Technical Datasheet

Epicon Grout L

Epoxide Grout

Description

Epicon Grout L 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.

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
- Fixing/holding down bolts, starter bars, anchors etc
- 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 L	70 MPa	80 MPa	88 MPa	90 MPa

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EN 1504-4

Structural bonding

Compressive strength	≥30 MPa
Modulus of elasticity, in compression	≥2000 MPa
Shear strength	≥12 MPa

Working Life

Application Temperature	Pot Life
20°C	50 Minutes
10°C	115 Minutes
5°C	170 Minutes

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Technical properties of Epicon Grout L.

Properties	Standard	Performance Requirement	Declared Value
Appearance			Black Resinous Grout
Max. aggregate size			0.3mm
Layer minimum thickness			5mm
Working time (@ 23°C)	EN ISO 9514		40 minutes
Hardening Time (@ 23°C)			90-120 Minutes
Density			1950-2100 kg/m^3
Temperature for application			Between +5°C & +35°C
Flow/Squeezability test	EN 1799	≥3000 mm^2	≥3000 mm^2
Compressive Strength @ 23°C	EN 12190	≥ 30 MPa	70 MPa @ 24 Hr 80 MPa @ 3 Days 88 MPa @ 7 Days 90 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 @ Θ50° ≥ 60 MPa @ Θ60° ≥ 70 MPa @ Θ70°	≥ 50 MPa @ Θ50° ≥ 60 MPa @ Θ60° ≥ 70 MPa @ Θ70°
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^{-6} Per K	≤100 x 10^{-6} Per K

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

Tolerances are those described in appropriate performance standards.

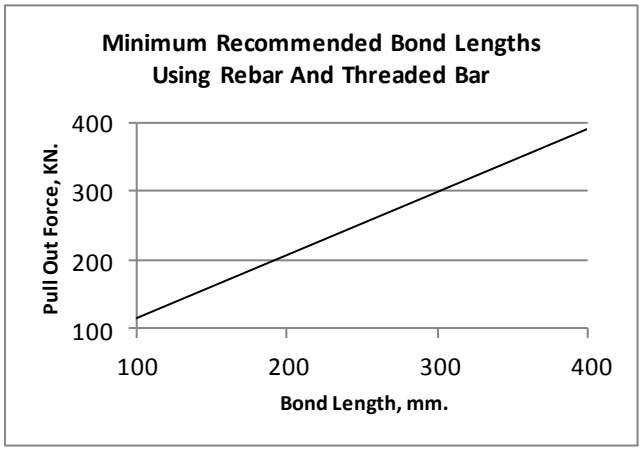
1 N/mm^2 = 1MPa

1 kN/mm^2 = 1 GPa

Bond Strength Development

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

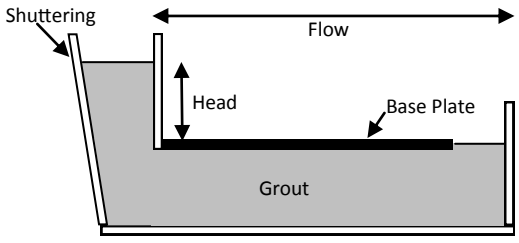
- Strength of surrounding material.
- Method of drilling hole.
- Type of fixing.
- Resin bond length, see below.



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.

Holes should be drilled to the required depth and diameter using a rotary percussive drill and all dust and debris removed using either compressed air or a bottle brush. For grouting under machinery etc., 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 under the machinery.

Mixing

The entire contents of the Epicon Grout L 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 for the larger packs. 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 pouring under machinery etc., 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.

Where grout is being poured into fixing holes the grout should be poured slowly and carefully to prevent air locking. The fixing should then be slowly inserted into the resin and checked for full bonding. The fixing should be left undisturbed until the grout has cured. All equipment should be cleaned immediately after use with Nuwash.

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Packaging

Epicon Grout L is available in 4.5kg and 20kg units, yielding 2.2 litres and 10 litres respectively.

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 pouring.

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

If grouting below 5^{o}C contact Nufins technical department.

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.

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