

Complete Contact™ Fortified Mortar



1. Product Name

Complete Contact™ Fortified Mortar

2. Product Description

Full contact, medium bed mortar designed for large format tile floors without the need for backbuttering. Mortar is fluid, yet supports deeper notch trowel sizes.

Key Features

- Excellent for setting large modular tile and stone
- Can be used in thin-bed and medium-bed applications
- Less pressure needed to embed tile
- Exceeds ANSI A118.4 and A118.11

Suitable Substrates

- Concrete, mortar beds, masonry, Portland cement plaster
- [WonderBoard® Lite](#), cement backerboards
- 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

Complete Contact™ is a dry, proprietary blend of Portland cement, copolymers, inorganic aggregates and chemicals.

Benefits of Product in the Installation

- Provides full mortar transfer to the back of the tile to save installation time by eliminating the need for back-buttering
- Holds ridges and supports the deeper notch trowel sizes required for larger tile
- Can be used in thin-set or medium bed applications up to 3/4" (19 mm)
- More fluid than traditional thin-sets
- Exceeds ANSI A118.4 and A118.11 standards without the need for additives

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.
- Not recommended for interior and exterior pools and

water features. CUSTOM recommends MegaLite® Crack Prevention Mortar, MegaFlex® Crack Prevention Mortar and ProLite® Large Tile and Stone Mortar for the installation of ceramic and porcelain tile in submerged applications. For additional information, contact Custom Technical Services.

- 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

3. Technical Data

Applicable Standards

American National Standards Institute (ANSI) ANSI A108.5, A118.4, A118.15 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

Technical Chart

Property	Test Method	Requirement	Typical Results
Pot Life			2 Hours
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	450 - 550 psi (31.6 - 38.7 kg/cm²)
Porcelain Tile	A118.15 Section 7.2.5	> 400 psi	400 - 475 psi (28.1 - 33.4 kg/cm²)
Quarry Tile to Plywood	A118.11 Section 4.1.2	> 150 psi	200 - 300 psi (14.1 - 21.1 kg/cm²)

Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing

Complete Contact™ Fortified Mortar

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

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. See TCNA F150. 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 F125, F125A and TCNA EJ171.

Mixing Ratios

Mix 5 qts (4.73 L) clean water per 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. 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 24 hours before grouting and light traffic, and 7-10 days before heavy or vehicular traffic. Before exposure to heavy or vehicular traffic, assure assembly is rated "Heavy or Extra Heavy" per TCNA Service Requirements. As necessary, use plywood or other load distributing protection when moving heavy equipment across tiled assembly.

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.

4. Availability & Cost

Item Code	Size	Color	Package
CCG50*	50 lb (22.68 kg)	Gray	Bag
CCW50*	50 lb (22.68 kg)	White	Bag

*Indicates special order item.

5. Product Warranty

Complete Contact™ Fortified Mortar

This product is eligible for Custom® Building Products 10 -Year Installation 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](#).

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

Polyblend® Plus Sanded Grout

Fusion Pro® Single Component® Grout

Coverage Chart

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	80 sq. ft. (7.4 M²)	90 sq. ft. (8.4 M²)
1/4" x 3/8" x 1/4" (6 x 9.5 x 6 mm) Square-Notch	56 sq. ft. (5.2 M²)	63 sq. ft. (5.9 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" x 9/16" x 3/8" (19 x 14 x 9.5 mm) U-Notch	32 sq. ft. (3 M²)	36 sq. ft. (3.3 M²)

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.

***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 1/2" 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" x 9/16" x 3/8" (19 x 14 x 9.5 mm) U- Notch at a 30° angle provides better coverage with the same coverage as the 1/2" 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 3/4" (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. 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 Back & Notched Back - Troweling \(TileTVS3 22 08\)](#)