

Technical Datasheet

Confil Grout



Polyester Resin Anchor

Description

Confil Grouts are based on polyester resins, intended for quick and easy installation. Available in two versions (pourable & thixotropic), these quick curing grouts are designed for anchoring fixings into concrete, masonry & brickwork. Each version is available in two grades, either standard setting or rapid setting, which compensates for seasonal fluctuation and other temperature variation.

- Confil Grout** Pourable grout for application into horizontal substrates.
- Confil H.P. Grout** Thixotropic grout for use with a mastic gun in vertical and inverted locations.

Advantages


- Quick curing combined with rapid gain in bond strength
- Standard set, or rapid set for winter or low temperature use
- Easy to mix & install
- High compressive, tensile & flexural strengths
- Excellent bond strength to steel & concrete
- Economical: quantities mixed as required
- Excellent water & chemical resistance
- Resistant to vibration & impact

Applications

- Fixing of starter bars & dowels
- Anchoring crash barriers, railings & parapets
- Grouting airport runway lights & cable ducts
- Underwater fixings
- Grouting in tiles & mosaics
- Fixing rail track pandrols
- Anchoring fastening bolts for machinery, pylons, masts etc.

Technical Information

Compressive strength	Confil Grout	Confil HP Grout
2 hour	74 MPa	70 MPa
24 hours	98 MPa	94 MPa
7 days	105 MPa	104MPa
Density	1880 kg/m ³	1830 kg/m ³

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Nufins, Kingston House, 3 Walton Road, Pattinson North, District 15, Washington, Tyne & Wear. NE38 8QA 13 0086-CPR-594215	
EN 1504-6 Anchoring product	
Pull-out displacement	≤0.6 mm @ 75kN
Chloride ion content	<0.05 %
Glass Transition temperature	>45°C
Reaction to fire	Euroclass B
Creep under tensile load	Displacement <0.6 mm
Dangerous substances	Complies with 5.3

The anchorage strength of fixings when placed using Confil Grout is dependent on several factors, the main ones being:

- Strength of substrate material.
- Method of drilling hole.
- Type of fixing.
- Resin bond length.

Typical 24 hour results using high yield steel bars. Holes drilled using a rotary percussive drill.

Drill bit Dia.	Bar Dia.	Bar Type	Bond Length	Pull Out Strength	Failure Type
20	16	Ribbed	200	100	Bar yield
32	25	Ribbed	280	181	Bar yield
50	40	Ribbed	770	555	No failure
32	22	Black steel smooth	595	181	Bond failure



Technical properties of Confil Grout

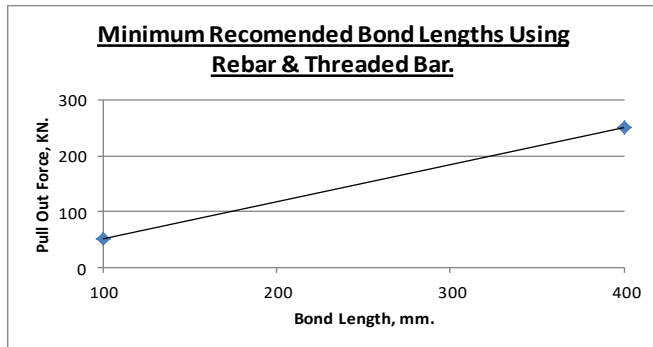
Properties	Standard	Performance Requirement	Declared Value Confil Grout	Declared Value Confil H.P. Grout
Appearance			Pourable resinous grout	Thixotropic resinous grout
Chloride-ion content	EN 1015-17	≤0.05 %	0.00 %	0.00 %
Aggregate size			Max. 1.0 mm	Max. 1.0 mm
Minimum layer thickness			3 mm	3 mm
Maximum layer thickness			20 mm*	20 mm*
Working times				
Standard Set			30 minutes	30 minutes
Rapid Set			20 minutes	20 minutes
Hardening time			45 minutes	45 minutes
Density			1880 kg/m ³	1830 kg/m ³
Application temperatures			5°C to 35°C	5°C to 35°C
Compressive strength @ 20°C	EN 12190		74 MPa @ 2 hours 90 MPa @ 4 hours 98 MPa @ 24 hours 100 MPa @ 3 days 105 MPa @ 7 days	70 MPa @ 2 hours 83 MPa @ 4 hours 94 MPa @ 24 hours 98 MPa @ 3 days 104 MPa @ 7 days
Tensile strength	BS 6319-7		17.0 MPa	15.0 MPa
Elastic modulus	EN 13412		10 GPa	10 GPa
Adhesion - concrete	EN 1542		>2.0 MPa	>2.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	EN 13687-1		>2.0 MPa	≥2.0 MPa
Adhesion after thunder showers (30 cycles)	EN 13687-2		>2.0 MPa	>2.0 MPa
Adhesion after dry cycling (30 cycles)	EN 13687-4		> .0 MPa	>2.0 MPa
Glass transition temperature	EN 12614	≥45°C	>45°C	>45°C
Creep under tensile load	EN 1544	≤0.6 mm	0.4 mm	0.4 mm
Pull-out displacement	EN 1881	≤0.6 mm	0.4mmmm	0.4 mm
Reaction to fire	EN 13501-1		Class B s1 d0	Class B s1 d0
Dangerous substances	EN 1504-6		Complies with 5.3	Complies with 5.3

Note: Results are based on a full 2 litre pack being mixed and cured at 20°C, unless otherwise stated.

*For application greater than 12mm please refer to our technical department.

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

Tolerances are those described in appropriate performance standards.



Surface Preparation

Surfaces should be clean, sound and preferably dry, free from oils, grease and loose material and dust. Steel surfaces should be grit blasted to a SA 2.5 standard. Holes drilled, to the required depth and diameter should have all dust and debris removed.

For grouting under machinery, it will be necessary to install shutter restraint and to construct a simple hopper to provide a head of grout, enabling it to flow and fill voids beneath baseplates. If shuttering is used, a suitable silicone or wax based release agent should be applied to avoid adhering of the grout.

Mixing

Care should be taken not to mix more material than can be used within its setting time. 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.

Remove both tins of Confil resin and both bags of the sand/catalyst from the outer tub; the tub may be used for mixing. Mix in the ratio 1 tin of resin to 1 bag of sand/catalyst. Always add sand/catalyst to the liquid.

Half-pack mixing: pour all of the resin from 1 tin into the mixing vessel and whilst continuously mixing with a high-torque slow speed drill and appropriate 80mm paddle, gradually add the entire contents from 1 bag of sand/catalyst. Mix for 2-3 minutes until a homogenous lump-free grout is achieved.

Full-pack mixing: pour both tins of resin into the mixing vessel and whilst the drum is rotating, gradually add the entire contents of both bags of sand/catalyst. Mix for 2-3 minutes until a homogenous lump-free grout is achieved. A suitable forced action or pan type paddle mixer can be used for large volume operations.

Application Instructions

Confil Grout

For grouting under machinery, the grout should be poured from one side only via a feed 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.

Confil H.P. Grout

When utilising a hand pump/mastic/skeleton gun for vertical or inverted applications the barrel should be filled with mixed grout and an if necessary, an appropriate extension tube fitted over the nozzle, in order to reach the full depth of the hole. Slowly extrude grout into the hole whilst withdrawing the pump and tube. Push the fixing slowly into the grout and check for full bonding then leave undisturbed until the grout has cured.

Clean all tools and equipment immediately after use with Nuwash.

Packaging

Confil Grout & Confil H.P. Grout are available in 2 litre (2 x 1 litre) units and 10 litre (2 x 5 litre) units.

1 Litre Single Use Cartridges & 1 Litre Skeleton Guns are available and must be ordered separately.

Nuwash is available in 5 litre & 20 litre drums.

Storage

Confil Resin is flammable (flash point is 31°C), due precautions should be made when handling and storing this material.

The shelf life is 6 months when stored unopened in dry, normal conditions and away from direct sunlight. Protect from frost.

Health & 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 very 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 use below 5°C consult our technical department.

Caution

Where the hole diameter is 20mm or greater than the diameter of the fixing, then we recommend the installation of a suitable epoxy grout: Epicon Grout M, L, S or Epicon Injection Resin, depending on the application.

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 further information and arrange demonstrations.