MegaLite® Ultimate Crack Prevention Large Format Tile Mortar



1. **Product Name**

   MegaLite® Ultimate Crack Prevention Large Format Tile Mortar

2. **Product Description**

   The highest bond strength, most flexible product in the lineup. Formulated to be 40% lighter than traditional mortars, a 30lb. bag has the same coverage as a 50 lb. bag. The superior handling product offers non-sag and non-slump performance for large and heavy tiles. Formulated with recycled material, contributing to LEED® points.

   Key Features

   - Maximum flexibility and bond strength to prevent cracks in tile
   - Non-slump for floors, sag and slip resistant for walls
   - Lightweight - 30 lbs. covers the same area as 50 lbs. of traditional mortar
   - Exceeds ANSI A118.15HET and A118.11

   Suitable Substrates

   - Concrete, mortar beds, masonry, Portland cement plaster
   - Liquid-applied waterproofing membranes such as RedGard® Waterproofing and Crack Prevention Membrane, Custom® 9240 and RedGard® SpeedCoat
   - Crack isolation sheet membranes such as Crack Buster® Pro
   - Uncoupling mats such as RedGard® Uncoupling Mat
   - Substrates treated with MBP Multi-Surface Bonding Primer
   - Exterior Grade Plywood (interior residential and light commercial dry areas)
   - Gypsum wallboard (interior dry areas)
   - Existing ceramic tile (scarified)
   - Fully-bonded sheet vinyl flooring (scarified)
   - Plastic laminates (scarified)
   - Cutback adhesive (see preparation instructions)

   Composition of Product

   MegaLite® is a dry, proprietary blend of copolymers, Portland cement, inorganic aggregates and chemicals.

   Benefits of Product in the Installation

   - Maximum bond strength and flexibility
   - Isolates cracks
   - Non-slip, non-slump medium bed for heavy floor and wall tile and stone
   - Exceeds ANSI A118.4TE, A118.15TE and A118.11 standards without the need for additives
   - A 30 lb (13.6 kg) bag covers the same amount as a 50 lb (22.68 kg) bag of traditional mortar
   - Not formulated with silica sand
   - Recommended for interior and exterior pools and water features which require ANSI A118.15 bonding mortars.

   Limitations to the Product

   - Do not bond directly to hardwood, Luan plywood, particle board, parquet, cushion or sponge-back vinyl flooring, metal, fiberglass, plastic or OSB panels.
   - When setting moisture sensitive natural stone, cement or agglomerate tile use EBM-Lite™ Epoxy Bonding Mortar 100% Solids or CEG-Lite™ 100% Solids Commercial Epoxy Grout.
   - Do not use to install resin-backed stone use EBM-Lite™ Epoxy Bonding Mortar 100% Solids, CEG-Lite™ 100% Solids Commercial Epoxy Grout or contact Custom's® Technical Services for recommendations.
   - For clear and translucent glass CUSTOM recommends Glass Time Premium Thin-Set Mortar. When setting glass tile larger than 6" x 6" (15 x 15 cm), contact Custom's® Technical Services for recommendations.
   - When setting dimensional stone larger than 12" x 12" (30 x 30 cm), contact Custom's® Technical Services for recommendations regarding subfloor deflection requirements.

   Packaging

   - 30 lb (13.6 kg) bag
   - Gray or white

3. **Technical Data**

   Applicable Standards

   American National Standards Institute (ANSI) ANSI A108.5, A118.4TE, A118.15TE and A118.11 of the American National Standards for the Installation of Ceramic Tile. Meets ANSI A138.1 for Sustainable Tile Installation Products.

   International Organization for Standardization (ISO) 13007-2 for Thin Set Mortar.

   ASTM International (ASTM)

   - ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens)
   - ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester

   Resilient Floor Covering Institute (RFCI) Recommended Work Practices for Removal of Resilient Floor Coverings
   Tile Council of North America (TCNA) TCNA Handbook for Ceramic Tile Installation, TCNA Method EJ171

   Technical Chart

Property	Test Method	Requirement	Typical Results
Pot Life			4 Hours
Open Time (E)	A118.15 Section 5.3	E = 30 Minutes	Pass

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4 Week Shear Bond Strength			
Glazed Wall Tile	A118.15 Section 7.1.2	> 450 psi	725 - 850 psi (51.0 - 59.8 kg/cm²)
Porcelain Tile	A118.15 Section 7.2.5	> 400 psi	650 - 725 psi (45.7 - 51.0 kg/cm²)
Quarry Tile to Plywood	A118.11 Section 4.1.2	> 150 psi	350 - 425 psi (24.6 - 29.9 kg/cm²)
Sag on Walls	A118.15 Section 6.0	< 0.02"	Pass

Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing practices. Use of this product can contribute towards LEED® v3 certification:

- Up to 2 points towards MR Credit 5, Regional Materials
- Up to 2 points towards MR Credit 4, Recycled Content
- Up to 1 point towards IEQ Credit 4.1, Low-Emitting Materials - Adhesives & Sealants

Bonding To Concrete Surfaces

Concrete or plaster must be fully cured and must accept water penetration. Test by sprinkling water on various areas of the substrate. If water penetrates, then a good bond can be achieved; if water beads, surface contaminants are present, and loss of adhesion may occur. Contaminants should be mechanically removed before installation. Concrete must be free of efflorescence and not subject to hydrostatic pressure. Concrete slabs should have a broomed or brushed finish to enhance the bond. Smooth concrete slabs must be mechanically abraded to ensure a good bond.

Bonding to Gypsum Surfaces

Lightweight or gypsum-based underlayments must first be treated with RedGard® Waterproofing and Crack Prevention Membrane and must obtain a minimum 2000 psi (13.8 MPa) compressive strength at the recommended cure time. The underlayment must be sufficiently dry and properly cured to the manufacturer's specifications for permanent, non-moisture permeable coverings. Surfaces to be tiled must be structurally sound and subject to deflection not to exceed the current ANSI standards. All lightweight concrete and gypsum-based underlayment surfaces to receive RedGard® must be primed with properly applied sealer or a primer coat of RedGard®, consisting of 1 part RedGard® diluted with 4 parts clean, cool water. Mix in a clean bucket at low speed to obtain a lump-free solution. The primer can be brushed, rolled or sprayed to achieve an even coat. Apply the primer coat to the floor at a rate of 300 ft/gal (7.5 M/L). Drying time depends on site conditions, but is normally less than 1 hour. Extremely porous surfaces may require 2 coats. At this point, RedGard® can be applied to the primed lightweight or gypsum-based surface. Refer to the individual product data sheet or packaging directions for application instructions. Expansion joints must be installed in accordance with local building codes and ANSI/TCNA guidelines. Refer to TCNA EJ171.

Bonding to Plywood and OSB Surfaces

Plywood floors, including those under resilient flooring, must be structurally sound and must meet all ANSI A108.01 Part 3.4 requirements. Maximum allowable deflection: L/360 tile L/720 stone. See TCNA F150-13 tile installations, TCNA F141-13 and F250-13 for stone. For questions about proper subfloor installation requirements, call Custom® Technical Services.

Bonding to Cutback Adhesive

Adhesive layers must be removed, as they reduce mortar bond strength to cement surfaces. Use extreme caution; adhesives may contain asbestos fibers. Do not sand or grind adhesive residue, as harmful dust may result. Never use adhesive removers or solvents, as they soften the adhesive and may cause it to penetrate into the concrete. Adhesive residue must be wet-scraped to the finished surface of the concrete, leaving only the transparent staining from the glue. To determine desirable results, do a test bond area before starting. Refer to the RFCI Pamphlet, "Recommended Work Practices for Removal of Resilient Floor Coverings", for further information.

Movement Joint Placement

Expansion joints and cold joints, as described in ANSI A108.01, should never be bridged with setting material. They must be brought through the tile work and filled with an appropriate elastomeric sealant. Contact Custom® Building Products for the proper treatment of control or saw cut joints. Refer to TCNA EJ171, F125 and F125A.

Mixing Ratios

Mix 5.75 - 6 qts (5.4 - 5.7 L) clean water to 30 lb (13.6 kg) bag of mortar.

Mixing Procedures

Mix by hand or use a low 150-200 RPM speed 1/2" (13 mm) drill to achieve a smooth, paste-like consistency. Let the mixture slake or stand 5-10 minutes; stir again and use. Stir occasionally, but do not add more water. When properly mixed, troweled ridges will stand without slump.

Application of Product

Installation must conform to ANSI A108.5. Use a properly-sized notch trowel to ensure proper coverage under tiles. Using the flat side of the trowel, apply a skim coat of mortar to the surface. With the notch side of the trowel held at a 45° angle, apply additional mortar to the surface, combing in one direction. Press the tile firmly into place in a perpendicular motion across ridges, moving back and forth. The perpendicular motion flattens ridges and closes valleys, allowing maximum coverage. With some tile, back-buttering is advisable. Adjust the tile promptly and beat it in with a beating block and rubber mallet. Periodically pull up a tile and check the back to ensure proper adhesive coverage. If the material has skinned over (not sticky to the touch), recomb with the notch trowel; if too dry, remove and replace the dry material with fresh material. Thin Set Mortar should not be used to fill low spots in the flooring. Mortar thickness should not exceed 3/4" when tiles are beat in.

Curing of Product

Curing time is affected by ambient and surface temperatures and humidity. Use the following as a guideline. Allow 24 hours before grouting and light traffic. Allow 7-10 days before heavy or vehicular traffic. Before exposure to heavy or vehicular traffic, assure assembly is rated €œHeavy or Extra Heavy€ per TCNA Service Requirements. As necessary, use plywood or other load distributing protection when moving heavy equipment across tiled assembly. Submerged applications; wait 14 days after the final grouting period before filing water features with water at 70°F (21°C).

Cleaning of Equipment

Clean with water before the material dries.

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Health Precautions

This product contains Portland cement and free silica. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. If eye contact occurs, flush with water for 15 minutes and consult a physician. Do not breathe dust; wear a NIOSH approved respirator

Conformance to Building Codes

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

4. Size & Availability

Location	Item Code	Size	Color	Package
USA	MLMG30	30 lb (13.6 kg)	Gray	Bag
USA	MLMW30	30 lb (13.6 kg)	White	Bag
Canada	CMLMW15	15 lb (6.8 kg)	White	Bag
Canada	CMLMW30	30 lb (13.6 kg)	White	bag

5. Product Warranty

Obtain the applicable **LIMITED PRODUCT WARRANTY** at www.custombuildingproducts.com/product-warranty or send a written request to Custom Building Products, Inc., Five Concourse Parkway, Atlanta, GA 30328, USA. Manufactured under the authority of Custom Building Products, Inc. © 2017 Quikrete International, Inc.

6. Product Maintenance

Properly installed product requires no special maintenance.

7. Technical Services Information

For technical assistance, contact Custom® Building Products.

8. Filing System

Additional product information is available from the manufacturer upon request.

Related Products

Prism® Ultimate Performance Grout
Polyblend®Plus Sanded Grout
Fusion Pro® Single Component® Grout Designer Series
CEG-Lite™ 100% Solids Commercial Epoxy Grout

Coverage Chart

SQUARE FOOT COVERAGE PER 30 LB BAG (SQUARE METER PER 13.6 KG) Chart for estimating purposes. Coverage may vary based on installation practices and jobsite conditions. For more trowel sizes, please use the material calculator at CustomBuildingProducts.com or contact CUSTOM Technical Services at (800)282-8786.

Trowel Size	Min Coverage	Max Coverage
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) Square-Notch	90 sq. ft. (8.4 M²)	100 sq. ft. (9.3 M²)
1/4" x 3/8" x 1/4" (6 x 9.5 x 6 mm) Square-Notch	63 sq. ft. (5.9 M²)	70 sq. ft. (6.5 M²)
1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) Square-Notch	**IMPORTANT NOTE BELOW** 45 sq. ft. (4.2 M²)	**IMPORTANT NOTE BELOW** 50 sq. ft. (4.6 M²)

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3/4" × 9/16" × 3/8" (19 × 14 × 9.5 mm) U- Notch @45° angle	36 sq. ft. (3.3 M²)	40 sq. ft. (3.7 M²)
3/4" × 9/16" × 3/8" (19 × 14 × 9.5 mm) U- Notch @30° angle	45 sq. ft. (4.2 M²)	50 sq. ft. (4.6 M²)

***IMPORTANT NOTE:** Custom Building Products does not recommend the use of a 1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) Square-Notched trowel as the ½" spacing between each square notch has been shown to make it more difficult to bed tiles and achieve proper mortar coverage. CUSTOM recommends the use of a trowel design that promotes mortar ridge collapse such as either a deeper, slanted, U-notch, V-notch, or ridged large format trowel when applying thicker amounts of mortar to accommodate tile warpage and back pattern recesses. Applying mortar using a 3/4" × 9/16" × 3/8" (19mm × 14mm × 9.5 mm) U- Notch at a 30° angle provides better coverage between the tile and the substrate and the same coverage area as a ½" notched trowel. Regardless of the trowel used, mortar coverage between the substrate and tile underside is required to be ≥80% for dry areas and ≥95% for wet areas and exteriors with all tile edges properly supported with mortar and in a minimum of 3/32" (2.38 mm) and a maximum of ¾" (19mm) continuous thickness. Note: Larger tiles, tiles with deep underside patterns and ungauged natural stone tiles may require larger notch sizes and may need to be flat back-troweled (formerly back buttered) or notched-back troweled to achieve proper coverage and mortar support. To meet warranty requirements, CUSTOM recommends testing to confirm adequate bonding mortar coverage. When back troweling, consider the tile's underside pattern and depth to estimate thickness and usage to add to your estimate. For achieving proper mortar coverage see the following video: Trowel & Error. (Also available in Spanish and Russian.) For information regarding back troweling, refer to The National Tile Contractors Association / Reference Manual & Flat Back & Notched Back - Troweling (TileTVS3 22 08)