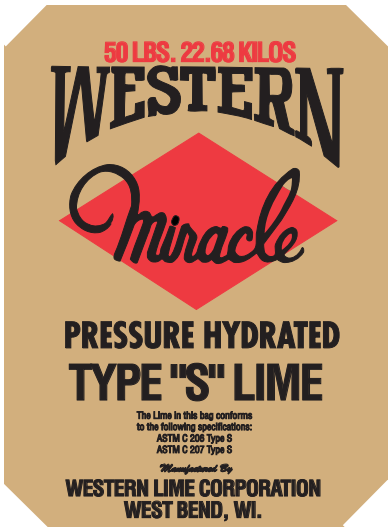
Western Lime



1. PRODUCT NAME

Western Miracle Type S Hydrated Masons Lime

2. MANUFACTURER

Western Lime Corporation
206 N. 6th Avenue
P.O. Box 57
West Bend, WI 53095
262-334-3005
www.westernlime.com

3. PRODUCT DESCRIPTION

GENERAL

Western Miracle Lime is Type S (Special) Dolomitic Hydrated Lime, also known as calcium magnesium hydroxide. The fine, white powder is produced by calcining high purity dolomitic limestone, followed by pressure hydrating and milling the lime.

BASIC USE

Western Miracle Type S Lime, when mixed with portland cement, sand, and water, is the key ingredient in the mixing of highly plastic workable mortar needed for durable, water resistant masonry.

The capacity of a masonry mortar to retain satisfactory workability under the influence of masonry unit suction and evaporation rate depends on the water retentivity and setting characteristics of the mortar. Lime based mortars exceed minimum requirements for water retention and thus contribute to greater workability and plasticity. This enables the mortar to be spread easily into the cracks and crevices of the masonry units.

Because of the workability of lime based mortars, there is better bond between mortar and masonry unit. Good bond is important for resistance to water penetration and resisting the flexing forces of wind and ground movement. Mortars made with portland cement and Western Miracle Lime exhibit superior bond values when tested according to ASTM 1072.

OTHER USES

Western Miracle Type S Lime is recommended for stucco use in scratch, brown, and finish coats. Type S lime is also effective for soil stabilization and drying up wet clay soils at construction sites. Type S lime can also be used in portland cement concrete as a waterproofer and to aid pumping of grout and concrete.

PACKAGING

Western Miracle Type S Lime is packaged in 50# multiwall paper bags. It is also available in bulk and in bulk bags.

4. INSTALLATION

SELECTING MIX DESIGN

Select mortar strength and type of mortar appropriate to the use of the mortar and to the materials being used. Refer to the appendix of ASTM C-270 for further descriptions of mortar types.

Type M Mortar is the highest in compressive strength. It is typically used for reinforced masonry below grade, parapet walls, chimneys, and manholes. A 2:1:9 portland/lime/sand mix design will meet or exceed the 2500 psi requirements in ASTM C-270 Table 2 Property Specifications.

Type S Mortar has high compressive strength and bond strength. It can be used for exterior work at or above grade where maximum flexural bond strength is desired and where lateral strength is required. A 1:1:6 portland / lime / sand mix design will meet or exceed the 1800 psi requirements in ASTM C-270 Table 2

Western Lime Corporation
May 2003
4 MASONRY MORTAR 04100
Hydrated Lime

Property Specifications.

Type N Mortar has medium compressive strength. It is suitable for use in above grade exposed masonry and in interior walls. ACI 530 does not allow the use of Type N mortar in seismic zones 3 and 4. Using a mix design of 1 : 1 1/2 : 7 1/2 Portland/lime/sand, mortar will meet or exceed the 750 psi requirement in ASTM C-270 Table 2 Property Specifications.

When selecting the mortar type, compressive strength is important but it is not the most important criteria by which mortar is selected. Bond strength is equally important, as are good workability and water retentivity, both of which are required for maximum bond.

Mortar type should also be correlated with the masonry unit to be used. Mortar with higher water retentivity is more compatible with masonry units or materials with a high initial rate of absorption.

MIXING

Proportion ingredients accurately and mix for at least 5 minutes in a mechanical batch mixer with the maximum amount of water to produce a workable consistency. A recommended procedure is:

a. Put into mixer approximately 80% of total volume of water
b. Add half of the sand
c. Add total hydrated lime
d. Mix for 1 minute
e. Add remaining sand
f. Add total portland cement
g. Add remaining volume of water
h. Mix for at least 4 minutes
i. Let mortar rest for 3-5 minutes
j. Add water for desired consistency and mix for 1 minute

HANDLING

Lay mortar in a uniform bed and completely fill bed and head joints. Mortar should not be retempered after 2 hours.

LIMITATIONS

Waterproofing, plasticizing, or corrosive cold weather additives are not normally required for use with portland cement/lime mortars. Third party test data, which demonstrates no adverse effects to the assemblage, should be required before additives are used.

The contractor is responsible for using sound materials and good construction and cleaning practices.

TESTING

Routine laboratory testing is done with Miracle Lime and with various mortar mix designs (see Technical Data). There is no test method for field prepared mortar that determines compliance with lab tested requirements. ASTM C-780 is a test method for ongoing evaluation and comparison of mortar being used in the field. The values from this testing are not to be used to determine compliance with ASTM C-270.

5. TECHNICAL DATA

APPLICABLE STANDARDS

ASTM C-207 “Specification for Hydrated Lime for Masonry Purposes”

Call to ask for independent laboratory test reports which show that Miracle Lime meets or exceeds these requirements.

ASTM C-270 “Standard Specification for Mortar for Unit Masonry”

Call to ask for test reports on varying mix designs using Miracle Lime which meet or exceed these requirements.

6. TECHNICAL SERVICES

Available upon request. Call our corporate office at 262-334-3005.

7. SAFETY/HEALTH

Refer to MSDS for safety/health information.

Western Lime Corporation
May 2003

4 MASONRY MORTAR 04100
Hydrated Lime