

# NHL Lime Powder

## Hydraulic lime in powder



### Description

Hydraulic conglomerate obtained for the calcareous clayey cooking without additions and constituted mostly by silicates and calcium aluminates and calcium hydroxide.

### Properties

- Its characteristics are result only of an adequate raw material composition. It does not contain additions.
- Hydraulic setting for a chemical reaction of its own component, and it brings excellent resistances in the short time.
- Compatibility with the building methods and old materials from the chemical, structural and mechanical points of view.
- Constancy of low humidity variable conditions volume.
- Lower expansion, weak retraction and bigger flexibility under determined mechanical conditions that facilitate the adaptation to the support deformation without provoking cracking.
- Lower water-tightness in front of chemical attacks (vibrations, wind, frost-thaw cycle) and chemical (rain, salts, acids, etc.).
- Bigger durability/it does not produce efflorescence due to the lime that contains that has been manufactured with high quality raw material without additions.
- Bigger structural activity, for the cracks auto seal: the mortar absorbs water, dissolving the hydrated lime that penetrates in the gaps and cracks where it gets re- carbonated to seal them. This phenomenon is related with dissolution / re-precipitation of the calcite and depends on the lime pureness.
- Capacity of keeping the aspect and firmness original bringing higher durability.
- Excellent adherence to the support due to its fineness and the water retention that maintains during more time its basic pH (> 12).
- Due to its pureness it offers an excellent permeability, allowing the gaseous changing between the interior and exterior of the building and letting the walls "breath".

### Uses and enforcement in the construction industry

#### For mortars

Lime is the essential natural binder in the preparation of masonry mortars; Its use in construction dates back to time immemorial for the construction of foundations, brick and block walls, flattening of interior and exterior walls, masonry work, and construction of floors and ceilings. Developed countries specify the compulsory use of lime to the mortars in seismic zones by its adherence unique characteristics and diagonal tension resistance. Until today, it does not exist other material so versatile like the lime in the mortars, as it brings more resistance, better adherence and helps to thermal and impermeability construction, everything with lower costs.

#### For concrete

The pure nature hydraulic lime has the properties to make concrete more compact, as the lime is very fine, it refills the gaps, it protects the temperatures oscillations, avoiding thus the cracking, delays the initial concrete setting and it keeps wet the mixture. Among other lime properties, one of them is giving homogeneity and resistance to concrete, makes the mixture more fluid, improves the workplace and by its mineral composition protects the concrete.

#### In concrete prefabricated

In the normal and cellular concrete prefabricated industry, the lime has a double function. One side it acts as a filler, when fine particles are needed, on the other side the pozzolanic reactions give origin to more resistant, waterproof and precise in corner and flanks. The previous is achieved to lower production costs.

#### For floors stabilization

Nor the great highway projects, neither the more easy sport pavements will last much if they rest over unstable clay soils.

#### In the asphalyic mixtures

In developed countries frequently the lime is used in the hot mixture asphalt, and it works as an anti-breakdown, filler and modifier agent. The lime besides reducing the sensibility towards humidity, it also increases the initial hardness, contributing thus to minimize the road marks and reduce the asphalt premature ageing (avoid oxidation). In the United States experiences shows that the pavement use life increases 2 to 6 years in average and in some cases for more than 30 years.

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## Technical information

**Commercial denomination**  
**NHL Lime Powder** (according to UNE EN 459-1:2010)

**Aspect**  
 Color dust clear grey russet color

**Presentation**  
 20 kg sack – 1050 kg pallet (42 sacks)

**Values according norm**  
**UNE EN 459-1:2010**

**Chemical characteristics**  
 Sulfate SO<sub>3</sub>: < 2% Free lime (OH)<sub>2</sub> ≥ 15%

**Mechanical characteristics**  
 Compression resistance 7 days: ≥ 2MPa  
 Compression resistance 28 days: ≥ 5 a ≤ 15 MPa

### Physical characteristics

**Fineness:**  
 Retained to 0,09 mm ≤ 15%  
 Retained to 0,2 mm ≤ 2%

**Free water**  
 ≤ 2%

**Volume stability**  
 0 mm

**Mixture test**  
 Penetration: > 10 a < 50 mm  
 Air content: ≤ 5 %

**Setting time**  
 Start: > 1 h  
 Finish: ≤ 15 h

Classification marked CE according to norm UNE EN 459-1:2010  
 (Limes for construction Part 1: Definitions and conformity criteria)  
**NHL 5**



## Preservation

Store in a covered and dry place, adopt the same precautions as in the cement.

## Precautions

Skin, eyes and respiratory tracks irritating product. It is recommended to use protection measures as gloves, glasses and masks. Keep out of children reach.



## ⚠ IMPORTANT

The observations and prescriptions of this technical sheet, even corresponding to our best experience, should be considered, in any case, purely indicative, and must be tested by exhaustive practical applications; Therefore, before using the product, whoever is going to do it must establish whether or not it is suitable for the intended use, and assumes any responsibility that may arise from its use. Once the product is handled or applied, the manufacturer will not assume any claim, nor will it be responsible for the form, mode and conditions of application.