

# Epicon Grout RT

## Epoxide Grout



# Nufins

### Description

Epicon Grout RT 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. All of the grouts are designed to comply with the requirements of EN1504 Part 4.

### 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.
- No priming required.
- Chemically resistant.
- High compressive, tensile and flexural strengths.
- Rapid strength gain resulting in high bond strength.
- High dynamic load bearing tolerance.
- Excellent performance in harsh/extreme environments

### Applications

- Grouting in machinery, turbines, centrifuges etc.
- Heavy duty fixing of large elements.
- Grouting beneath heavy crane and transporter rails.
- Production of high strength bearing plinths.

### Technical Information


#### Strength development

	24 Hour	72 Hour	7 Day	28 Day
Epicon Grout RT	70 MPa	80 MPa	90 MPa	93 MPa

#### Working Life

Application Temperature	Pot Life
23°C	50 Minutes
10°C	115 Minutes
5°C	170 Minutes

All tests conducted at 23°C, unless otherwise stated.

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EN 1504-4 Structural bonding	
Compressive strength	≥30 MPa
Modulus of elasticity, in compression	≥2000 MPa
Shear strength	≥12 MPa

	Result	Test Reference
Adhesion, to Concrete	≥ 6.0 MPa	EN 1542
Slant Shear Adhesion, to Steel	$\Theta 50^\circ = \geq 50\text{MPa}$ $\Theta 60^\circ = \geq 60\text{MPa}$ $\Theta 70^\circ = \geq 70\text{MPa}$	EN 12188
Shear Strength	28 MPa	EN 12188
Tensile Strength	19 MPa	BS 6319-7
Modulus of Elasticity, in Compression	≥ 10 GPa	EN 13412
Flow	≥ 3 000mm <sup>2</sup>	EN 1799
Shrinkage	≤ 0.1%	EN12617-1
Yield, per 32 kg Pack	14.5 Litres	

## Technical Properties of Epicon Grout RT.

Properties	Standard	Performance Requirement	Declared Value
Appearance			Black Resinous Grout
Max. aggregate size			8mm
Layer minimum thickness			25mm
Working time	EN ISO 9514		45 minutes
Hardening Time			90-120 Minutes
Density			2050-2200 kg/m <sup>3</sup>
Temperature for application			Between +5°C & +35°C
Flow/Squeezability test	EN 1799	≥3000 mm <sup>2</sup>	≥3000 mm <sup>2</sup>
Compressive Strength @ 23°C	EN 12190	≥ 30 MPa	70 MPa @ 24 Hr 80 MPa @ 3 Days 90 MPa @ 7 Days 93 MPa @ 28 Days
Compressive Strength @ 5°C	EN 12190		39 MPa @ 24 Hr 70 MPa @ 3 Days 80 MPa @ 7 Days 85 MPa @ 28 Days
Compressive Elastic Modulus	EN13412	≥ 2 GPa	≥ 10 GPa
Tensile Strength	BS6319-7		21 MPa
Flexural Strength	BS6319-3		34 MPa
Flexural Elastic Modulus	EN ISO 178	≥ 2 GPa	≥ 10 GPa
Slant Shear Adhesion - Concrete	EN12615	≥ 6 MPa	≥ 6 MPa
Slant Shear Adhesion - Steel	EN12188	≥ 50 MPa @ Ø50° ≥ 60 MPa @ Ø60° ≥ 70 MPa @ Ø70°	≥ 50 MPa @ Ø50° ≥ 60 MPa @ Ø60° ≥ 70 MPa @ Ø70°
Shear Strength	EN12188	≥ 12 MPa	28 MPa
Slant Shear Strength	EN12188		33 MPa
Glass Transition Temperature	EN12614	≥ 40°C	≥ 40°C
Coefficient of Thermal Expansion	EN1770	≤100 x 10 <sup>-6</sup> Per K	≤100 x 10 <sup>-6</sup> Per K
Total shrinkage	EN12617-1	≤ 0.1%	≤ 0.1%

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

Tolerances are those described in appropriate performance standards.

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

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

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



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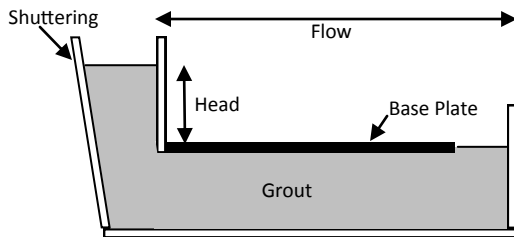
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### Flow Characteristics

The maximum distance of flow is governed by the gap size, head of grout applied and the temperature at the time of pouring. The table below gives typical values for flow design.

Temperature	Gap width	Hydrostatic head	Max flow
20°C	80mm	250mm	750mm



### 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 all rust and scale. All surfaces should be free from standing water.

It will be necessary to use shuttering and construct a simple hopper system to give the grout a "head" of material enabling it to flow into the void, see diagram.

We would also recommend the use of a suitable release agent on the shuttering such as a silicone spray or wax polish to ease stripping once the grouting has been completed.

### Mixing

The entire contents of the Epicon Grout RT hardener should be thoroughly mixed with the entire contents of the Epicon Grout base. This can be carried out in the plastic bucket supplied, or in the base resin tin. The aggregate is then added to the mixed resin in the mixing vessel and thoroughly mixed till an even consistency is obtained.

It is recommended that a forced action mechanical mixer be used. Alternatively a slow speed drill fitted with an appropriate paddle may be utilised, taking care not to entrain air.

### Application

When grouting into the void, the grout should be passed from one side only via a feed hopper. It is important that this is a continuous feed. Should more than one mix be required this must be carefully planned to maintain the feeding of the hopper.

All equipment should be cleaned immediately after use with Nuwash.

### Packaging

Epicon Grout RT is available in 32kg (14.5 litres yield).

### Storage

Epicon Grout RT 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 pouring. Epicon Grout RT should be stored away from foodstuffs and out of reach of children.

### Health and Safety

Epicon Grout RT, like all other similar products, is capable of irritating unprotected sensitive skin. We therefore recommend the use of a barrier cream and the wearing of gloves and goggles.

### Limitations

If grouting below 5°C contact Nufins technical department.

### 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.



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