MegaLite® RS Ultimate Rapid Setting Crack Prevention Large Format Tile Mortar



1. **Product Name**

   MegaLite® RS Ultimate Rapid Setting Crack Prevention Large Format Tile Mortar

2. **Manufacturer**

   Custom® Building Products

3. **Product Description**

   A premium one part formula with the high, fast bond strengths and flexibility to withstand horizontal movement to isolate substrate cracks. For time-critical commercial and residential installations under the most demanding requirements, capable of thin-set or medium bed application up to 3/4″ (19 mm) thick on horizontal surfaces after beat in. Non-slump, medium-bed features provide the ultimate support for large format tile and stone. No need for two part additives to meet high bond and flexibility or compressive strength requirements. The rapid setting formula allows grouting in less than 3 hours, traffic in 4 hours. A 30 lb (13.6 kg) bag covers the same area as a 50 lb (22.68 kg) bag of traditional mortar. Use for interior or exterior floors, countertops and walls. Formulated with recycled material contributes to LEED® certification. Exceeds ANSI A118.4, A118.15FET and A118.11 without the need for additives.

   Key Features

   - Fast curing - Grout in 3 hours, open for traffic in 4 hours
   - Unsurpassed bond strength and flexibility
   - Non-slump for floors, sag and slip resistant for walls
   - Lightweight - 30 lbs. covers the same area as 50 lbs. of traditional mortar

   Suitable Substrates

   - Concrete, mortar beds, masonry, portland cement plaster
   - Liquid applied waterproofing membranes such as RedGard® and Custom® 9240
   - Crack prevention sheet membranes such as Crack Buster Pro®
   - Exterior Grade Plywood (interior residential and light commercial dry areas)
   - Gypsum wallboard (interior dry areas)
   - Existing ceramic tile
   - Fully bonded sheet vinyl flooring
   - Plastic laminates
   - Cutback adhesive

   Composition of Product

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

   Benefits of Product in the Installation

   - Sets quickly
   - Allows grouting in as little as 3 hours and light foot traffic in 4 hours
   - Maximum bond strength and flexibility
   - Isolates cracks
   - Non-slump medium bed for heavy tile and stone installations for floors and walls
   - Exceeds ANSI A118.4, A118.15FET and A118.11 standards without the need for additives
   - Not formulated with silica sand
   - Recommended for interior and exterior pools and water features which require ANSI A118.15FET 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.
   - 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

4. **Technical Data**

   Applicable Standards

   American National Standards Institute (ANSI) - ANSI A108.5, A118.4, A118.15FET and A118.11 of the American National Standards for the Installation of Ceramic Tile
   ISO 13007C2FTE

   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

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Technical Chart

Property	Test Method	Requirement	Typical Results
Pot Life			40 - 60 Minutes
Open Time	A118.15 Section 5.3	> 20 Minutes	Pass
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	A118.4 Section 4.6	< 1/16"	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 and deflection requirements. For questions about proper subfloor installation, call Custom® Building Products.

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 or F125A.

Mixing Ratios

Mix 5.75 - 6 qts (5.4 - 5.7 L) clean water per 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 3 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 be less than 3/4" when beat in.

Curing of Product

Curing time is affected by ambient and surface temperatures and humidity. Use the following as a guideline. Allow 3 hours before grouting, 4 hours before light traffic, and 3 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).

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Cleaning of Equipment

Clean with water before the material dries.

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.

5. Size & Availability

Item Code	Size	Color	Package
MLRSG30	30 lb (13.6 kg)	Gray	Bag
MLRSW30	30 lb (13.6 kg)	White	Bag

* This item available by special order only.

6. Product Warranty

This product is eligible for Custom® Building Products Lifetime Installations Systems Warranty. Custom® Building Products warrants to the original consumer purchaser that its product shall be free from defects in material and workmanship under normal and proper usage for a period of one year following the date of original purchase. Custom's® sole liability under this warranty shall be limited to the replacement of the product. Some states, countries or territories do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty will not extend to any product which has been modified in any way or which has not been used in accordance with Custom's® printed instructions. Custom® makes no other warranties either expressed or implied. This warranty gives you specific legal rights, and you may have other rights that vary from state to state or from one country/territory to another. For details and complete warranty information, visit /reference-library/warranties.aspx.

7. Product Maintenance

Properly installed product requires no special maintenance.

8. Technical Services Information

For technical assistance, contact Custom® Building Products.

9. Filing System

Additional product information is available from the manufacturer upon request.

Related Products

Prism® Ultimate Performance Grout

Polyblend®Plus Sanded Grout

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Coverage Chart

SQUARE FOOT COVERAGE PER 30 LB BAG (SQUARE METER PER 13.6 KG)

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. (5.8 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**	**IMPORTANT NOTE BELOW**
3/4" × 9/16" × 3/8" (19 × 14 × 9.5 mm) U-Notch	36 sq. ft. (3.3 M²)	40 sq. ft. (3.7 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" (19 × 14 × 9.5 mm) U- Notch at a 30^0 angle provides better coverage with the same coverage as the ½" notched trowel. 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) to achieve proper coverage and mortar support. CUSTOM recommends testing to confirm adequate bonding mortar coverage. 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 flat back troweling, refer to The National Tile Contractors Association / Reference Manual Flat & Notch Back-Troweling. Chart for estimating purposes. Coverage may vary based on installation practices and jobsite conditions. For more sizes, use the material calculator at CustomBuildingProducts.com or contact CUSTOM Technical Services at 800-282-8786.