



Specialist Construction Supplies for Repair, Maintenance, Building & Infrastructure

Epicon Grout S Data Sheet

Specification notes

Product: **Epicon Grout S**

Supplier:

Arcon Construction Supplies
19-20 Prestwood Court
Leacroft Road
Warrington
WA3 6SB

Tel: **01925 852225**

Email: mail@arconsupplies.co.uk

Web: www.arconsupplies.co.uk

Call **01925 852225** or visit [Arcon Construction Supplies](http://www.arconconstruction.com)
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Epicon Grout S

Epoxide Grout



Nufins

Description

Epicon Grout M is based on solvent free epoxy resins. It is one of five epoxy grouts in our range which are specified below. These cover the majority of grouting and fixing applications encountered within civil engineering and the construction industry in general, where the mechanical properties must be of the highest order. Tropical versions of the epoxy grout range are available for large pours and warmer climates. Epicon Grout S is designed to comply with the requirements of EN1504 Part 5, due to its crack injecting/gap filling applications.

Epoxide Grout Range

Epicon Grout RT:	A pourable grout for free flow gap grouting recommended for gaps over 25mm where low Exotherm is of consideration.
Epicon Grout L:	A pourable grout for free flow gap grouting recommended for gaps 20mm to 100mm.
Epicon Grout M:	A lightly filled pourable grout for free flow gap grouting recommended for gaps between 5-40mm.
Epicon Grout S:	An unfilled grout for gap and crack widths between 0.25-6mm, also suitable for injection applications.
Epicon Grout H:	A thixotropic grout for horizontal or inverted fixings.

Advantages

- Solvent free non-shrink system.
- Suitable for use on damp structures.
- Injection kit available to allow repairs to be completed quickly and simply.
- Will penetrate gaps of width 0.25mm to 6mm.
- Excellent performance in harsh environments.
- Good chemical and water resistance.

Technical Information

Viscosity	1450 cps
Specific Gravity	1.09
Workable Life	20-30 Minutes
Cure Time	24 Hours
Yield	910 cc/kg
Compressive Strength	90 MPa
Modulus of Elasticity, In Compression	>2000MPa
Tensile Strength	19 MPa
Flexural Strength	35 MPa
Shear Strength	12MPa
Adhesion to Concrete	>3Mpa

All tests conducted at 20°C, unless otherwise stated.

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Nufins, Kingston House,
3 Walton Road, Pattinson North, District 15,
Washington, Tyne & Wear. NE38 8QA
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0086-CPD-594215

EN 1504-5

Concrete injection product
U (F1) W (3) (1/2) (5/35) (0)

Intended use

Allowed minimum thickness of crack

Moisture state of the crack

Minimum and maximum use temperature

Crack movement during cure

Adhesive bond strength	>2 MPa
Slant shear strength	Monolithic failure
Shrinkage	<3%
Glass transition temperature	>40°C
Workability; Crack width from Moisture state of the crack	0.3mm Dry and damp
Durability	Pass
Corrosive behaviour	Deemed to have no corrosive effect
Dangerous substances	Complies with 5.4

Technical Properties of Epicon Grout S.

Properties	Standard	Performance Requirement	Declared Value
Appearance			Amber Liquid
Working time	EN ISO 9514		30 Minutes @ 20°C 55 Minutes @ 10°C 60 Minutes @ 5°C
Cure Time			24 Hours
Temperature for application			5°C to 35°C
Viscosity	EN ISO 3219		1450 cps @ 20°C
Injectability into dry medium; Percentage of the crack filled Splitting strength	EN1771	<4 minutes >90% >7 MPa	<4 minutes >90% >7 MPa
Injectability into non dry medium; Percentage of the crack filled Splitting strength	EN1771	<4 minutes >90% >7 MPa	<4 minutes >90% >7 MPa
Shrinkage	EN12617-2	<3%	<1%
Glass Transition Temperature	EN12614	≥ 40°C	≥ 40°C
Compressive Strength	EN12190	≥ 30 MPa	90 MPa
Tensile strength development	EN1543	>3MPa @ 72Hr	>3MPa @ 72Hr
Tensile Strength	BS6319-7		19 MPa
Flexural Strength	BS6319-3		35 MPa
Tensile Bond Strength to Concrete	EN12618-2	Substrate Failure	>2MPa Substrate Failure
Adhesion to Concrete	EN 1542	≥ 2.0 MPa	>2.0 MPa
Slant Shear Adhesion - Concrete	EN12615	Substrate Monolithic Failure	Substrate Monolithic Failure
Adhesion after thermal and wet/dry cycling	EN12618-2	< 30% reduction in strength	< 30% reduction in strength

Technical data shown are statistical results and do not correspond to guaranteed minima.

Tolerances are those described in appropriate performance standards.

1 N/mm² = 1 MPa

1 kN/mm² = 1 GPa



Kingston House, 3 Walton Road, Pattinson North, Washington, Tyne & Wear, NE38 8QA, United Kingdom

T: +44(0) 191 416 8360

F: +44(0) 191 415 5966

W: www.nufins.com

E: info@usluk.com



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Surface Preparation

All surfaces should be free from chemical contamination, oil, grease and debris. Oil and grease can be removed by using *Desolve*. Concrete should be scarified or acid etched using *Chemclean* to remove any laitance. Steel surfaces should be grit blasted to remove rust and scale. All surfaces should be free from standing water.

Mixing

The entire contents of the hardener tin should be poured into the base tin and slowly stirred using a pallet knife until the material is thoroughly mixed.

Application Instructions

Epicon Grout S is typically poured into horizontal cracks/gaps, however it can also be used to grout in machinery, bolts etc. When grouting under machinery the grout should be poured from one side only via a feed hopper. Care must always be taken to avoid air locking. The fixings should then be left undisturbed until the material has cured.

In addition to filling horizontal crack/gaps Epicon Grout S can also be used to inject vertical/inverted applications, however the crack will require some preparation to install injection nozzles as well as sealing the face of the crack with *Formfil*.

Instructions For Vertical & Inverted Injections

1. Mix the *Formfil* by placing a small amount of the resin paste onto a flat board, approximately the size of a golf ball. Squeeze out a strip of hardener approximately 25mm long and mix thoroughly with a putty knife until a smooth even colour paste is obtained.
2. Use the *Formfil* to bond on the injection nozzles using the locating pins to ensure the correct positioning and to seal the surface of the crack.
3. Ensure the nozzles do not become blocked with *Formfil*.
4. Nozzles should be bonded at between 200mm-500mm centres depending on the width and depth of the crack.
5. *Formfil* will harden in approximately 20 minutes after which time injection can commence.
6. Mix the Epicon Grout S as above.
7. Place the mixed resin into the assembled cartridge onto which is fixed the plastic tubing and a tube clamp. Fit into the skeleton gun.
8. Fix plastic tubing to the first inject nozzle and release the tube clamp, gently injecting the resin.
9. When the resin appears at the second nozzle cease injecting and plug the first nozzle. Repeat the operation for the subsequent nozzles.
10. Clean all equipment with Nuwash.
11. After 24 hours remove the nozzles and make good any surface defects with *Formfil*.

Storage

Epicon Grout S should be stored at room temperature. If stored in cold conditions the components should be warmed prior to use as this will greatly aid mixing and injection. Epicon Grout S should be stored away from foodstuffs and out of reach of children.

Formfil is inflammable (flash point is 31°C). Due precautions should be taken when handling and storing this material shelf life is 12 months when stored in a cool dry place.

Packaging

Epicon Grout S is available in 1.0kg and 5kg units, yielding 0.92 litres and 4.6 litres respectively.

Health and Safety

Epicon Grout S is capable of irritating unprotected sensitive skin. We therefore recommend the use of a barrier cream and the wearing of goggles and gloves.

When using *Formfil* do not smoke or allow naked flames during use. When sanding *Formfil* a suitable mask should be worn. *Formfil* is capable of irritating unprotected sensitive skin. We therefore recommend the use of a barrier cream and the wearing of goggles and gloves.

Limitations

If injecting below 5°C contact Nufins technical department. As with all Epoxy products an exotherm will be generated, which is volume dependent.

Technical Support

Through our technical department and laboratories we can offer a comprehensive service to specifiers and contractors.

Technical representatives are available to provide additional information and arrange demonstrations.



Kingston House, 3 Walton Road, Pattinson North, Washington, Tyne & Wear, NE38 8QA, United Kingdom
T: +44(0) 191 416 8360 F: +44(0) 191 415 5966 W: www.nufins.com E: info@usluk.com

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