



Specialist Construction Supplies for Repair, Maintenance, Building & Infrastructure

Nugrout Superflow Data Sheet

Specification notes

Product: **Nugrout Superflow**

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Nugrout Superflow

Free Flowing Cementitious Grout



Nufins

Description

A high strength free flowing cementitious grout based on non-reactive aggregates, shrinkage compensated Portland cements and selected admixtures which produce a chloride free grout, containing no corrosive metallic additives. Nugrout Superflow contains a maximum nominal size aggregate of 2mm and is suitable for many different grouting, bedding and void filling applications. Nugrout Superflow has been formulated to comply with the requirements of EN1504 Part 3 Class R4.

Advantages

- Non-shrink through controlled expansion.
- High early compressive and flexural strengths.
- Resistant to vibration and impact.
- Excellent bond strength to reinforcement steel and concrete.
- Contains no corrosive metallic additives.
- Tolerant to freeze/thaw cycles.
- Excellent flowability and placement characteristics.
- Conforms with EN1504 Part 3 Class R4.

Applications

- Production of bearing plinths.
- Crane rail bedding and alignment.
- Grouting of starter bars, holding down bolts, etc.
- Bedding of pre-cast concrete beams.
- Repair to spalled and cracked concrete.
- Grouting of machinery and turbines etc.

Technical Information

Tested in accordance with EN12190. Typical compressive strengths of 100mm cubes.

Compressive Strength	
24 Hour	30 N/mm ²
3 Days	40 N/mm ²
7 Days	48 N/mm ²
28 Days	60 N/mm ²
Typical Density	2150-2300 kg/m ³
Water Addition (Per 25kg pack)	2.75-4.0 Litres

Note: Strengths based on 4 Litre water addition.

Expansion (ASTM C827-01)	0.25-2.5%
Efflux test/Flow Cone (ASTM C939-02)	20-35 Seconds
Modulus of Elasticity, In Compression	20 kN/mm ²
Flexural Strength	8.3 N/mm ²
Modulus of Elasticity, In Flexure	22 kN/mm ²
Application Thickness	10mm to 80mm

For application thicknesses above 80mm please refer to Nufins technical department.

Surface Preparation

Surfaces should be clean and free from loose and unsound material. Any oil and grease should be removed using *Desolve*. Concrete should be roughened and all laitance removed.

Surfaces should be thoroughly wetted for a period of 2 hours and any surplus water removed before placement. Allow to become surface dry thus obtaining a saturated, surface dry condition.

Mixing

Mixing may be carried out in a forced action or pan type paddle mixer of a size suitable for the quantity to be prepared for use at one time. The part mixing of bags of material is not recommended. The mixer should be of a type that will thoroughly mix the material and water without leaving residual unmixed material, or cause 'balling'.

The contents of each bag of Nugrout Superflow requires mixing with clean water only. The mixer drum is to be clean and free from the remains of previous mixes. Thoroughly wet the inside of mixer drum and drain off excess water. Measure out mixing water 2.75-4.0 Litres per 25kg bag. Add two thirds of the mixing water into the drum. With the mixer rotating add the full contents of the bag and allow to mix for one minute. Add all or part of the remaining water and allow to mix until a homogeneous mix of the correct consistency is produced, up to 4 minutes depending on the type of mixer used. Pour mix into a container and allow to de-air for 2-3 minutes. Use as required.

Technical properties of Nugrout Superflow.

Properties	Standard	Performance Requirement	Declared Value
Appearance			Grey Powder
Chloride-ion content	EN1015-17	≤0.05%	<0.05%
Maximum aggregate size			2mm
Layer thickness Minimum/maximum			10mm-80mm*
Working time (@ 20°C)			45-60 Minutes
Hardening Time (@ 20°C)			4-18 Hours
Density			2150-2300 kg/m ³
Expansion	ASTM C827-01		0.25-2.5%
Temperature for application			Between +5°C & +35°C
Compressive Strength @ 20°C	EN 12190	≥ 45 N/mm ²	30 N/mm ² @ 24 Hour 40 N/mm ² @ 3 Days 48 N/mm ² @ 7 Days 60 N/mm ² @ 28 Days
Elastic Modulus, in Compression	EN13412	≥ 20 kN/mm ²	20 kN/mm ²
Flexural Strength	BS6319-3		8.3 N/mm ²
Elastic Modulus, in Flexure	BS6319-3		22 kN/mm ²
Tensile Strength	BS6319-7		3.8 N/mm ²
Adhesion - Concrete	EN1542	≥ 2.0 N/mm ²	≥ 2.0 N/mm ²
Adhesion after freeze/thaw (50 cycles with salt)	EN13687-1	≥ 2.0 N/mm ²	≥ 2.0 N/mm ²
Adhesion after thunder showers (30 cycles)	EN13687-2	≥ 2.0 N/mm ²	≥ 2.0 N/mm ²
Adhesion after dry cycling (30 cycles)	EN13687-4	≥ 2.0 N/mm ²	≥ 2.0 N/mm ²
Skid Resistance	EN13036-4		Class 1
Carbonation resistance	EN13295	$d_k \leq \text{ref. concrete}$	$d_k < \text{ref. concrete}$
Capillary absorption	EN13057	$\leq 0.5 \text{ kg/m}^2/\text{h}^{-0.5}$	$\leq 0.5 \text{ kg/m}^2/\text{h}^{-0.5}$
Cracking tendency	Coutinho Ring Test		No cracking after 180 days

* For applications greater than 80mm please refer to technical department.

Note: Strengths are based on 4.0 litres water addition.

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

Tolerances are those described in appropriate performance standards.



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Application Instructions

Nugrout Superflow may be placed by pouring, remembering that flowability decreases with increases in temperature and time. Always mix sufficient material to complete placing in one uninterrupted pour.

Place the product from one side only so as to avoid air inclusions and ensuring continuous free flow of the grout.

Grouting should not take place in temperatures of 5°C or below, unless steps have been taken to protect the concrete and surrounding areas from these conditions.

Where formwork is involved it is essential that it is well sealed to prevent grout loss and coated with Chemlease to obtain an easier strip.

Curing

The placed material must be cured immediately after finishing, using good concrete practice.

The preferred method is to apply one of Nufins curing compounds directly onto the grouted area. These have been designed specifically to maximise the performance of the Nugrout range. If this is not possible then the grout should be protected with polythene sheeting which has been taped down to form a draught proof area.

Packaging

Nugrout Superflow is supplied in 25kg polythene lined sacks, approximate yield is 13.2 litres.

Storage

Store in cool dry conditions.

Health & Safety

Nugrout Superflow does not present any undue hazard and is non-toxic. As with all cementitious materials it is slightly alkaline, therefore gloves and goggles should be worn and any material should be washed from the skin and eyes with clean water before it dries.

Limitations

Excessive water additions will reduce strengths and can cause segregation within the mix which may limit the flow.

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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