

NHL-P

Historical lime plaster

Lime plaster with NHL natural hydraulic lime as binder

standard plastering mortar GP CS I acc. EN 998-1

- NHL-P – non-water repellent,
NHL-P wa – water inhibiting



APPLICATIONS

- ideal for restoration of historic monuments to match the historic originals
- for interior and external use

PROPERTIES

- mineral
- very easy to apply
- fibre-reinforced
- can also be supplied dyed by agreement, by mixing in coloured sands and/or iron oxide pigments

COMPOSITION

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

SUBSTRATE

Suitable substrates

- All types of masonry
- primarily historic masonry
- Concrete
- Plaster base anchored in the plaster primer

Properties/tests

- The subsurface must be even, dry, clean, load-bearing, absorbent and free of adhesion impairing residues, efflorescence and sinter skins.
- For assessing the plaster primer, VOB/C DIN 18350, Section 3, DIN EN 13914-1/13914-2 as well as the plaster standard DIN 18550-1/18550-2 should be observed.

Pretreatment

- Completely remove non-load-bearing plaster, coatings or salt efflorescence.
- Highly absorbent substrates are to be pre-treated.

PROCESSING

Temperature	<ul style="list-style-type: none">■ 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.
Mixing / Preparation / Processing	<ul style="list-style-type: none">■ Suitable for processing by hand, or with conventional plastering machines.■ When machine-processing: Adjust the amount of water accordingly to obtain a workable consistency.■ If the work is interrupted for longer periods, then clean the plastering machine and mortar hoses.■ 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.■ 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.■ Do not mix with other products and/or other substances.
Processing	<ul style="list-style-type: none">■ Apply mortar evenly in layer thicknesses from approx. 15 mm to the prepared substrate.■ Basically, work in two shifts, wet in wet.■ Plaster layer thicknesses of more than 20 mm in one layer are not recommended.■ The layer thickness must not be less than 10 mm.■ When plastering in several layers, the previous layer is to be well roughened and pre-wetted before applying the next layer.■ Interim rest times of at least 2 day per mm of layer thickness are to be adhered to.■ The final plaster layer is rubbed or felted evenly, as desired, e.g. to create an Old German texture.
Processing / Working time	<ul style="list-style-type: none">■ Approximately 1 hour■ The stated times apply for a temperature of +20°C and relative humidity of 65%.■ Mortar that has already started to harden must never be thinned down with additional water, remixed or applied.
Drying / Hardening	<ul style="list-style-type: none">■ If the weather conditions are unfavourable (e.g. driving rain, frost, strong sunlight and/or winds), then suitable protection measures must be taken, particularly in the case of freshly coated surfaces.■ To prevent the plaster from drying out too quickly at higher temperatures, the plastered area should be kept moist for at least three days.
Subsequent coating / Suitability for coating	<ul style="list-style-type: none">■ The plaster surface must be sufficiently hard and completely dried through before coatings are applied. You must wait at least one day per mm of plaster thickness.■ Surfaces can be coated with a mineral coat of paint at the earliest after approx. 10 – 12 weeks.
Cleaning the tools	<ul style="list-style-type: none">■ Clean all tools and equipment with water immediately after use.
Notes	<ul style="list-style-type: none">■ Carefully cover adjacent surfaces and components (e.g. windows, window sills, etc.). Wash off contamination immediately with water.

PACKAGING

- 25 kg/sack
- loose in silo

STORAGE

- Store sacks appropriately and in dry conditions on pallets.

QUANTITY REQUIRED / YIELD

- consumption: approx. 23 kg/m² per 15 mm plaster thickness
- yield: app. 16 l fresh mortar per 25 kg/sack
- yield: app. 650 l fresh mortar per t

TECHNICAL DATA

Product type	standard plastering mortar GP
Category	CS I
Compressive strength	≥ 0.4 N/mm ²
Grain	0 – 1 mm, 0 – 2 mm, 0 – 4 mm, 0 – 8 mm
Water requirement	approx. 5.0 l per 25 kg/sack
Set mortar bulk density	approx. 1.6 kg/dm ³
Fire behaviour	A1
Adhesive tensile strength	≥ 0.08 N/mm ²
Capillary water absorption	NHL-P: $W_c 0$; NHL-P wa: $W_c 1$ according to EN 998-1
Water vapour permeability μ	app. 5 - 7
Thermal conductivity $\lambda_{10, dry, mat.}$ for P=50%	≤ 0.82 W/(mK)
Thermal conductivity $\lambda_{10, dry, mat.}$ for P=90%	≤ 0,89 W/(mK)

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

Safety	<ul style="list-style-type: none"> ■ 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. ■ Further information can be found in the safety data sheet at www.tubag.de.
Disposal	<ul style="list-style-type: none"> ■ Dispose of the material in accordance with the official regulations. ■ Completely empty and recycle the packaging. ■ 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 (concretewaste and concrete slurries).

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.