at 20°C and 65% r.h.) at 7 days</p> <table> <tr> <td>Compressive strength (BS 6319, Pt. 2):</td> <td>55 N/mm²</td> </tr> <tr> <td>Tensile strength (BS 6319, Pt. 7):</td> <td>27 N/mm²</td> </tr> <tr> <td>Flexural strength (BS 6319, Pt. 3):</td> <td>50 N/mm²</td> </tr> <tr> <td>Bond strength to concrete</td> <td>4N/mm² (concrete failure)</td> </tr> <tr> <td>Bond strength to steel</td> <td>10N/mm²</td> </tr> <tr> <td>Pot life</td> <td>20 minutes at 20°C</td> </tr> <tr> <td>Density</td> <td>1.1 kg/Ltr (mixed).</td> </tr> </table>	Compressive strength (BS 6319, Pt. 2):	55 N/mm ²	Tensile strength (BS 6319, Pt. 7):	27 N/mm ²	Flexural strength (BS 6319, Pt. 3):	50 N/mm ²	Bond strength to concrete	4N/mm ² (concrete failure)	Bond strength to steel	10N/mm ²	Pot life	20 minutes at 20°C	Density	1.1 kg/Ltr (mixed).
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Packaging	<table> <tr> <td>NanoInjection Resin:</td> <td>2.5kg & 3.0 kg pack</td> </tr> <tr> <td>NanoMortar FEP:</td> <td>2.5kg & 3.0kg pack</td> </tr> <tr> <td>NanoSolvent :</td> <td>5 litre & 30 litre</td> </tr> </table>	NanoInjection Resin:	2.5kg & 3.0 kg pack	NanoMortar FEP:	2.5kg & 3.0kg pack	NanoSolvent :	5 litre & 30 litre								
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Storage	Store in a dry and cool place below 35°C. Protect from direct sunlight.														
Shelf Life	2 years in original, unopened packaging.														
Instructions for use	<p>Preparation: Ensure all contact surfaces are free from oil or grease contamination. Where feasible, insert drinking straws or wires into the crack at sites (150 to 400 mm apart) selected for injection ports. Bond injection ports over the crack at these points with NanoMortar FEP, removing the straws or wires after the NanoMortar FEP has hardened. (If crack is obstructed at the surface, access may first be gained by vacuum flush drilling.) The crack should then be sealed between ports with NanoMortar FEP.</p> <p>Mixing of NanoMortar FEP: Mix only the quantity of sealant that can be applied within the pot life. Pour a small quantity of the resin into a suitable bucket and slowly add the hardener. Stir until a smooth thick cream consistency is obtained. Mix further quantities as required.</p> <p>Mixing of NanoInjection Resin: Pour all the contents of Hardener pack into Base container. Mix for 2 minutes or more until homogeneous. At extreme temperatures refer to gel time information to enable required handling procedures to be adopted. Mechanical mixing is preferable (i.e. Jiffy mixer in slow speed drill) ensuring that the sides and bottom of the container are repeatedly scraped.</p> <p>Injection: The product may be pumped into place using a standard 'grease gun' technique. The size of the injection pump should be related to the job in hand. For small-scale jobs a small Gun may be used. Where greater rates of injection are required a hand pump may be used, or bulk supplies of NanoInjection Resin may be used with twin metering/mixing machines. Connect the pump to the injection port using nylon reinforced PVC hose and clips. Injection should commence at the widest part of the crack, or at the lower end if crack is uniform, closing that port and transferring injection to the next when the resin is seen to have reached it. 12 to 18 hours after injection, the injection tubes should be broken off and any damage made good using NanoMortar FEP.</p>														



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Cleaning & Disposal

Tools and application equipment should be cleaned using NanoSolvent. Cured material can only be removed mechanically. Spillages should be absorbed with sand or sawdust and disposed of in accordance with local regulations.

Precautions/Limitations

- To eliminate risk of exotherm, this product should only be mixed when ready for use and then applied without delay. Any unused residue should be poured on to a disposable impervious surface to allow cure before disposal.
- NanoInjection Resin and NanoMortar FEP are non-flammable.
- NanoSolvent is flammable.
- Do not use near naked flames.
- No smoking during use.
- In the event of fire, extinguish with CO₂ or foam.

Health & safety

NanoInjection Resin and NanoMortar FEP, like similar products, are capable of irritating unprotected sensitive skin, we therefore recommend the use of a suitable barrier cream and the wearing of gloves and goggles.