

MegaFlex® Crack Prevention Mortar

1 Product Name

MegaFlex® Crack Prevention Mortar

2 Manufacturer

Custom Building Products
 Technical Services
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3 Product Description

NOTE: This product has been discontinued.

The ultimate in flexibility and bond strength for the most demanding installation requirements. Its unique blend of polymers and inorganic chemicals enhance the bond between the tile and substrate for unsurpassed performance as part of a wide variety of new and existing job conditions. Flexible enough to withstand horizontal substrate movement to 1/8" (3 mm). MegaFlex® offers up to 20% more coverage than other thin-sets and exceeds ANSI A118.4E, A118.15E and A118.11 standards without the need for additives. Use it for interior or exterior floors, countertops and walls.

Key Features

- Ultimate flexibility and bond strength.
- Unsurpassed bonds to wood, glass and porcelain tile.
- Isolates cracks to 1/8" (3 mm).
- Provides up to 20% more coverage than typical Portland cement mortars

Suitable Tile Types

- Vitreous, semi-vitreous or non-vitreous tile: ceramic, mosaic, quarry, cement body tile
- Impervious porcelain and glass tile
- Brick and thin brick
- Cement-based precast terrazzo
- Natural stone tile

Suitable Substrates

- Concrete, mortar beds, masonry, Portland cement plaster
- WonderBoard®, cement backerboards
- Liquid applied waterproofing membranes such as RedGuard® 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 (see preparation instructions)



Composition of Product

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

Benefits of Product in the Installation

- Maximum bond strength and flexibility
- Superior bonding to plywood and to porcelain tile
- Isolates cracks to 1/8" (3 mm)
- Excellent handling characteristics through extended open and adjustment times
- Provides up to 20% more coverage than typical Portland cement mortars
- Exceeds ANSI A118.4E, A118.15E and A118.11 standards without the need for additives
- Approved for industry-recommended interior and exterior applications
- Water submerged installations (14 day cure required)

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

- 50 lb (22.68 kg) bag
- Gray or white



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4 Technical Data

Applicable Standards

American National Standards Institute (ANSI) — ANSI A108.5, A118.4E, A118.15E and A118.11 of the American National Standards for the Installation of Ceramic Tile 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
ISO 13007-2

Technical Chart

Property	Test Method	Requirement	Typical Results
Pot Life			4 Hours
Open Time (E)	A118.15 Section 5.3	E = 30 Minutes	Pass
4 Week Shear Bond Strength			
Glazed Wall Tile	A118.15 Section 7.1.2	> 450 psi	700 - 800 psi (49.2 - 56.2 kg/cm ²)
Porcelain Tile	A118.15 Section 7.2.5	> 400 psi	625 - 700 psi (43.9 - 49.2 kg/cm ²)
Quarry Tile to Plywood	A118.11 Section 4.1.2	> 150 psi	300 - 375 psi (21.1 - 26.4 kg/cm ²)
Sag on Walls	A118.15 Section 6.0	< 0.02 mm	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 1 point towards IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants

5 Instructions

General Surface Prep

USE CHEMICAL-RESISTANT GLOVES, such as nitrile, when handling product.

Surfaces must be structurally sound. Remove all grease, oil, dirt, curing compounds, sealers, adhesives or any other contaminant that would prevent a good bond. Glossy or painted surfaces must be sanded, or abraded, and stripped of all contaminants. Concrete must be cured 28 days and accept water penetration. Concrete must be free of efflorescence and not subject to hydrostatic pressure. Concrete slabs should have a coarse finish to enhance the bond. Plywood flooring including those under resilient flooring must be structurally sound and meet all ANSI and deflection requirements. For questions about proper subfloor installation, call Technical Services. Smooth concrete surfaces, existing glazed tile, terrazzo, or polished stone should be scarified. Sheet vinyl must be well bonded and stripped of old finish. Roughen the surface by sanding or abrading, then rinse and allow to dry. Expansion joints should never be bridged with setting material. Do not sand flooring materials containing asbestos. Ambient temperature should be maintained above 50° F (10° C) or below 100° F (38° C) for 72 hours to achieve proper bond.

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 coarse finish to enhance the bond. Smooth concrete slabs must be mechanically abraded to achieve proper bond.

Bonding to Lightweight Cement and Gypsum Surfaces

Lightweight or gypsum based underlayments must obtain a minimum 2000 psi (13.8 MP) compressive strength. 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. Surfaces shall be free of all grease, oil, dirt, dust, curing compounds, waxes, sealers, efflorescence, or any other foreign matter.

All Lightweight cement or Gypsum surfaces should be primed with a 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 sq. ft./ (7.5 sq. 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 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.



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Bonding to Backerboards

As an alternative to an additional layer of plywood, WonderBoard® backerboard may be installed over plywood subfloors.

Bonding to Existing Surfacing Material

Plywood flooring must be structurally sound and must meet all ANSI and deflection requirements. Resilient flooring or plastic laminates must be well-bonded, as well as clean and free of all contaminants. Roughen the surface by sanding or scarifying; rinse and allow to dry. Do not sand flooring that contains asbestos. For existing well bonded ceramic tile, mechanically abrade the surface. Rinse and allow to dry. When sanding, an approved respirator should be used.

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 F125, F125A and TCNA EJ171.

Mixing Ratios

Mix approximately 6 qts (5.67 L) clean water to a 50 lb (22.68 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. Mortar can be applied up to 1/4" (6 mm) thick after beat in. For thicker applications, use a medium bed mortar; 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.

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 or light traffic.

Cleaning of equipment

Clean with water before the material dries.

Storage

Protect from freezing. Store in a cool, dry area.

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.

6 Availability & Cost

Item Code	Size	Color	Package
MFMG50	50 lb (22.68 kg)	Gray	Bag
MFMW50	50 lb (22.68 kg)	White	Bag

7 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 custombuildingproducts.com.

When MegaFlex® Crack Prevention Mortar is used as a part of a qualifying full installation system of CUSTOM products, the installation can qualify for up to a lifetime system warranty. CUSTOM will repair and/or replace, at its discretion, the affected area of the system. For more information, find details and limitations to this warranty at custombuildingproducts.com.

8 Product Maintenance

Properly installed product requires no special maintenance.



CUSTOM®

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9 Technical Services Information

For technical assistance, contact Custom technical services at 800-282-8786 or visit custombuildingproducts.com.

10 Filing System

Additional product information is available from the manufacturer upon request.

Expected Wear

Properly installed tile will last for more than 60 years.

Related Products

Polyblend® Sanded Grout

Fusion Pro® Single Component® Grout

MegaFlex® Crack Prevention Mortar

Coverage

SQUARE FOOT COVERAGE PER 50 LB BAG (SQUARE METER PER 22.68 KG)

Trowel Size	Min Coverage	Max Coverage
1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) Square-Notch	100 sq. ft. (9.3 M ²)	110 sq. ft. (10.2 M ²)
1/4" x 3/8" x 1/4" (6 x 9.5 x 6 mm) Square-Notch	70 sq. ft. (6.5 M ²)	77 sq. ft. (7.2 M ²)
1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) Square-Notch	50 sq. ft. (4.6 M ²)	55 sq. ft. (5.1 M ²)
3/4" x 9/16" x 3/8" (19 x 14 x 9.5 mm) U-Notch	40 sq. ft. (3.7 M ²)	44 sq. ft. (4.1 M ²)



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