



**1. Product Name**

ProLite® Tile & Stone Mortar  
 Porcelain Tile Thin-Set Mortar  
 VersaBond Flex® Fortified Thin-Set Mortar  
 Complete Contact® Fortified Mortar  
 Complete Contact RS Fortified Mortar

**2. Manufacturer**

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**3. Product Description**

**BASIC USE**

**ProLite®**  
 ProLite Tile & Stone Mortar offers high flexibility and bond strength for a variety of floor and wall tile installations. Excellent for large, heavy tile or stone, ProLite provides nonslump performance for floor installation and does not sag or slip on walls. Use it for interior or exterior floors, countertops and walls.

**Porcelain Tile Thin-Set Mortar**  
 Designed to provide superior bonding of porcelain tile to concrete surfaces, backerboards and self-leveling underlayments, polymer-modified Porcelain Tile Thin-Set Mortar also excels for glass, large modular tiles and radiant heating system installations. Use it for interior or exterior floors, walls or countertops.

**VersaBond Flex®**  
 VersaBond Flex Fortified Thin-Set Mortar is a professional formula, all-purpose mortar with high flexibility and bond strength. With outstanding adhesion to plywood subfloors, this mortar is also ideal for porcelain and glass tile installations. Use it for interior or exterior floors, countertops and walls.

**Complete Contact®**  
 This polymer-modified full contact mortar can be used for thin and medium bed applications and is excellent for large modular tile and stone installations. Complete Contact Fortified

Mortar offers full mortar transfer to the back of the tile and can be used for interior or exterior floors or countertops.

**Complete Contact® RS Fortified Mortar**  
 This polymer-modified, full contact mortar has a rapid curing formula that allows grouting in as little as 2 hours, foot traffic in 4 - 6 hours and commercial traffic in 24 hours. Excellent for large modular tile and stone, Complete Contact RS Fortified Mortar is suited for thin and medium bed applications. It offers full mortar transfer to the back of the tile and can be used for interior or exterior floors and countertops.

These products are available for the following tile types:

- Vitreous, semivitreous or nonvitreous tile: ceramic, mosaic, quarry, cement
- Impervious porcelain and glass tile
- Brick and thin brick
- Precast terrazzo
- Natural stone tile

Possible substrates include:

- Concrete, mortar beds, masonry, Portland cement plaster
- EasyBoard®, WonderBoard®, cement backerboards
- Exterior grade plywood (interior residential and light commercial dry areas)
- Gypsum wallboard (interior dry areas)
- Waterproofing membranes, such as RedGard® and Custom 9240®, liquid applied and sheet membranes
- Existing ceramic tile
- Fully bonded sheet vinyl flooring
- Vinyl composition tile (VCT)
- Plastic laminates
- Cutback adhesive

**COMPOSITION & MATERIALS**

ProLite, Porcelain Tile Thin-Set Mortar, VersaBond Flex, Complete Contact and Complete Contact RS are dry, proprietary Portland cement based mixtures that include vinyl copolymers, inorganic aggregates and chemicals.

**SIZES, COLORS**

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

**Porcelain Tile Thin-Set Mortar, VersaBond Flex, Complete Contact, Complete Contact RS**

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

**BENEFITS**

- ProLite**
- High bond strength and flexibility
  - Suited for thin-set and medium bed mortar
  - Nonslip, nonslump for heavy floor and wall tile and stone installation
  - 40% lighter than traditional mortars
  - Exceeds ANSI A118.4 and A118.11 standards without the need for additives
  - Protected by MoldGard® technology to resist mold and mildew growth

**Porcelain Tile Thin-Set Mortar**

- Superior bonding of porcelain to concrete, backerboard, self-leveling underlayments
- Excellent for glass tile and tile larger than 12" x 12" (30 x 30 cm)
- Excellent for radiant heating system installations
- Exceeds ANSI A118.4 and A118.11 standards without the need for additives
- Protected by MoldGard technology to resist mold and mildew growth

**VersaBond Flex**

- High bond strength and flexibility
- Excellent adhesion to plywood subfloors
- Excellent for porcelain and glass tile installations
- Excellent handling characteristics through extended open and adjustment times
- Exceeds ANSI A118.4 and A118.11 standards without the need for additives
- Protected by MoldGard Technology to resist mold and mildew growth

**Complete Contact, Complete Contact RS**

- Provide full mortar transfer to the back of the tile to save installation time by eliminating the need for back-buttering
- Hold ridges and supports the deeper notch trowel sizes required for larger tiles
- More fluid than traditional thin-sets
- Exceed ANSI A118.4 and A118.11 standards without the need for additives
- Protected by MoldGard Technology to resist mold and mildew growth
- Complete Contact RS additionally offers rapid curing, allowing grouting in as little as 2 hours, foot traffic in 4 - 6 hours and heavy traffic in 24 hours

**LIMITATIONS**

- Do not bond directly to hardwood, lauan plywood, particleboard, parquet, cushion or sponge back vinyl flooring, metal, fiberglass, plastic or OSB panels



- When setting moisture sensitive stone, tile or agglomerates, check with Custom Building Products and use 100% Solids Epoxy Mortar or OptiCure™ Fortified Thin-Set Mortar
- Do not use to install resin backed stone or marble; contact Custom Building Products for recommendations
- When setting glass tile larger than 6" x 6" (15 x 15 cm), contact Custom Building Products for recommendations
- When setting dimensional stone larger than 12" x 12" (30 x 30 cm), contact Custom Building Products for recommendations regarding subfloor deflection requirements

TABLE 1 TECHNICAL PROPERTIES

Property	ProLite	Porcelain Tile	VersaBond	Complete Contact	Complete Contact RS
Pot life	4 hours	2 hours	4 hours	2 hours	45 - 60 minutes
Open time, minutes	55 - 60	50	55 - 60	20 - 30	15 - 20 minutes
Adjustment time, minutes	40+	30 - 35	35 - 40	35 - 40	30 minutes
Shear bond @ 28 days Bisque tile	600 psi (42.2 kg/cm <sup>2</sup> )	550 psi (38.7 kg/cm <sup>2</sup> )	575 psi (40.4 kg/cm <sup>2</sup> )	500 psi (35.2 kg/cm <sup>2</sup> )	550 psi (38.7 kg/cm <sup>2</sup> )
Porcelain tile	450 psi (31.6 kg/cm <sup>2</sup> )	450 psi (31.6 kg/cm <sup>2</sup> )	350 psi (24.6 kg/cm <sup>2</sup> )	400 psi (28 kg/cm <sup>2</sup> )	450 psi (31.6 kg/cm <sup>2</sup> )
Quarry tile to plywood	250 psi (17.6 kg/cm <sup>2</sup> )	190 psi (13.4 kg/cm <sup>2</sup> )	250 psi (17.6 kg/cm <sup>2</sup> )	250 psi (17.6 kg/cm <sup>2</sup> )	270 psi (19 kg/cm <sup>2</sup> )

#### 4. Technical Data

##### APPLICABLE STANDARDS

American National Standards Institute (ANSI) - ANSI A108/A118/A136 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) - TCA Handbook for Ceramic Tile Installation, TCA Method EJ171

##### TECHNICAL PROPERTIES

See Table 1.

##### ENVIRONMENTAL CONSIDERATIONS

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

Use of ProLite, Porcelain Tile Thin-Set Mortar, VersaBond Flex, Complete Contact and Complete Contact RS can contribute to LEED® certification.

#### 5. Installation

##### PREPARATORY WORK

###### General Surface Preparation

Surfaces must be structurally sound, clean, dry and free from grease, oil, dirt, curing compounds, sealers, adhesives and other contaminants that would prevent a good bond. Glossy or painted surfaces must be

sanded, stripped and cleaned of waxes, dirt and other contaminants. Ambient temperature, surfaces and materials should be 50 - 100 degrees F (10 - 38 degrees C) for 72 hours.

##### Cementitious 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.

##### Lightweight, Gypsum Based Underlayments

Lightweight or gypsum based underlayments must first be treated with RedGard® Waterproofing & Anti-Fracture 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<sup>2</sup>/gal (7.5 m<sup>2</sup>/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.

##### Plywood Substrates

Plywood floors must be structurally sound and must meet ANSI 3.4 requirements, as well as deflection requirements. See TCNA F150. For questions about proper subfloor installation, call Custom Building Products.

##### EasyBoard or WonderBoard Backerboard

As an alternative to an additional layer of plywood, EasyBoard or WonderBoard backerboard may be installed over plywood subfloors. See TCNA F144.

##### Existing Ceramic Tile, Resilient Flooring or Plastic Laminates

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.

##### Cutback Adhesive Over Concrete

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 airborne 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.

**Expansion Joints**

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 proper treatment of control or saw cut joints. Refer to TCNA EJ171.

**METHODS**

**Mixing**

**ProLite**

Mix 6 qt (5.67 L) clean water per 30 lb (13.6 kg) bag of ProLite.

Porcelain Tile Thin-Set Mortar, VersaBond Flex Mix 6 qt (5.67 L) clean water per 50 lb (22.68 kg) bag of mortar.

Complete Contact, Complete Contact RS Mix 5 qt (4.73 L) clean water per 50 lb (22.68 kg) bag of mortar.

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**

Installation must conform to ANSI A108.5. Use a properly sized notched 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 notched side of the trowel held at a 45 degree 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 block and rubber mallet.

For thicker applications, use a medium bed mortar, such as Complete Contact or Complete Contact RS. Periodically pull up a tile and check

the back to ensure proper adhesive coverage. Do not spread more material than can be tiled within 15 minutes or while material has a wet tack (sticky to the touch). If the material has skinned over (not sticky), recomb with the notched trowel; if too dry, remove and replace the dry material with fresh material.

**Coverage**

**ProLite**

- 90 - 100 ft<sup>2</sup> (8.4 - 9.3 m<sup>2</sup>) per bag when applied with a 1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) square notch trowel
- 60 - 70 ft<sup>2</sup> (5.6 - 6.5 m<sup>2</sup>) per bag when applied with a 1/4" x 3/8" x 1/4" (6 x 9.5 x 6 mm) square notch trowel
- 45 - 50 ft<sup>2</sup> (4.2 - 4.6 m<sup>2</sup>) per bag when applied with a 1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) square notch trowel

**Porcelain Tile Thin-Set Mortar**

- 90 - 100 ft<sup>2</sup> (8.4 - 9.3 m<sup>2</sup>) per bag when applied with a 1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) square notch trowel
- 60 - 70 ft<sup>2</sup> (5.6 - 6.5 m<sup>2</sup>) per bag when applied with a 1/4" x 3/8" x 1/4" (6 x 9.5 x 6 mm) square notch trowel

**VersaBond Flex**

- 90 - 100 ft<sup>2</sup> (8.4 - 9.3 m<sup>2</sup>) per bag when applied with a 1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) square notch trowel

**Complete Contact, Complete Contact RS**

- 120 - 130 ft<sup>2</sup> (11.2 - 12.1 m<sup>2</sup>) per bag when applied with a 1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) square notch trowel
- 80 - 90 ft<sup>2</sup> (7.4 - 8.4 m<sup>2</sup>) per bag when applied with a 1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) square notch trowel
- 56 - 63 ft<sup>2</sup> (5.2 - 5.9 m<sup>2</sup>) per bag when applied with a 1/4" x 3/8" x 1/4" (6 x 9.5 x 6 mm) V-notch trowel
- 40 - 45 ft<sup>2</sup> (3.7 - 4.2 m<sup>2</sup>) per bag when applied with a 1/2" x 1/2" x 1/2" (13 x 13 x 13 mm) square notch trowel
- 32 - 36 ft<sup>2</sup> (3 - 3.3 m<sup>2</sup>) per bag when applied with a 3/4" x 9/16" x 3/8" (19 x 14 x 9.5 mm) U-notch trowel

**Curing**

Curing time is affected by ambient and surface temperatures and humidity. Use the following as a guideline.

ProLite, Porcelain Tile Thin-Set Mortar, VersaBond Flex, Complete Contact Allow 24 hours before grouting or light traffic.

**Complete Contact RS**

Allow 2 - 4 hours before grouting or light traffic. Allow an additional 3 - 4 hours before general foot traffic and 24 hours for heavy commercial traffic.

**Cleaning**

Clean with water before the material dries.

**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.

**BUILDING CODES**

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

**6. Availability & Cost**

Contact the manufacturer or visit the [www.custombuildingproducts.com](http://www.custombuildingproducts.com) website for information about product cost and availability.

**7. Warranty**

These products are eligible for Custom Building Products' 10 - 15 Year Installations Systems Warranty. For complete information, contact Custom Building Products or visit the [www.custombuildingproducts.com](http://www.custombuildingproducts.com) website.

**8. Maintenance**

Properly installed product requires no special maintenance.

**9. Technical Services**

For technical assistance, contact Custom Building Products or visit the website: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).

**10. Filing Systems**

- Additional product information is available from the manufacturer upon request.