

Nonset 120 FF

Frostproof, expanding mortar for anchoring and foundations

AREA OF USE

Nonset 120 FF is used for anchoring concrete reinforcement, joints and foundation work in thicknesses less than 50 mm, at temperatures down to -10°C. Mixed mortar must be placed within 40 minutes after mixing to avoid losing expansion.

Examples of use:

- Anchoring of concrete reinforcement in concrete and rock
- Fixing minor foundations in concrete elements
- Grouting of horizontal non-moving joints

TECHNICAL DATA

Nonset 120 FF is a cement-based dry mortar, which expands 1 - 3 % before setting. The mortar is composed of cement, well-graded sand, expanding, stabilising and plastifying substances.

Nonset 120 FF contains additives which ensure that the cement sets and will not crack at surface and air temperatures down to -10°C.

Nonset 120 FF complies with the principles of NS-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 NS-EN 1504-6 "Anchoring of reinforcement rods".

RECOMMENDATIONS

- Do not use **Nonset 120 FF** on vertical surfaces without formwork (or use **Redirep 45 RSF** or **Mapegrout T40**)
- Do not add cement or other additives to **Nonset 120 F**
- Do not add water once the mix has begun to set
- Do not use **Nonset 120 FF** if the sack is damaged or has been previously opened.

GUIDELINES FOR USE

Preparation

Remove loose concrete and contaminants on the surface. Pour water on the concrete, preferably the day before, to allow it to partially dry again.

Remove standing water in holes and cavities.

Do not apply water at temperatures below freezing point. If applying in temperatures below freezing point, the surface must be thawed and any water must be removed.

Mixing

Only luke warm or hot water must be added to **Nonset 120 FF**, adjusted to ensure that the temperature of the mix will be approx. +20 to + 30°C.

Add 3.5 - 4.5 l per 25 kg sack and mix for at least 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. Can BE Mixed using a powerful drill and whisk for minor repairs. Small amounts can be mixed by hand. Use a standard cement mixer for large volumes.

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APPLICATION

For anchoring and element installation:

We recommend drilling a hole minimum 15 mm wider than the bolt to be used.

Clean the hole after drilling, and pour **Nonset 120 FF** into the hole using a funnel or suitable pumping equipment. Press bolt into place and secure until the mortar is sufficiently set.

For foundations:

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.

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

Approx. 1.9 kg mortar per litre mix.

PACKAGING

Nonset 120 FF is supplied in 25 kg sacks.

STORAGE

Store in a dry place. Shelf life 12 months in unopened packaging.

SAFETY INSTRUCTIONS FOR PREPARATION AND INSTALLATION

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

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.

Please refer to the current version of the technical data sheet, available from our web site www.mapei.no

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

TECHNICAL DATA (typical values)

PRODUCT IDENTIFICATION

Type:	CC
Appearance:	powder
Colour:	grey
Maximum aggregate size (mm):	1.0
Bulk density (kg/m ³):	1 314
Dry solids content (%):	100
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 120 FF with 14 - 18 parts water (approx. 3.5 - 4.5 l per 25 kg sack)
Consistency of mixture:	fluid
Density of mixture (kg/m ³):	approx 2 200
pH of mixture:	> 12
Application temperature range:	from -10°C to +15°C
Pot life of mixture:	approx. 40 minutes

FINAL PERFORMANCE (14 % blending water)

Performance characteristics	Test method	Minimum requirements according to EN 1504-6	Product performance
Compressive strength (MPa)*:	EN 12190	> 80 % of the value declared by the manufacturer	> 2.5 (after 1 day) > 15 (after 7 days) > 30 (after 28 days)
Flexural strength (MPa)*:	EN 196-1	none	> 0.5 (after 1 day) > 2.5 (after 7 days) > 6.0 (after 28 days)
Expansion (%):	EN 445	none	1 - 3
Bleeding (%):	EN 445	none	≤ 0.5
Pull-out (mm):	EN 1881	displacement ≤ 0.6 mm at load of 75 KN	< 0.1
Reaction to fire:	Euroclass	value declared by manufacturer	A1

* Values are measured on samples cured at -10°C.

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