Nonset 50/50 SR/50 FF

Cement-based mortar for anchoring bolts, grouting and injection

AREA OF USE
Nonset 50 is an expanding mortar for grouting rock bolts, and can be used on ribbed bar, tubular, CT bolts etc. Also ideal for injection into wide cracks and grouting.

TECHNICAL CHARACTERISTICS
Nonset 50 is a thixotropic cement-based, non-settling dry mortar, which expands 1 – 3% before setting. Nonset 50 is composed of Portland cement, with D_max. 0.2 mm expanding, plasticising and stabilising additives.

Nonset 50 SR is based on sulphate-resistant cement.

Nonset 50 FF (frost free) is a variant intended for use at temperatures down to -10°C.

The mortar requires only the addition of water. The expanding component makes the compound expand by 1 – 3% when fresh. Expansion ensures excellent cavity filling and packing around bolts. The compound must be placed no later than 40 minutes after mixing to obtain the full benefit of expansion. The expansion pressure does not affect the construction after binding.

Nonset 50 meets the requirements defined by EN 1504-9 “Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - General principles for the use of products and systems” and the minimum requirements claims by EN 1504-6 “Anchoring reinforcement steel”.

APPLICATION PROCEDURE
Nonset 50 is mixed most effectively with a forced mixer. A drill and whisk can be used for smaller quantities. Add 9 - 11 litres of water per sack, and mix the compound to a smooth consistency. Do not use more water than necessary to securely put the mortar in place. For bolting, the consistency should be creamy.

NB: The more you use, the lower the density. Too much water will weaken the compound and mean poor bolt grouting.

Nonset 50 must be used at temperatures over +5°C. NB! Use Nonset 50 FF at lower temperatures.

Mix Nonset 50 FF with luke warm water to give the mixed compound a temperature of approx. 25 °C.

Use suitable pump equipment for rock bolting (piston or monopump), insert the pump hose all the way into the drill hole and extract slowly as the mortar is pumped in. Place the bolt in the hole immediately. Adjust the amount of mortar fill to avoid any surplus being squeezed out when the bolt is inserted. If using special bolts, always follow the bolt manufacturer’s instructions.

If using injection, add the max. amount of water when starting to reduce the amount of water in the mix, depending on crack sizes etc. Use injection rods with packers and start injection from the lowest point. If grouting, use shuttering to a height that exceeds the crevice to be grouted, and fill from one side.
TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Type: CC
Consistency: powder
Colour: grey
Dmax (mm): 0.2
Density (kg/m³): approx. 1,200
Dry solids content (%): 100
Chloride ion content - minimum requirement ≤ 0.05% according to EN 1015-17 (%): ≤ 0.05

PROPERTIES (at +20°C-50%RH)

Colour of mix: grey
Mixing ratio, 25 kg sack: Nonset 50: 100 parts to 36-44 parts water (9-11 l per sack) Nonset 50 SR: 100 parts to 38-44 parts water (9.5-11 l per sack) Nonset 50 FF: 100 parts to 38-44 parts lukewarm water (9.5-11 l per sack)
Consistency of mix: creamy to fluid
Density of mix (kg/m³): approx. 1,900
pH of mix: > 12
Temperature range for use: from +5°C to +35°C
Application temperature range, Nonset 50 FF: from -10°C to +5°C
Expansion according to EN-445 (%): 1 - 3
Bleeding according to EN-445 (%): ≤ 0.5
Application time: approx. 40 minutes

MIXED PROPERTIES (36% water)

<table>
<thead>
<tr>
<th>Performance characteristics</th>
<th>Test method</th>
<th>Minimum requirement according to EN 1504-6</th>
<th>Performance of product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive strength (MPa):</td>
<td>EN 12190</td>
<td>80% of values declared by the manufacturer</td>
<td>+20°C: 20 (1 day) 30 (2 days) 35 (7 days) 45 (28 days) +5°C: 3 (1 day) 15 (2 days) 30 (7 days) 45 (28 days)</td>
</tr>
<tr>
<td>Flexural strength (MPa):</td>
<td>EN 196-1</td>
<td>None</td>
<td>+20°C: 3 (1 day) 5 (2 days) 7 (7 days) 8 (28 days) +5°C: 1 (1 day) 2 (2 days) 5 (7 days) 6 (28 days)</td>
</tr>
<tr>
<td>Pull extraction (mm):</td>
<td>EN 1881</td>
<td>Displacement ≤ 0.6 mm at 75 kN load factor</td>
<td>&lt; 0.1</td>
</tr>
<tr>
<td>Fire resistance:</td>
<td>Euroclass</td>
<td>Declared by manufacturer</td>
<td>A1</td>
</tr>
</tbody>
</table>

CLEANING
Mortar that has not yet hardened can be removed from tools with water. After setting, cleaning can only be done mechanically.

CONSUMPTION
1.13 kg per litre mixed mortar.

PACKAGING
Nonset 50 is supplied in 25 kg sacks, 1200 kg per pallet and 1000 kg big-bags.

STORAGE
Must be stored dry, and can in original unopened packaging be stored for 12 months.

Nonset 50 complies with the requirements of Annex XVII of (EC) N. 1907/2006 (REACH), part 47.
SAFETY INSTRUCTIONS FOR PREPARATION AND USE
Instructions for the safe use of our products can be found on the latest version of the SDS available from our website www.mapei.no

LEGAL NOTICE
The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement or replace requirements per the TDS in force at the time of the MAPEI product installation. The most up-to-date TDS can be downloaded from our website www.mapei.com. ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

SAFETY INSTRUCTIONS FOR PREPARATION AND USE

Please refer to the current version of the Technical Data Sheet, available from our website www.mapei.no

PRODUCT FOR PROFESSIONAL USE

WARNING
Although the technical details and recommendations contained in this product data sheet correspond to the best of our knowledge and experience, all the above information must, in every case, be taken as merely indicative and subject to confirmation after long-term practical application; for this reason, anyone who intends to use the product must ensure beforehand that it is suitable for the envisaged application. In every case, the user alone is fully responsible for any consequences deriving from the use of the product.

All relevant references for the product are available upon request and from www.mapei.no