



Mapesfill N-LH

High strength expanding mortar for screeds and grouting

PRODUCT DESCRIPTION

Mapesfill N-LH is a special grouting mortar for anchoring strengthening and repairing concrete structures.

WHERE TO USE

- Casting and grouting of assembling parts, thickness from 20 to 300 mm.
- Grouting of steel structures to obtain increased loadbearing.
- Embedding mountings in concrete.

TECHNICAL PROPERTIES

Mapesfill N-LH is a factory produced dry mortar consisting of sulfate-resistant Portland cement, graded aggregate and special formulated additives. Which mixed with water gives a shrink compensated, easy-flow, highly pumpable mortar.

Mixed with water **Mapesfill N-LH** is a shrink-compensated, easy workable mortar with high flow which ensure excellent filling without segregation. The use of low-heat cement reduces the risk for overheating even at large volumes.

Mapesfill N-LH meets the requirement 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 described in EN 1504-3, "Structural and non structural repair" for structural mortars for class R4.

RECOMMENDATIONS

- **Mapesfill N-LH** does not contain any anti-washout agents.
- Formwork is needed for repair at vertical surfaces.
- At significant volume or -thickness can be added gravel 8-12 mm.
- Do not remix stiffened mortar with extra water when it has begun to set.
- Do not add extra cement or admixtures.
- Do not use **Mapesfill N-LH** at temperatures below +5°C or above +35°C.
- Do not use **Mapesfill N-LH** if the bag is damaged or previously opened.

INSTRUCTIONS FOR USE

Preparation

All loose particles and particles that may reduce bonding (dirt, cement paste, coatings etc.) must be removed from the substrate in an appropriate manner (e.g sandblasting, high pressure cleaning). The substrate should also be roughened up. Before casting, the substrate should be saturated and then dried until it is matt and damp. When using formwork this must be sufficiently stable and sealed.

Mixing

Mix 25 kg bag of dry mortar with 2.5-3.0 liters of clean water. Use a mechanic mixer or a suitable batch mixer and stir for 2-4 minutes until it reaches a lump free and homogenous consistence. The mortar has an open time for at least 30 minutes.

Mapecfill N-LH: High performance, expanding and shrink compensated, low-heat cement based mortar. The product complies with EN 1504-3

TECHNICAL DATA (typical values)

PRODUCT IDENTITY

Strength class according to EN 1504-3	R4
Type:	CC
Appearance:	powder
Colour:	grey
Maximum aggregate size (mm):	4.0
Dry solid content (%):	100
Type of binder:	CEM I 42,5 N SR/LA
Chloride ions content - minimum requirements ≤ 0.05 % of binder content - according to EN 196-2 (%): - minimum requirements < 0.1 % of binder content - according to EN 196-2 (%):	≤ 0.05 < 0.1

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

Colour of mixture:	grey
Mixing ratio:	100 parts Mapecfill N-LH with 10-12 parts water (approx. 2.5-3 l per 20 kg sack)
Consistency of mixture:	fluid
Density of mix (kg/m ³):	2 400
pH of mixture:	> 12
Application temperature range:	from +5°C to +35°C
Expansion according to EN 445 (%):	0 - 2
Bleeding according to EN 445 (%):	none
Workability time:	approx. 40 min
Setting time according to SS 13 71 26 (h):	approx. 9 minutes
Air content according to EN1015-7 (%):	approx. 3
Workability after 5 min - according to SP-method 1651 (mm):	> 350

FINAL PERFORMANCE (11.5% blending water)

Performance characteristics	Test method	Minimum requirements according to EN 1504-3 for R4 class mortar	Product performance
Compressive strength (MPa):	EN 12190	≥ 45 (after 28 days)	> 20 (after 1 day) > 50 (after 7 days) > 90 (after 28 days)
Flexural strength (MPa):	EN 196-1	none	> 4 (after 1 day) > 8 (after 7 days) > 10 (after 28 days)
Carbonation resistance:	EN 13295	$D_k \leq$ control concrete (MC 0.45)	passes
Modulus of elasticity in compression (GPa):	EN 13412	≥ 20 (after 28 days)	> 40 (after 28 days)
Bond strength to concrete (MC 0.40 type substrate w/c ratio = 0.40 according to EN 1766 (N/mm ²):	EN 1542	≥ 2.0 (after 28 days)	> 2.0 (after 28 days)
Capillary absorption (kg/m ² ·h ^{0.5}):	EN 13057	< 0.5	0.09
Thermal compability fo freeze thaw cycles with deicing salts measured as according to EN 1542 (N/mm ²):	EN 13687-1	≥ 2.0 (after 50 cycles)	> 2.0
Reaction to fire:	Euroclass	Value declared by manufacturer	A1

Application

Place the mortar from one side and ensure that air pockets do not form any voids.

NB!

The mortar must not be stored in direct sunlight ahead of work. We recommend to use cold mixing water when the temperature is high and tempered water at low temperature conditions.

Placed mortar should be protected against drying out too quickly as a result of wind and sun. Depending on the situation, this can be done by covering with polythene sheet, watering or using **Mapecure 1**, curing membrane.

CLEANING

Fresh mortar can be removed from tools and equipment with water. Hardened mortar can only be removed mechanically.

CONSUMPTION

Approx. 2.2 kg dry mortar to each liter of volume to be filled.

PACKAGING

Mapefill N-LH is supplied in 25 kg paper bags and 1000 kg big-bag.

STORAGE

Mapefill N-LH can be stored up to 12 months from production date in unopened, original packaging in dry conditions. Opened bags should be used immediately.

Mapefill N-LH complies with the conditions of Annex XVII to Regulation (EC) N° 1907/2006 (REACH), item 47.

SAFETY INSTRUCTIONS FOR PREPARATION AND APPLICATION

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 website www.mapei.no

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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.no

ANY ALTERATION TO THE WORDING OR REQUIREMENTS CONTAINED OR DERIVED FROM THIS TDS EXCLUDES THE RESPONSIBILITY OF MAPEI.

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



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