

# NIAGARA®

## Mature Lime Putty

GRAYMONT DOLIME (OH) INC.  
Building Lime Products

### Description

NIAGARA® Mature Lime Putty is a high-purity dolomitic lime putty fully slaked and screened for immediate use. The putty is made using the purest dolomitic limestone available. The stone deposit was discovered in 1890 in northwestern Ohio, USA, and is said to be the purest in the world.

NIAGARA® Mature Lime Putty complies with ASTM C1489 (Lime Putty for Structural Purposes). Mortars formulated can be mixed according to ASTM C270-92 proportion or property specifications. Available in 45 gallon drums or 3 gallon buckets.

### Uses

Recommended for authentic restoration applications and designed to duplicate the original mortar, plaster and stuccos used on many prestigious and historic buildings from the 18th and 19th centuries.

### Advantages

#### Ready To Use

NIAGARA® Mature Lime Putty is fully slaked and screened ready for immediate use. The putty is aged at the Niagara deposit site in Genoa, Ohio, USA. It has the ability to remain soft and ready to use for many years, if protected from evaporation and frost.

#### High Plasticity

NIAGARA® Mature Lime Putty develops exceptional plasticity and workability immediately upon mixing with aggregate by machine or hand.

#### Excellent Water Retentivity

Increases workability and bonding characteristics, reduces segregation of materials, requires less retempering of mortar during use.

#### Balanced Strength

Permits optimum balance between workability and bond strength: provides adequate compression and tensile strength to accommodate structural movement, plus flexibility to absorb normal stresses from winds and vibration.

#### Weather Resistance

Offers tight, uniform bond to resist water penetration, helps prevent efflorescence, leaky walls and frost damage. Self-healing properties of NIAGARA® Mature Lime Putty repair fine cracks for many years after construction.

### Technical Data

#### ASTM C270 Specifications

#### Physical Properties Proportions By Volume

Mortar Type	Min. Avg. Comb. Strength PSI 28 Days	Water Retention %Min.	Portland Cement <sup>(1)</sup>	Lime <sup>(2)</sup> Putty	Sand <sup>(3)</sup>
M	2500	75	1	1/4	Not less than 2 1/4 and not more than 3 times the sum of the separate volumes of cementitious materials.
S	1800	75	1	1/4 to 1/2	
N	750	75	1	1/2 to 1 1/4	
O	350	75	1	1 1/4 to 2 1/2	

NOTES: (1) Portland Cement - To comply with ASTM C150, Type I, II, or III. (2) Lime To comply with ASTM C1489. (3) Sand Aggregate - To comply with ASTM C144.

### Mixing Procedures For Repointing Mortar

- REMOVE WATER FROM CONTAINER.**  
Do **NOT** stir or mix in the water that has risen to the top of the putty container. Drain or siphon off before use.
- Place sand in wheelbarrow, or mixer (do not add water).
- Proportion the putty using coffee can or similar measuring container, tap can 3-4 times to settle putty before placing into mix.
- Thoroughly mix putty and sand, using hoe or mechanical mixer at low RPM for a minimum of two minutes.
- Proportion Portland Cement into mix, adding very small amounts of water to bring to a dry but workable consistency. Mix a minimum of five minutes.

#### SPECIAL NOTE:

NIAGARA® Mature Lime Putty will not set by itself. However, if left open to air or in direct sunlight the putty will lose water by evaporation. Please keep container covered to prevent evaporation. Place on thin layer of water, on the top of the putty, after use to prevent crusting.

PROTECT FROM FREEZING.



GRAYMONT

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### Good Design Practices

The specifications below are offered as desirable inclusions in any masonry specification, but are not intended to be complete.

### Architectural Specifications

#### Part 1: General

##### 1.1 Scope

Specify to meet project requirements.

##### 1.2 Delivery and Storage of Materials

All materials shall be delivered in their original unopened packages, containers or bundles, and stored in a place providing protection from damage, deterioration and contamination. Damaged, deteriorated or contaminated materials shall be removed from the premises. Keep materials from freezing.

##### 1.3 Environmental Conditions

In cold weather, temperature of masonry materials shall be above freezing when placed. Masonry shall be protected from freezing for 48 hours after placing. Unless precautions against freezing are taken, masonry shall not be erected when temperature is below 32°F on a rising temperature, or below 40°C on a falling temperature. Masonry shall not be laid on walls or footings that are frozen or contain frost.

#### Part 2: Products

##### 2.1 Materials

- Portland Cement - Conforming to ASTM C150, Type I, II or III.
- Putty Lime - Conforming to ASTM C1489-01 (Lime Putty for Structural Purposes).
- Aggregate - Sand conforming to ASTM C144.
- Water- Clean and free of deleterious amounts of acid, alkalies and organic materials.

##### 2.2 Mixes

Mortar Designation	Cement: Lime: Aggregate
II	1 : 1/2 : 4 - 4 1/2
III	1 : 1 : 5 - 6
IV	1 : 2 : 8 - 9
V	1 : 3 : 10 - 12
VI	0 : 2 : 5

*These formulations are measured by volume.*

The appropriate mix should be selected by the Architect and included in the specification.

#### Part 3: Execution

##### 3.1 Mixing Mortar

Proportion ingredients accurately and mix for at least 5 minutes in mechanical batch mixer with enough water to produce a workable consistency. The materials should be mixed in the following order: aggregate, lime putty, cement.

The use of lime-based mortar requires considerable skill on behalf of the mason to produce first-class work. Lime-based mortars are slow-setting, progressively developing strength over several months.

Masonry Material	SELECTED EXPOSURE		
	Sheltered	Moderate	Severe
High durable: granite, hard brick, etc.	IV	III	II
Moderately durable stones, brick, etc.	V	IV	III
Poorly durable: soft brick, friable stone, etc.	VI	V	IV

The mix recommendations are conservative; old, valuable masonry should be repointed with a mix one grade weaker than that shown.

#### WARNING:

**MAY CAUSE EYE OR SKIN BURNS, HARMFUL IF SWALLOWED.**

CONTAINS: Hydrated Lime (calcium magnesium hydroxide) Avoid contact with eyes or skin. Do not take internally. Avoid breathing lime dust.

Always wear NIOSH approved eye goggles when handling lime, in case of eye contact, flush eyes thoroughly, including under eyelids, with water for fifteen minutes. CALL PHYSICIAN IMMEDIATELY,

Wear protective clothing to prevent skin contact. If skin contact occurs wash with water. Should skin irritation continue, SEE PHYSICIAN.

If swallowed CALL PHYSICIAN IMMEDIATELY.

Ventilate or use dust collector to prevent airborne lime dust. If there is airborne lime dust use a NIOSH approved dust respirator.

#### KEEP OUT OF REACH OF CHILDREN.

Hazardous ingredient info - (419) 855-8336 1-800-537-4489

**NOTICE:** There are no warranties which extend beyond the description contained herein. We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within 30 days from the earlier of the date it was or reasonably should have been discovered.