

# ROSENDALE



## NATURAL CEMENT PRODUCTS

# Whitewash 15W

Rosendale Natural Cement-Based Coating for Historic Masonry

### DESCRIPTION

**ROSENDALE WHITEWASH 15W** is a series of custom-matched, pre-packaged coatings based on natural cement or natural cement-gauged lime. The coatings formulations incorporate traditional paint and whitewash recipes specified in 19<sup>th</sup> and early 20<sup>th</sup> Century U. S. Government specifications for durable whitewash. They are prepared as fully formulated, ready-to-use coatings for historic masonry substrates such as brick, stucco, stone and natural cement concrete. **ROSENDALE WHITEWASH 15W** features high vapor permeability, tenacious adhesion and low modulus of elasticity.

### FEATURES

**ROSENDALE WHITEWASH 15W** offers performance features which are unique to natural cement products, including:

- **Fast Initial Set:** Typical initial set time is 30-60 minutes, and final set time is 45-120 minutes. Setting time is prolonged in mixtures containing higher proportions of lime.
- **Moderate Strength:** Compressive strengths are similar to fully-reacted limewashes. Unlike non-hydraulic limewash products, which require multiple applications, long periods of time for reaction with atmospheric carbon dioxide, and frequent reapplication, natural cement achieves full-depth set at any thickness within minutes or hours. Because natural cement is produced by firing at the same relatively low temperatures used in building lime production, it is free of tricalcium silicates and aluminates which have been linked to incompatibility with historic lime masonry.
- **Water Resistance:** Natural cement-gauged whitewashes withstand severe wind-driven rain exposures within a short time of application, facilitating installation. They are also suitable for use at lower temperatures than ordinary lime and natural hydraulic limes.
- **Early Freeze Resistance:** Natural cement products require only a relatively short period of protection from freezing, facilitating installation over the course of a much-extended working season in northern climates, as compared with lime and hydraulic lime products.
- **Low Modulus:** Unlike Portland cement-lime coatings which tend to embrittle with time, natural cements continue to relieve stress and remain mechanically compatible with

masonry substrates. **ROSENDALE WHITEWASH 15W** can provide long service life without cracking or delamination from masonry units.

- **High Permeability:** **ROSENDALE WHITEWASH 15W** provides high rates of moisture vapor transmission, assuring that buildings and structures will “breathe”, and avoiding moisture entrapment.
- **Customization:** Natural cement whitewashes were historically formulated in a wide range of colors and proportions. **ROSENDALE 15W** is offered in a wide range of custom colors to match historic finishes.

#### **APPLICATIONS:**

- **ROSENDALE WHITEWASH 15W** may be formulated and used as authentic duplicates of original, historic whitewashes for buildings and structures originally built using natural cement coatings.
- **ROSENDALE WHITEWASH 15W** may also be used in applications where original mortars or stuccos were entirely lime-based, in situations where adverse weather, reduced curing requirements and faster resistance to rain and frost are required.

#### **FORMULATION:**

- **Rosendale Natural Cement** is authentic natural cement produced from argillaceous limestone mined in the Rosendale Historic Cement District. The cement district is the source of more than 50% of all the natural cement produced in North America. Natural cement is produced to meet the requirements of ASTM C10 specifications, one of ASTM’s oldest standards, reinstated in 2006, after natural cement again became commercially available.
- **Lime** incorporated in **ROSENDALE WHITEWASH 15W** mortars can be customized to meet individual project requirements. Historically, dolomitic lime was the most commonly used building lime in North America, and is faithfully reproduced using a fully hydrated dolomitic building lime meeting the specifications of ASTM C207 Type S. High calcium limes may alternatively be incorporated, or lime can be omitted in order to allow on-site addition of lime putty or field-hydrated quicklime.

#### **INSTALLATION:**

**ROSENDALE WHITEWASH 15W** whitewashes are applied in accordance with traditional masonry practices. These practices are taught to masons and restoration contractors in the course of hands-on training workshops, which are offered on a regular basis. On-site training services are also available. Applicators meeting the performance requirements of the training workshop are individually certified. Alternate provisions are made for acceptance of experienced masons who have demonstrated their knowledge and abilities in traditional masonry practices.

General installation guidelines are typical of all traditional whitewashes. Substrates must be sound, clean, roughened and properly prepared. Thorough pre-wetting of masonry is required to assure that the whitewash will not dry too quickly. **ROSENDALE WHITEWASH 15W** must be mixed with clean water in accordance with printed mixing instructions, and water addition levels must be controlled in order to obtain optimum color uniformity and best performance.

Mixed whitewash must be used before initial set, so mix only as much material as will be used within 30 minutes. Once material has begun to set, it should not be re-tempered or adjusted with

additional water, but should be discarded. If multiple coats are to be applied, they should be installed in rapid succession, before the prior application has set. Generally two to three applications will be sufficient.

Once the coating has been applied, it must be maintained in a damp condition throughout its curing period. Generally, this period of wet curing will be from 1 to 3 days, depending on formulation and conditions. Consult Edison Coatings for curing guidelines for your specific project conditions. Acceptable curing methods include draping burlap over the fresh mortar or stucco and maintaining the burlap in a damp condition, or frequent misting with water.

## PERFORMANCE

While individual custom formulations will vary in their properties, the following are typical for Rosendale natural cement products.

PROPERTY	TYPICAL VALUES
SET TIME	Initial: 30 – 120 minutes Final: 60 – 240 mins.
COMPRESSIVE STRENGTH	Typically 300-1200 psi @ 90 days
MODULUS OF ELASTICITY	535,000 to 640,000 psi (All Rosendale)
TENSILE STRENGTH	35-75 psi at 90 days
MODULUS OF RUPTURE	400 - 600
DRYING SHRINKAGE	<0.3%



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