

Confil Grout

Polyester Resin Anchor



Nufins

Description

Confil Grouts are based on polyester resins designed for quick and easy mixing. Available in two grades, these quick curing grouts are designed for anchoring fixings into concrete, masonry, brickwork, etc. Each grade is available in two versions a standard set and rapid set, these grades are:-

Confil Grout - Pourable grout for horizontal applications.

Confil H.P. Grout - Thixotropic grout for use with a mastic gun in vertical and inverted applications.

Advantages

- Quick curing combined with rapid bond strength gain.
- Available in a standard and rapid set versions, for winter or cold temperature applications.
- Quick, easily mixed and applied.
- High compressive, tensile and flexural strengths.
- Excellent bond strength to steel and concrete.
- Economical - quantities mixed as required.
- Excellent water and chemical resistance.
- Resistant to vibration and impact.

Applications

- Fixing of starter bars, dowels.
- Fixing of crash barriers, railings and parapets.
- Grouting in of airport runway lights and cable ducts.
- Underwater fixings.
- Grouting in tiles and mosaics.
- Fixing pandrols on rail tracks
- Grouting in holding down bolts on machinery, pylons, masts etc.

Technical Information

Compressive Strength	Confil Grout	Confil HP Grout
2 Hour	74 MPa	70 MPa
24 Hour	98 MPa	94 MPa
7 Day	105 MPa	104MPa
Density	1880 kg/m ³	1830 kg/m ³
Tensile Strength	17 MPa	
Flexural Strength	28 MPa	
Modulus of Elasticity, In Flexure	13 GPa	
Modulus of Elasticity, In Compression	10 GPa	
Glass Transition Temperature	≥45°C	
Creep Under Tensile Load	≤0.6mm	
Pull Out Displacement	≤0.6mm	

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Nufins, Kingston House, 3 Walton Road, Pattinson North, District 15, Washington, Tyne & Wear. NE38 8QA 13	
0086-CPD-594215 EN 1504-6 Anchoring product	
Pull-out displacement	≤0.6mm @ 75KN
Chloride ion content	<0.05%
Glass Transition temperature	>45°C
Reaction to fire	Euroclass B
Creep under tensile load	Displacement <0.6mm
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
20mm	16mm	Ribbed	200mm	100kN	Bar Yield
32mm	25mm	Ribbed	280mm	181kN	Bar Yield
50mm	40mm	Ribbed	770mm	555kN	No Failure
32mm	22mm	Black steel Smooth	595mm	181kN	Bond Failure

Technical Properties of Confil Grout & Confil H.P. 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	EN1015-17	≤0.05%	0.00%	0.00%
Aggregate size			Max. 1.0mm	Max. 1.0mm
Minimum Layer thickness			5mm	5mm
Working times Standard Set Rapid Set			30 Minutes 20 Minutes	30 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	EN 12190		74 MPa @ 2 Hour 90 MPa @ 4 Hour 98 MPa @ 24 Hour 100 MPa @ 3 Days 105 MPa @ 7 Days	70 MPa @ 2 Hour 83 MPa @ 4 Hour 94 MPa @ 24 Hour 98 MPa @ 3 Days 104 MPa @ 7 Days
Tensile Strength	BS6319-7		17.0 MPa	15.0 MPa
Elastic modulus	EN13412		10 GPa	10 GPa
Adhesion - concrete	EN1542		> 2.0 MPa	> 2.0 MPa
Adhesion after freeze/thaw (50 cycles with salt)	EN13687-1		> 2.0 MPa	≥ 2.0 MPa
Adhesion after thunder showers (30 cycles)	EN13687-2		> 2.0 MPa	> 2.0 MPa
Adhesion after dry cycling (30 cycles)	EN13687-4		> 2.0 MPa	> 2.0 MPa
Glass Transition Temperature	EN12614	≥ 45°C	> 45°C	> 45°C
Creep Under Tensile Load	EN1544	≤0.6mm	0.4mm	0.4mm
Pull Out Displacement	EN1881	≤0.6mm	0.4mm	0.4mm
Reaction to Fire	EN13501-1		Class B s1 d0	Class B s1 d0
Dangerous Substances	EN1504-6		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. 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

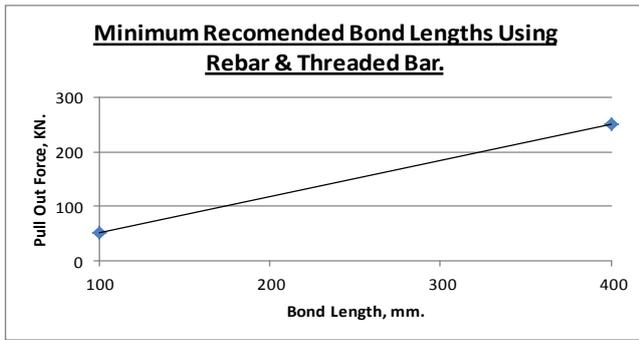
1kN/mm² = 1 GPa



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Surface Preparation

Surfaces should be clean and free from loose and unsound material. Oil and grease should be removed using Desolve. Surfaces should be scarified or etched using Chemclean to remove any laitance. Steel surfaces should be grit blasted to remove all rust and scale to a SA2.5 standard. All surfaces should be free of standing water. However the material can be placed under water providing care has been taken to remove all contamination from the bond interface. Holes drilled, to the required depth and diameter, with a percussive drill should have all dust and debris removed using compressed air or a bottle brush. For grouting under machinery it will be necessary to use shuttering and construct a simple hopper to give the grout a "head" of material, enabling it to flow under the machinery.

Mixing

Remove the can of Confil Resin and the bags of hardener/ aggregate contained within the plastic mixing bucket. Pour the required amount of resin into the mixing bucket and add the hardener/aggregate slowly with continuous mixing until a grout/thixotropic grout consistency is achieved, depending upon the grade being used. Small packs may be mixed by hand or with a drill and paddle, however large quantities should be mixed in a suitable forced action or pan type paddle mixer. Care should be taken not to mix more than can be used within the setting time of the material.

Application Instructions

Confil Grout

If formwork is used a suitable silicone or wax based release agent should be used to avoid the sticking of the 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 gun for vertical or inverted applications the pump should be filled with grout and a tube fitted, which can be introduced into the full depth of the hole. Slowly place the grout in 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 is available in 2.0 Litre and 10 Litre units.

Storage

Confil Resin is flammable (flash point is 31°C), due precautions should be made when handling and storing this material. Shelf life is 6 months when stored correctly in sealed containers, however at higher temperatures this period will be reduced. Store away from food stuffs and out of the reach of children. Store in cool dry conditions.

Health & Safety

Confined areas should be well ventilated. Do not smoke or allow naked flames during use. Confil Grout, as with similar products, is capable of irritating unprotected sensitive skin, therefore the use of gloves and suitable barrier cream is recommended.

Limitations

For use below 5°C consult our technical department.

Caution

Where the diameter of the hole is greater than 20mm larger than the diameter of the fixing then we recommend the use of Epicon Grout M, L or H, depending upon application.

Technical Support

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



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