AREA OF USE
Nonset 400 is used for all types of foundations and concrete repairs.
Mixed mortar must be placed within 40 minutes after mixing to avoid losing expansion. If a denser foundation mix is required, use Mapefill N.

Examples of use:
- Structural rebuilding of reinforced concrete beams and pillars.
- Foundations and installation of concrete elements.
- Foundations for installation of machinery.
- Foundations for sleepers and crane rails.
- Grouting of horizontal non-moving joints.

TECHNICAL DATA
Nonset 400 is a cement-based dry mortar, which expands 1 - 3 % before setting. The mortar is composed of cement, well-graded sand, expanding, stabilising and plasticifying substances. The mortar is viscous and requires tight shuttering.

Nonset 400 complies with the principles of EN 1504-9 “Products and systems for reparation of concrete structures: Definitions, requirements, quality control and evaluation of compliance. General rules for the use of products and systems”, and the requirements of EN 1504-3 “Repair mortar for load bearing and non-load bearing repairs, class R4”.

RECOMMENDATIONS
- Do not use Nonset 400 on vertical surfaces (use Redirep 45 RSF or Maepgrout T40)
- Do not add cement or other additives to Nonset 400
- Do not add water once the mix has begun to set
- Do not use Nonset 400 if the sack is damaged or has been previously opened
- Do not use Nonset 400 at temperatures below +5°C

GUIDELINES FOR USE
Preparation
Remove loose concrete and contaminants on the surface. The surface must be free of dust, oil and grease which can reduce adhesion. The casting surface must be sufficiently coarse. Wet the surface with clean water to make it slightly absorbant.

Mixing
Nonset 400 only needs water added. Add 3 - 4 l per 25 kg sack and mix for min. 3 minutes to a smooth consistency. Do not use more water and soften the mix more than necessary to avoid separation, reduction of firmness and poor results.
Use a drill and mortar whisk for mixing small amounts.
Use a standard cement mixer for large volumes.
For thicknesses exceeds 150 mm, gravel 8-16 mm can be added to reduce shrinkage.
APPLICATION
Construct shuttering which is sealed, adheres well and projects 25 - 50 mm above the top surface level. The shuttering must be arranged for easy filling.
Leave 10 - 20 mm clearance at the sides, to make it easy to check filling and to blend the mixture properly. Filling from one side is important, to allow air to escape. When using a pump, place the hose in the middle of the mould so that the mix flows to all edges.
Pour the mix into the mould when casting foundations. Carefully hammer the shuttering side, and insert a long thin object (e.g. reinforcement rod) into the mix to make it flow better and avoid air pockets. Mixing and casting must be performed non-stop until the mould is full. Suitable pumping equipment is recommended for large jobs.

Finish:
We recommend applying Mapecure 1 (curing membrane) immediately to all exposed surfaces, and to apply water over the next 3 - 4 days. Covering with plastic sheet is also effective, and is preferable when a finish will be applied to the surface.

CLEANING
Fresh mortar can be removed from tools and equipment using water. Hardened material must be removed mechanically.

MIX
1,8 - 1,9 kg mortar per litre mix.

PACKAGING
Nonset 400 is supplied in 25 kg sacks and 1200 kg bags.

STORAGE
Store in a dry place. Shelf life 12 months in unopened packaging.
## TECHNICAL DATA (typical values)

### PRODUCT IDENTIFICATION

**Strength class according to EN 1504-3:** R4  
**Type:** CC  
**Appearance:** powder  
**Colour:** grey  
**Aggregate:** natural sand 0-4 mm  
**Binder:** cement  
**Chloride ions content – minimum requirements ≤ 0.05 % - according to EN 1015-17 (%):** ≤ 0.05

### PRODUCT APPLICATION DATA (at +20°C-50%RH)

**Colour of mixture:** grey  
**Mixing ratio:** 100 parts of Nonset 400 with 12 - 16 parts water (approx. 3 - 4 l per 25 kg sack)  
**Exposure class/ water additive l/sack:** M40 M45 M50  
**Consistency of mixture:** liquid  
**Density of mixture (kg/m³):** 2 250  
**pH of mixture:** > 12  
**Application temperature range:** from +5°C to +35°C  
**Expansion (%):** 1 - 3  
**Bleeding (%):** ≤ 0.5  
**Pot life of mixture:** approx. 40 minutes

### FINAL PERFORMANCE (14.8 % blending water)

<table>
<thead>
<tr>
<th>Performance characteristics</th>
<th>Test method</th>
<th>Minimum requirements according to EN 1504-3 for R4 class mortar</th>
<th>Product performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive strength (N/mm²)</td>
<td>EN 12190</td>
<td>≥ 45 (after 28 days) 20 (after 1 day) 35 (after 7 days) 50 (after 28 days)</td>
<td></td>
</tr>
<tr>
<td>Flexural strength (MPa):</td>
<td>EN 196-1</td>
<td>none &gt; 4 (after 1 day) &gt; 7 (after 7 days) &gt; 8 (after 28 days)</td>
<td></td>
</tr>
<tr>
<td>Carbonation resistance:</td>
<td>EN 13412</td>
<td>Dₘ ≤ control concrete (MC(0.45)) Pass</td>
<td></td>
</tr>
<tr>
<td>Modulus of elasticity in compression (GPa):</td>
<td>EN 13412</td>
<td>≥ 20 (after 28 days) 26.3 (after 28 days)</td>
<td></td>
</tr>
<tr>
<td>Bond strength to concrete (MC 0.40 type substrate water/cement ratio = 0.40) according to EN 1766 (MPa):</td>
<td>EN 1542</td>
<td>≥ 2.0 (after 28 days) &gt; 2.0 (after 28 days)</td>
<td></td>
</tr>
<tr>
<td>Capillary absorption (kg/m²·h⁰·⁵):</td>
<td>EN 13057</td>
<td>≤ 0.5 &lt; 0.5</td>
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<tr>
<td>Thermal compatibility to freeze-thaw cycles with deicing salts measured as according to EN 1542 (MPa):</td>
<td>EN 13687-1</td>
<td>≥ 2.0 (after 50 cycles) &gt; 2.0</td>
<td></td>
</tr>
<tr>
<td>Reaction to fire:</td>
<td>Euroclass</td>
<td>Value declared by manufacturer A1</td>
<td></td>
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</tbody>
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