SOPRA
CONSTRUCTION CHEMICALS

Product Data Sheet

SOPRA GROUT NS

Description

SOPRA GROUT NS is a one-component cement-based construction grout that is ready to use, with shrinkage compensating mechanism. It can be applied in the form of fluid to plastic consistencies.

Recommended Uses

SOPRA GROUT NS can be used in the following applications:

- General purpose grouting
- Column and machinery base plates
- Anchoring bolts, reinforcing bars &bearing plates
- Trowel application as medium consistency
- Pump or pour applied
- Structural repairing
- Filling voids, cavities and gaps
- On grade, above and below grade
- Interior and exterior application

Features and benefits

- Easy to use (ready to used bags)
- Non-shrinkage properties in plastic and cured state
- High early strength for rapid installation
- Good adhesion bond to concrete, brick and wood
- Chloride free
- Resistance to grease and oil
- Durable, uniform dense structure
- Applied in a thickness ranging from 20-150 mm

Standards Compliance

SOPRA GROUT NS complies with the following standards:

- In accordance with ASTM C 827-87 & ASTM 191-92
- Meets the requirements for Class R4 of BS EN 1504-3 and BS EN1504-6

Packaging

SOPRA GROUT NS is available in 25kg moisture resistance bags and pallets of 1.5 tons.

Storage

SOPRA GROUT NS has a shelf life of 12 months. Store away from direct sunlight, protected from rainfall.

Properties

Appearance	Grey powder
Wet density	2250 kg/m^3
Coverage	0.015 m^3per 25kg

Technical Information

SOPRA GROUT NS was tested in accordance to BS EN 191-1 (method of testing cement).

Compressive strength @ 25˚C (N/mm^2)			
Age	Plastic	Flowable	Fluid
1 day	31	28	26
7 days	59	56	49
28 days	67	61	56

CompliesBS EN Class R4 & ASTM C-942

Flexural strength @ 25˚C (N/mm^2)			
Age	Plastic	Flowable	Fluid
1 day	3.8	2.9	2.1
7 days	6.4	6.1	5.7
28 days	7.6	6.8	6.3

Complies with BS EN 196 & ASTM C-293

Tensile Adhesion bond @ 25˚C (N/mm^2)			
Age	Plastic	Flowable	Fluid
28 days	13.6	12.9	12.8

Complies with ASTM C-882

Pull-out resistance @ 25˚C (mm)	
Age	Displacement
28 days	< 0.6mm at load of 75KN

Complies with BS EN 1881

Expansion @ 25˚C & 50% R.H (%)			
Age	Plastic	Flowable	Fluid
28 days	+0.023	+0.043	+0.017

Complies with ASTM C-1090

Setting time @ 25˚C & 50% R.H (hrs)			
Consistency	Plastic	Flowable	Fluid
Initial	3	4	4.5
Final	6	6.5	7

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Application Instructions

a) Surface preparation

The concrete surface should be free of frost, curing membranes, oil stains, grease, paint and dust. The surface in which ***SOPRA GROUT NS*** should be chipped and water leakage should be drained and plugged before application. The area in which it will be grouted should be soaked with water a couple of times 24 hours prior to grouting to minimize absorption and to assist in the free flow of the grout. The surface should be damp but free of standing water.

b) Formwork

All formwork should be well secured and watertight to prevent movement and leaking during the placing and curing of the grout. Excessive vibration should be avoided. Formwork should be designed to allow a head between 100-150mm to be maintained during grout operation. On the side where the grout is to be poured, allow at least a 150mm clearance between the sides of the form and the base plate of the machine. On the opposite side allow at least 50-100mm for the grout head and 50mm clearance between the formwork and the edge of the base plate. Prior to grout pouring remove all excess water and cavities within the formwork.

c) Mixing

First place the water in a clean drum. Slowly add complete bag of ***SOPRA GROUT NS*** into the water and continuously mix for 2-4 minutes depending on mixing method to achieve a smooth, uniform and lump free consistency. Recommended mixing method is using a low speed drill. Dependent on the desired consistency and flow properties, the mixing ratio can be adjusted. The appropriate quantity of water required to mix a 25kg bag should be measured to achieve the desired consistency, use the table below to achieve the right consistency.

Water addition per 25kg bag @ 25˚C			
Consistency	Plastic	Flowable	Fluid
Liters	3.5	4	4.5

It is recommended that a trial mix should be always done to determine the correct water content.

d) Application

SOPRA GROUT NS should be applied within half an hour after mixing. For horizontal applications, the grout should be poured in continuous manner to eliminate cold joints between the product and formwork should be tamped gently. For vertical applications such as boreholes, the grout should be injected starting from the top and continue until the hole is filled up with grout using the appropriate method. The entrance should be plugged afterwards. Either moist the grout after setting or apply a curing compound such as ***SOPRA CURE WB*** to eliminate excess water evaporation which causes cracks.

SOPRA GROUT NS may be placed in thicknesses of up to 150mm in a single pour. For sections larger than 150mm, it is necessary to add 10mm grade aggregates to ***SOPRA GROUT NS***, the maximum thickness that can be applied using aggregates in one pour is 600mm. The quantity of aggregates should not exceed one part of aggregates to 2.5 part of ***SOPRA GROUT NS*** by weight.

e) CLEANING OF TOOLS

Tools and application equipment should be cleaned with water immediately after use. Hardened material can only be mechanically removed.

Precautions

SOPRA GROUT NS is non-hazardous material. It should not be swallowed or come in direct contact with skin or eyes. Suitable protective glasses and gloves should be worn during application. In the case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice if irritation occurs. When contact with skin occurs, wash of immediately with clean water and soap. If swallowed, seek medical emergency immediately, do not induce vomiting.

Technical Support

Sopra provides on-site assistance and consultation services on projects if required. Technical Datasheets on other ***Sopra*** products and guidance on their use are available on request or on our website.

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