



# HERITAGE NATURAL HYDRAULIC LIME PLASTER

## NHL3.5

### Product Data Sheet

#### Description and Use

Heritage Natural Hydraulic Lime Plaster – NHL3.5 is an engineered factory-blended plaster and stucco, designed to match the performance characteristics of traditional lime-sand mixes, that facilitates safe and durable repairs of plaster and stucco for buildings originally constructed without portland cement.

The single component hydraulic lime-based formulation is pre-blended and ready to use for plastering and stuccoing, only water is needed. Formulated only from natural hydraulic lime, engineered aggregate blends, and mineral pigments (upon request), Heritage Natural Hydraulic Lime Plaster – NHL3.5 contains no cements, polymers, or admixes of any kind. NHL3.5 plasters are a softer, more permeable and flexible plaster formulation than modern portland cement plasters, providing outstanding protection of masonry units from damage caused building movement, thermal expansion/contraction, freeze-thaw cycles, moisture buildup and salt migration (efflorescence).

Heritage Natural Hydraulic Lime Plaster – NHL3.5 is recommended for applications in areas of severe exposure, such as exterior walls, parapets, chimneys, basements and masonry elements exposed to severe weather. NHL 3.5 is suitable for low-fired historic masonry units with high rates of initial absorption. This product is moderately hydraulic (as indicated by the 3.5 rating). Characteristics of moderately hydraulic lime include a typical range of 12% to 18% of active hydraulic components (clay and/or silica). Moderately hydraulic can be re-worked up to 16 hours after initial mixing and expands slightly during the curing process. Hydraulic lime contains only trace amounts of soluble salts. This reduces the risk of sulfate damage and alkali silica reaction.

Repairs to plaster over masonry walls should only be attempted using appropriate materials, tools and techniques and only by educated/trained installers. Many homeowners can successfully execute patching and small repairs. Structural repair conditions should be evaluated by professionals. Installation guides and training/certification, offered by US Heritage Group, are strongly recommended for all installers.

#### Features and Benefits

- Authentic product formulation ensures compatibility with historic masonry units and plasters.
- Standard aggregate blends and color selection facilitates quick, convenient installation.
- Custom-matched aggregate profiles and colors produce unbelievable visual accuracy.
- USHG provides unmatched product and project support, for one pail or hundreds, to ensure excellent results for every installation.

#### Sales, Product and Project Support

US Heritage Group supports, sells and ships all products directly to ensure we consistently deliver the highest quality results possible. Contact USHG for a variety of support services:

- Specifier education
- Project-specific technical advice
- Specification guides and support
- Custom color and aggregate matching
- Installation guides and training

#### Packaging and Coverage

3.5-gallon plastic pail (40lbs. material weight)	0.375 cubic feet of material
40 lbs. bag	0.375 cubic feet of material

See USHG **Installer Guide to Products and Services** for unit coverage and cost estimations

#### Limited Warranty

U.S. Heritage Group, Inc. warrants this product to be of merchantable quality when used or applied in accordance with the manufacturer's instructions. This product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is LIMITED to the replacement of the product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given in writing to U.S. Heritage Group, Inc., 2900 North Kearsarge Ave., Chicago, IL 60641. THIS LIMITED WARRANTY IS ISSUED AND ACCEPTED IN LIEU OF ALL OTHER EXPRESSED WARRANTIES AND EXPRESSLY EXCLUDES LIABILITY FOR CONSEQUENTIAL DAMAGES.

US Heritage Group

2900 North Kearsarge Ave, Chicago IL 60641

P: 773.286.2100 F: 773.286.1852 E: info@usheritage.com

[www.usheritage.com](http://www.usheritage.com)



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## Surface Preparation

Successful installation relies on proper surface preparation that involves careful condition evaluation, cleaning and plaster keying. For additional surface preparation details see **Heritage Lime Plaster Installation Guide** then contact USHG with project-specific issues.

1. Clean masonry surface as needed to remove soiling, efflorescence, coatings, etc.
2. Remove and repair or replace any unsound masonry units and bedding mortar.
3. Square-cut masonry unit joints to min depth of joint width.
4. Clean surfaces to remove all dust and debris.
5. Dampen masonry unit joints to surface-saturated dry condition, starting from the top of the wall.
6. Protect installation area from rain, sun, high winds, and extreme hot and cold temperatures before, during and after application.

## Mixing Instructions

NHL3.5 mortar ships pre-blended. Mortar should be mixed with water just prior to use, by hand using a mortar hoe, or shovel. Mechanical mixing can be accomplished by paddle drill or vertical shaft mixer. Only add enough water to achieve coarse but spreadable consistency.

1. Add 1.75 gallons of water per 80 lb bag of plaster
2. Mix material 5 minutes by hand and drill or 3 minutes in vertical shaft mixer
3. Allow plaster to stand and absorb water for 15-30 minutes
2. Evaluate mixed plaster consistency. If necessary, add water in measured increments. Weeping or flowing plaster is too wet.
3. Repeat steps 2-4 until plaster reaches coarse but spreadable consistency

## Application

Plaster should be installed in coats of the appropriate thickness based on the aggregate blend (size); ½”-3/4” for coarse, 3/8-1/2” for medium, ¼-3/8” for fine, 1/16-1/8” for skim. Cure each plaster coat in damp condition for at least 48 hours before applying additional coats.

1. Apply by trowel using stipple, harl or splatter dash method, or mechanically by sprayer (not recommended for coarse blend).
2. Rule and/or trowel immediately after the plaster is applied to the wall to level, consolidate and shape the plaster surface.
3. **Scratch base coat:** horizontally rake the plaster to create a key for the next layer.
4. **Brown coat:** float and trowel the surface into the desired texture when plaster reaches thumbprint hard consistency.

## Cleaning

This section applies only to removal of installed lime plaster residue. Masonry should be cleaned before plaster application. Do not use metal scrapers or brushes. Do not use acidic or alkaline cleaners.

1. **Immediately after installation of plaster during thumbprint hard and surface dry condition:** thoroughly clean the exposed surfaces of excess plaster. Use dry wood scrapers, stiff-nylon or fiber brushes. Do apply water to uncured plaster during cleaning!

## Finishing

For best results plaster should be finished immediately after installation as soon as initial “thumbprint hard” condition is reached.

1. Dampen surface prior to finishing.
2. Use a float to smooth the surface texture of the plaster.
  - a. For a finer finish use a metal or plastic float
  - b. For a rougher finish use a wood or grid float
1. Hard trowel to tighten/even grain if desired.
3. Immediately dampen finished surface to support curing process.

## Curing

NHL3.5 plaster cures by hydration through reaction with water and by carbonation through reaction with carbon dioxide. Uninterrupted execution of the curing process, immediately after installation, is essential to achieve proper plaster performance. Protect plaster from driving rain, sun, high winds, and temperatures above 90 or below 40 degrees during initial curing cycle. NHL3.5 plaster should be protected from freezing for 28 days after installation.

1. Dampen fresh plaster using pump sprayer or garden hose on mist setting.
2. Repeat the misting procedure if the wall begins to dry out.
3. If shrinkage cracks begin to appear in the first 24 hours the plaster can be reworked to reduce or eliminate the appearance of the cracks.
4. Keep plaster damp for the first 3 days after application.

## Storage and Shelf life

Save any unused dry material and return it to the original shipping bucket. Protect from freezing, extreme heat, moisture and direct sunlight. This material can be kept in the original factory sealed containers for 6 months. Dispose of containers with any material that has hardened.

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