

# NHL-F

## Historical lime grout mortar

### Grout mortar with NHL natural hydraulic lime as binder

Standard masonry mortar M2,5 (90d) acc. EN 998-2  
NM II according to DIN 20000-412

- colours: light beige, coloured



## APPLICATIONS

- for interior and exterior grouting
- for the renovation of masonry, e.g. natural stone and brick masonry
- the mortar can be set on request so that it approximates old historic masonry in its composition (grain, colour etc.)
- also available as a wall coping version with increased flank adhesion and reduced water absorbency (W-value approx. 2.0 kg/(m<sup>2</sup>h<sup>0.5</sup>))

## PROPERTIES

- mineral
- adjusted water retention properties
- good workability
- can also be supplied dyed by agreement, by mixing in coloured sands and/or iron oxide pigments
- can also be supplied as a machine-compatible version on request

## COMPOSITION

- natural hydraulic lime NHL 5 according to DIN EN 459-1
- graded stone aggregates in accordance with DIN 13139

## SUBSTRATE

- Properties/tests**
- Masonry and substrates must be firm, load-bearing, frost-free and free of adhesion-reducing residues.
  - Joint flanks must be frost-free, dry, free of oil, paint, dust as well as soft and loose mortar residue.

- Pretreatment**
- Before grouting masonry for the first time, the joint must be cleared out so deep that it equates to twice the joint width, but at least 2 cm.
  - For brick masonry, the same procedure must be used, whereby attention should always be paid that the flank adhesion is ensured.
  - Cleaning the joint flanks with a high pressure or water jet is recommended.
  - The joints are to be pre-wet depending on their absorbency.
  - When pre-treating the areas being worked on, the different absorbency levels of the materials is to be taken into account. The pre-treatment is to be adapted to the circumstances by observing the water absorbency capacity. For instance, it may be noticed that low-absorbent, dense stone (e.g. granite) does not need much water, whilst the mortar in the joint is very absorbent. If this is not sufficiently pre-wetted before grouting, too much water will be extracted from the newly introduced mortar. This leads to inadequate bonding strengths and reduced grouting strengths. This also applies to processing in several layers, due to grouting over a depth of 2 cm.

### PROCESSING

<b>Temperature</b>	<ul style="list-style-type: none"><li>■ Do not process or allow to dry out at air, material or substrate temperatures below +5°C, or if there is a risk of exposure to night frost, or at temperatures above +30°C, or in direct sunlight, or on heated up surfaces, and/or in windy conditions.</li></ul>
<b>Mixing / Preparation / Processing</b>	<ul style="list-style-type: none"><li>■ Using a flow mixer, gravity mixer or compulsory mixer, mix the dry mortar with clean water for no longer than 2 to 3 minutes to achieve the correct consistency.</li><li>■ When mixing manually, first place the quantity of water specified in the technical data in a clean container and then sprinkle in dry mortar. Use clean tap water.</li><li>■ use a suitable agitator to mix the material until smooth and free of lumps. Leave to rest for a moment and then mix again, adding more water, if required, to achieve the right consistency for applying.</li><li>■ consistency: earth-moist</li><li>■ Do not mix with other products and/or other substances.</li></ul>
<b>Processing</b>	<ul style="list-style-type: none"><li>■ To prevent cracks from forming in the joint, joints that are cleared out deeper than 2 cm should be made in two or, if need be, more layers.</li><li>■ If the plaster is applied in layers, then allow an intermediate standing time of one day per mm of plaster thickness before applying the next layer.</li><li>■ The bottom layers are to be roughened up.</li><li>■ The mortar should not be introduced into joints with a joint width larger than 4 cm unless adequately pre-wetted crushed stone is inserted in these joints.</li><li>■ In special cases, e.g. boulder stonework, only smaller areas of masonry are to be chiselled out and grouted again immediately to prevent eruptions in the masonry areas.</li></ul>
<b>Processing / Working time</b>	<ul style="list-style-type: none"><li>■ approx. 2 hours</li><li>■ The stated times apply for a temperature of +20°C and relative humidity of 65%.</li><li>■ Mortar that has already started to harden must never be thinned down with additional water, remixed or applied.</li></ul>
<b>Drying / Hardening</b>	<ul style="list-style-type: none"><li>■ Protect the fresh mortar from drying out too quickly and from unfavourable weather conditions such as frost, draughts, direct sunlight and direct exposure to driving rain if necessary by hanging with foil.</li></ul>
<b>Cleaning the tools</b>	<ul style="list-style-type: none"><li>■ Clean all tools and equipment with water immediately after use.</li></ul>
<b>Notes</b>	<ul style="list-style-type: none"><li>■ In case of very exposed and wide wall crowns with large joint depths, dry spraying jointing is recommended.</li></ul>

### PACKAGING

- 25 kg/sack

### STORAGE

- Store sacks appropriately and in dry conditions on pallets.

### QUANTITY REQUIRED / YIELD

- consumption: depending on application
- yield: app. 16 l fresh mortar per 25 kg/sack

### TECHNICAL DATA

<b>Binder base</b>	NHL 5 natural hydraulic lime
<b>Product type</b>	Standard masonry mortar
<b>Compressive strength class</b>	M2.5 (90d) according to DIN EN 998-2
<b>Mortar group</b>	NM II according to DIN 20000-412
<b>Compressive strength</b>	≥ 2.5 N/mm <sup>2</sup>
<b>Grain</b>	0 – 2 mm, 0 – 4 mm
<b>Water requirement</b>	approx. 2.5 l per 25 kg/sack
<b>Colour</b>	light beige

All data are average values that were determined under laboratory conditions according to relevant test standards and application tests. Deviations are possible under practical conditions.

### SAFETY AND DISPOSAL INSTRUCTIONS

<b>Safety</b>	<ul style="list-style-type: none"><li>■ This product produces an alkaline reaction when it comes into contact with moisture/water. Therefore ensure that skin and eyes are protected. If it should come into contact with the skin or eyes, rinse them thoroughly with water. See a doctor immediately if it comes into contact with the eyes.</li><li>■ Further information can be found in the safety data sheet at <a href="http://www.tubag.de">www.tubag.de</a>.</li></ul>
<b>Disposal</b>	<ul style="list-style-type: none"><li>■ Dispose of the material in accordance with the official regulations.</li><li>■ Completely empty and recycle the packaging.</li><li>■ Dispose of hardened product in accordance with the local regulations. Do not allow to enter the sewer system. Dispose of the hardened product in the same way as concrete waste and slurries. Waste code according to the Ordinance on the European Waste Catalogue depending on the origin: 17 01 01 (concrete) or 10 13 14 (concreteste and concrete slurries).</li></ul>

### GENERAL INFORMATION

This information sheet provides only general recommendations. Should you have any queries relating to a specific application, please contact our technical sales advisor or call our hotline: +49 541 601-601. Since natural raw materials are used, the values and properties described may vary somewhat. All of the details given are based on our current knowledge and experience and on the assumption that the materials are professionally applied and used for their normal purpose. All of the details are non-binding and do not release users from their duty to undertake their own tests to ensure suitability for the intended application. Due to the effects of different weather, processing and construction site conditions, no guarantee can be given for the general validity of all details. We reserve the right to make changes as a result of further development of the product and applications engineering. The general rules for construction engineering, the valid standards and guidelines, and the technical working guidelines must be observed. The publication of this technical data sheet renders all previous editions of this data sheet void. Please obtain the latest information from our website.