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## NATURAL HYDRAULIC LIME NHL 3,5

PRODUCT SHEET

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~~	NHL 3,5 (UNI EN 459-1:2010) Low sulfates and alkals content Excellent for green building and restoration	Excellent for mortars and plasters High mechanical resistence 100% free from additives 100 % Made in Italy
BRIEFLY	The natural Hydraulic Lime NHL 3,5 is used in the preparation of mortar for masonry and plaster. Mechanical characteristics, porosity and the low quantity of soluble salts, ensure a full compatibility of Natural Hydraulic Lime NHL 3,5 with traditional building materials (stone, brick, etc.). Highwater vapor permeability, capacity to prevent fungi and molds, optimal regulatory hygrometricalfunction of environments, ensure the execution of building with high living standards.	
ORIGIN	Building lime comes from natural raw materials (limestone marl) that are extracted in local quarries, still active near the kiln of Savignano sul Panaro (MO). Raw materials undergo a selection process based on precise compositional characters. The particular size of the limestone ensures a controlled burning.	
BURNING	Burned in vertical kilns at temperatures lower than 1200° C. The calcined product, once cooled, undergoes a controlled hydration process and then milled in ball mills. A separator a wind then extracts the finest part of the lime that in ready for packaging.	
SLAKING	The calcined product, once cooled, undergoes a process of controlled hydration. The lime is grounded, and only in the case of FL, mixed with natural pozzolanas. The grinding is done in ball mills. A wind separator extracts the finest part of the lime, which is transported to destination in tank or in bags.	
CERTIFICATION	CE marking: 0925 CPD Ce b n.167/2008	
USES	The Natural Hydraulic Lime- NHL 3.5 is used for the realization of mortar and plaster, specific for historical buildings restoration and green building.	
STORAGE	Storage in a covered and dry place.	
PACKING	The product is available in tank, big-bags or in bags (25 kg/each).	
DOSAGE	Natural Hydraulic Lime NHL 3,5 dosage changes from 350 to 600 kilograms per cubic metre of aggregate (sands, marble powder, earthenware, etc.) depending on the granulometry of the aggregate. The water slurry has to be determined in the building site, depending on the type of action and the type of the aggregate. In order to preserve the peculiar characteristics of Natural Hydraulic Lime NHL 3,5 i(n particular Portland Cement) it should not be added artificial hydraulic binders to mixtures.	
SAFETY INSTRUCTIONS	Irritating to eyes and skin. Do not take internally. Wear suitable gloves and eye/face protection; in case of contact with eyes rinse immediately with water and seek medical advice - keep out of the reach of children.	



La Banca della Calce Srl | www.bancadellacalce.it | +39 0514842426 | Via F. Albani 1/3 - 40129 Bologna, IT | P.IVA 02985571203



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## CHEMICAL & PHYSICAL DATA

Physical state	Powder
Color	Hazel
Bulk density	0,7 g/cm <sup>3</sup>
Residual @0,09 mm	3,0 %
Residual @0,20 mm	0,1 %
Penetration (Plunger)	30 mm
Stability	0,5 mm
Air content	4,8 %
Setting beginning time	6 h
Setting ending time	15 h
Free water	0,9 %
Compressive strength (28 days)	4 MPa
CaO	53,6 %
MgO	0,65 %
Avalaible lime	26,1 %
SO <sub>3</sub>	<1%
SiO <sub>2</sub>	17,7 %
Fe <sub>2</sub> O <sub>3</sub>	2,14 %
Al <sub>2</sub> O <sub>3</sub>	2,53 %
Na <sub>2</sub> O+K <sub>2</sub> O	<1%
Loss on ignition	21,4 %

The information given in this data sheet is based on our current knowledge of the product when properly stored, handled and applied. We cannot guarantee that the product will be suitable, effective or safe when used for any purpose other than its stated uses.

To the extent that it is lawful, we exclude warranties implied by law and limit our liability to the cost of replacing the product. We accept no responsibility for loss or injury caused by improper use, incompetent preparation, inexpert or negligent application, or ordinary wear and tear.

Service or advice given by our staff should not amount to responsibility for the project - since the owner, or their contractor (and not la Banca della Calce Srl), is responsible for procedures relating to the application of the product.



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