

## Epicon Grout S

### Heavy Duty High Strength Epoxide Grout

#### Description

Epicon Grout S is based on solvent free epoxy resins and is one of four epoxy grouts in our range which are specified below. These cover the majority of grouting and fixing applications encountered within the civil engineering and construction industry where the mechanical properties must be of the highest order. All of the grouts are designed to comply with the requirements of EN 1504 Part 4.

#### Epoxide Grout Range

- Epicon Grout RT: Pourable free flowing grout, recommended for gaps over 25mm where a low exotherm is required.
- Epicon Grout L: Pourable free flowing grout, recommended for gaps of 20 - 100mm.
- Epicon Grout M: Lightly filled pourable free flowing grout, recommended for gaps of 5 - 40mm.
- Epicon Grout S: Unfilled pourable free flowing grout for gap and crack widths of 0.25 - 6mm. Also suitable for injection applications.

#### Advantages


- Solvent free non-shrink system
- Chemically resistant
- High compressive, tensile & flexural strengths
- Rapid strength gain resulting in high bond strength
- Excellent performance in harsh environments
- Waterproof

#### Applications

- Thin section grouting of machinery & plant
- Grouting bolts & fixings
- Crack, gap & void filling of width 0.25mm to 6mm
- Injection kit available to facilitate quick & easy installation

#### Technical Information

Viscosity	1450 cps
Specific gravity	1.09
Workable life	20-30 minutes
Cure time	24 hours
Yield	0.91 litre per kg

 0086	
Nufins, Kingston House, 3 Walton Road, Pattinson North, District 15, Washington, Tyne & Wear. NE38 8QA 23 0086-CPR-774186	
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
Glass transition temperature	≥40°C
Workability; Crack width from Moisture state of the crack	0.3 mm 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 Requirements	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
Application temperature			5°C to 35°C
Viscosity	EN ISO 3219		1450 centipoise @ 20°C
Injectability into dry medium	EN 1771	<4 minutes	<4 minutes
Percentage of the crack filled		>90 %	>90 %
Splitting strength		>7 MPa	>7 MPa
Injectability into non dry medium	EN 1771	<4 minutes	<4 minutes
Percentage of the crack filled		>90 %	>90 %
Splitting strength		>7 MPa	>7 MPa
Glass transition temperature	EN 12614	>40°C	>40°C
Compressive strength	EN 12190	≥30 MPa	90 MPa
Tensile strength development	EN 1543	>3 MPa @ 72 hours	>3 MPa @ 72 hours
Compressive elastic modulus			>2000 MPa
Tensile strength	BS 6319-7		19 MPa
Flexural strength	BS 6319-3		35 MPa
Tensile bond strength to concrete	EN 12618-2	Substrate failure	>2 MPa Substrate Failure
Adhesion to concrete	EN 1542	≥2.0 MPa	>3.0 MPa
Slant shear adhesion - Concrete	EN 12615	Substrate Monolithic Failure	Substrate Monolithic Failure
Adhesion after thermal and wet/ dry cycling	EN 12618-2	<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.

All testing was conducted at 23°C under laboratory conditions, unless otherwise stated.

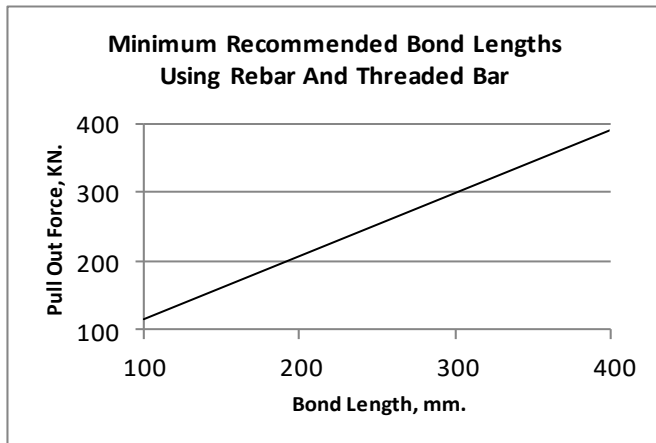
1 N/mm<sup>2</sup> = 1MPa

1 kN/mm<sup>2</sup> = 1 GPa

## Bond Strength Development

The bond strength of Epicon Grout S is dependent upon several factors, the main of which are:

- Strength of surrounding material
- Method of drilling hole
- Type of fixing
- Resin bond length, see below



## Surface Preparation

Surfaces should be clean, sound and visibly dry, free from oils, grease, loose material and dust. Steel surfaces should be cleaned by grit-blasted to a SA 2.5 standard. Plastic surfaces should be roughened with abrasive paper.

All standing water, dust and debris must be removed from holes, gaps and cracks, preferably by compressed air, leaving sound clean substrates.

For grouting under machinery, it may be necessary to install shutter restraint and to construct a simple hopper if required, to provide a head of grout, enabling it to flow and fill voids beneath baseplates. We recommend that grout is filled and levelled to the upperside of baseplates. Where shuttering is used, a suitable silicone or wax based release agent should be applied to avoid adhering of the grout.

## Mixing

In low temperatures it is important to store and precondition the material in a warm environment, and where possible, to warm the substrate prior to application.

Pour the entire contents of Epicon Grout S hardener into the Epicon Grout S base tin and mix with a high-torque slow speed drill and appropriate 80mm paddle approx for 1 - 2 minutes until thoroughly mixed, taking great care not to entrain excess air, until a homogenous lump-free grout is achieved.

Each mix should be allowed to stand for 1 - 3 minutes before pouring to allow the product to de-aerate.

## Application Instructions

Epicon Grout S should be carefully placed by poured application. Mix sufficient material to complete placing in one uninterrupted pour to achieve a monolithic body of material. Use immediately.

Cracks or gaps in decks can be filled directly or by loading mixed resin into an empty skeleton gun cartridge, for application by skeleton gun.

For grouting under baseplates, place the product from one side only via a hopper to avoid air inclusions, ensuring continuous free flow of the grout. Should more than one mix be required this must be carefully planned to maintain supply to the hopper.

Where grout is being poured into fixing holes the grout should be poured slowly, taking care to prevent air entrapment. The fixing should then be slowly inserted into the resin and checked for full bonding. Leave the fixing undisturbed until the grout has cured.

Epicon Grout S can be pumped with manually operated pump equipment.

## Cleaning

Mixing equipment and tools should be cleaned immediately after use and frequently through the day to avoid product build up, using Nuwash.

## Storage

The shelf life is 12 months when stored unopened in dry, normal conditions and away from direct sunlight. Protect from frost. If stored in cold conditions the components should be warmed prior to use as this will greatly aid mixing and injection.

## Packaging

Epicon Grout S is available in 1kg units (yield approx 0.9 litres) and 5kg units (yield approx 4.6 litres).

## Health and Safety

Product Safety Data Sheets (SDS) are available from Nufins. SDS sheets are provided to help customers satisfy their safe handling, use and disposal needs as well as assist with any conformance requirements made locally by health and safety regulations.

SDS are continually updated to provide the latest information to our customers. We therefore recommend contacting our head office to obtain the most recent and accurate SDS before handling and using any product.

## Limitations

For application below 5°C contact Nufins technical department. As with all epoxy products an exotherm will be generated, which is volume dependent.

## Disclaimer

The information contained herein is to the best of our knowledge true and accurate and is given in good faith but without warranty. The user will be deemed to have satisfied themselves independently as to the suitability of our products for their own particular purpose. In no event shall Nufins be liable for consequential or incidental damages.

Users must always refer to the most recent issue of the Technical Datasheets, copies of which will be supplied on request.

## Technical Support

Through our technical department and laboratories we can offer a comprehensive service to specifiers and contractors. Technical contacts are available to provide additional information and arrange demonstrations.