

# County of Elbert, Colorado

## Policies and Procedures

**WHEREAS**, on May 17, 2006 Elbert County adopted the 2006 International Residential Code (IRC) and International Building Code (IBC).

**WHEREAS**, in Section 104R and 104 respectively, both the IRC and the IBC give authority to the Building Official, to adopt policies and procedures in order to clarify the application of its provisions.

**NOW, THEREFORE, THE BUILDING OFFICIAL ADOPTS THE FOLLOWING POLICY;**

- a. In striving to maintain consistency and flow, Red Guard, or any roll on water membrane will not be permitted for use in a shower pan area in lieu of liner membrane, as only a destructive test can confirm that the mill thickness is to specification. Allowing use of roll on membrane for this purpose will cause the contractor delays and re-application.
- b. The implementation of the newly adopted policy pertaining to shower pan membrane is effective **August 19, 2018**.

A handwritten signature in black ink that reads "Chris S. Kelley CBO". The signature is written in a cursive style and is positioned above a horizontal line.

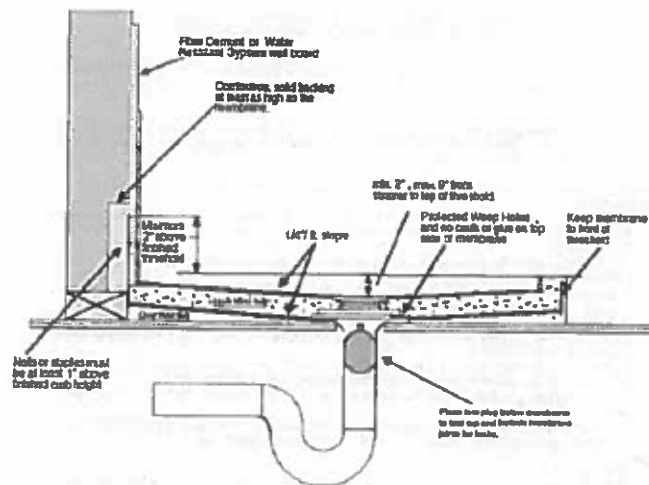
**CHRIS S. KELLEY, CHIEF BUILDING OFFICIAL**

## Shower Pan Inspection

A shower pan inspection must be requested before the installation of the upper mortar bed and tile.

The finished shower pan shall be tested by placing a plug in the drain below the membrane so that the joints on both sides of the membrane are tested.

The membrane pan (without upper mortar bed or tile) shall then be filled with water to a point that is just below the top of the rough threshold, with a minimum 2" water depth, and a shower pan inspection requested and approved before proceeding any further.





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# ICC-ES Report

# ESR-1413

Reissued 03/2018

ICC-ES | (800) 423-6587 | (562) 699-0543 | www.icc-es.org

This report is subject to renewal 03/2019

EVALUATION SUBJECT:

**REDGARD® WATERPROOFING AND  
CRACK PREVENTION MEMBRANE, C-  
CURE PRO-RED WATERPROOFING  
MEMBRANE 963, CBP 232  
WATERPROOFING AND ANTI-  
FRACTURE MEMBRANE AND JAMO®  
WATERPROOFING MEMBRANE**

**DIVISION:**  
09 00 00—FINISHES  
**SECTION:**  
09 30 00—TILING

Report Holder:  
**CUSTOM BUILDING PRODUCTS, INC.**  
7711 CENTER AVENUE, SUITE 500  
HUNTINGTON BEACH, CA 92647

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[0.090 inch (2.3 mm)] of wet-film thickness is required that will extend up the walls to 6 inches (152 mm) on either side. As an option, a 6-inch-wide (152 mm) section of fiberglass mesh, as described in Section 3.2.2., may be embedded into the membrane at corners or where floors and walls meet. In lieu of the roller or trowel, an airless sprayer may be used. The sprayer must be operated between 1900 and 2300 psi (13.10 and 15.33 MPa) to produce a flow rate of 1.0 to 1.5 gallons (3.78 to 5.68 liter) per minute; the sprayer must have a tip orifice size of 0.025 to 0.029 inch (0.63 to 0.73 mm). A continuous film with overlapping spray must be applied. No seams are permitted. The membrane appears pink when wet and dark red when dry. After the first coat has turned red, with no blushing or light pink showing (approximately 1½ to 2 hours), the film must be visually inspected for integrity, and all voids or pinholes must be filled with additional material. A second coat must be applied at right angles to the first. The film thickness must also be checked periodically with a wet-film gauge. The combined first and second coatings must be a minimum of 50 mils [0.050 inch (1.27 mm)] thick when wet and 25 mils [0.025 inch (0.64 mm)] thick when dry. A minimum of sixty minutes of curing time is required after application.

#### 4.3 Application over Expansion Joints:

The membrane must not be used to bridge expansion joints. When applied over expansion joints, the joint must be cleaned, and an opened or closed-cell backer rod is installed to proper depth as specified by the designer. A sealant must be compressed into the joint, coating the sides and leaving the joint flush with the surface. After the sealant is dry, bond breaker tape specified by the manufacturer must be placed over the joint. Two coats of membrane must be applied at a minimum of 25 mils [0.025 inch (0.64 mm)] wet-film thickness per coat over the joint and substrate following the instructions in Section 4.2 of this report. The tiles or stones are then applied over the membrane, leaving a gap over the joint as specified by the designer. After the work is set, the joint must be filled as specified by the designer.

#### 4.4 Method of Repair:

The membrane in the area requiring repair must be removed and the area cleaned, allowing for a minimum 2-inch (51 mm) overlap. Two coats of membrane must be applied as described in Section 4.2 of this report.

## 5.0 CONDITIONS OF USE

The RedGard® Waterproofing and Crack Prevention Membrane, C-Cure Pro-Red Waterproofing Membrane 963, CBP 232 Waterproofing and Anti-Fracture Membrane and Jamo® Waterproofing Membrane described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Application must comply with this report, the manufacturer's published installation instructions and the applicable code. In the event of a conflict between the installation instructions and this report, this report governs.
- 5.2 Application is limited to ceramic tile and dimension stone installations on floors and for use as shower sub-pans or linings.
- 5.3 The membrane must not be used to bridge substrate expansion joints.
- 5.4 The membrane recognized in this report is manufactured by Custom Building Products in Grand Prairie, Texas and Bell, California under a quality control program with annual inspection by ICC-ES.

## 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Waterproof Membranes for Flooring and Shower Lining (AC115), dated June 2003 (editorially revised August 2016) and American National Standard Specification for Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation (A118.10), dated 2014.

## 7.0 IDENTIFICATION

Containers of the RedGard® Waterproofing and Crack Prevention Membrane, C-Cure Pro-Red Waterproofing Membrane 963, CBP 232 Waterproofing and Anti-Fracture Membrane and Jamo® Waterproofing Membrane described in this report are identified by a label bearing the manufacturer's name (Custom Building Products) and address, the product name, the date of manufacture and the evaluation report number (ESR-1413).

# RedGard® Waterproofing and Crack Prevention Membrane

## 1 Product Name

RedGard® Waterproofing and Crack Prevention Membrane

## 2 Manufacturer

Custom Building Products  
 Technical Services  
 10400 Pioneer Boulevard, Unit 3  
 Santa Fe Springs, CA 90670  
 Customer Support: 800-272-8786  
 Technical Services: 800-282-8786  
 Fax: 800- 200-7765  
 Email: [contactus@cbpmail.net](mailto:contactus@cbpmail.net)  
[custombuildingproducts.com](http://custombuildingproducts.com)

## 3 Product Description

A ready-to-use elastomeric waterproofing membrane for both commercial and residential tile and stone application. Suited for interior and exterior substrates, RedGard® creates a continuous waterproof membrane barrier with outstanding adhesion and reduces crack transmission in tile and stone floors. It bonds directly to clean metal drains, PVC, stainless steel and ABS drain assemblies and can be used as a slab-on-grade moisture vapor barrier under all types of floor coverings.

### Key Features

- Ready to use - Roll it on
- Quick dry formula
- Listed with IAPMO for use as a shower pan liner

### Suitable Substrates

- Concrete, cement mortar, masonry
- Cement Backerboard
- Exterior Plywood and OSB (interior, dry areas only)
- Exterior Decks - Contact Technical Services
- Post-Tension Concrete - Contact Technical Services
- Lightweight Concrete (min. 2000 psi compressive strength)
- Gypsum-Based cement topping (min. 2000 psi compressive strength)
- Existing ceramic tile and resilient flooring
- Floor heating systems - contact Technical Services

### Composition of Product

RedGard® is a liquid-applied elastomeric waterproofing material that cures to form a monolithic membrane.

### Benefits of Product in the Installation

- Easy to use and can be applied by roller, trowel or airless sprayer
- Rated for extra heavy duty service
- Reduces curing time with quick-dry formula
- Isolates cracks to 1/8" (3 mm)
- Suitable for waterproofing pools, spas and water features
- Meets Uniform Plumbing Code specifications for use as a shower pan liner



### Limitations to the Product

- Do not apply to surfaces that may drop below 40°F (4°C) within 72 hours of application.
- Do not apply over wet surfaces or surfaces subject to hydrostatic pressure.
- Do not use to bridge or cover over existing expansion, control, construction, cold or saw cut joints; use Crack Buster® Pro Membrane for control, cold or saw cut joints.
- Do not use as an adhesive.
- Do not use as a wear surface; the membrane must be covered with tile or other permanent flooring.
- Do not use solvents in conjunction with the membrane

### Packaging

- 1 gallon (3.78 L) pail
- 3.5 gallon (13.2 L) pail

## 4 Technical Data

### Applicable Standards

American National Standards Institute (ANSI) ANSI A108.01, A108.17, A108.13, A118.10 and A118.12 American National Standards for the Installation of Ceramic Tile ASTM International (ASTM)

- ASTM C627 Standard Test Method for Evaluating Ceramic Floor Tile Installation Systems Using the Robinson-Type Floor Tester
- ASTM D638 Standard Test Method for Tensile Properties of Plastics

Tile Council of North America (TCNA) TCNA Handbook for Ceramic Tile Installation, TCNA Method EJ171, F125 & F125A

### Approvals

RedGard® has tested and complies with Uniform Plumbing Code and International Plumbing Code standards for use as a shower pan liner per IAPMO Research and Testing, Inc., File No. 4244. RedGard® has tested and complies with International Building Code (IBC), International Residential Code (IRC) and International Plumbing Code (IPC) standards for water resistance per ICC Evaluation Service, ESR-1413. RedGard® conforms to "safing material" requirements established by the Wisconsin Administrative Code, Chapter Comm 84.30-6f.



# CUSTOM®

# RedGard® Waterproofing and Crack Prevention Membrane

Drains should have a clamping ring with open weep holes for thin-set application. Apply the membrane to the bottom of the flange. The drain should be fully supported, without movement, and should be even with the plane of the substrate. Apply the RedGard membrane around drain. Embed a 12" x 12" (30 x 30 cm) fiberglass mesh into the membrane, making sure it does not obstruct the drainage weep holes. Then apply an additional coat of the membrane and smooth. After curing, clamp the upper flange onto the membrane and tighten. Use a silicone caulk around the flange where the membrane and the upper flange make contact. A toilet flange can be handled in much the same manner.

## RedGard® as Crack Prevention Membrane

Force RedGard® into cracks with the flat side of the trowel, roller or brush. Using a 3/16"-1/4" (5-6 mm) V-notch trowel or 3/8" (9.5 mm) rough textured roller. Use the flat side of the trowel and flatten the ridges to form a continuous, even coat of material. The membrane should extend a minimum of the diagonal measurement of the tile beyond both sides of the crack. Gaps between plywood sheets and where floors meet walls must also be pre-filled. For continuous crack isolation, cover the entire substrate with RedGard® applied at a rate of 100 sq. ft. per gallon. To meet the requirements of ANSI A118.12, apply two coats of RedGard at a rate of 50 sq. ft. per gallon each coat.

## RedGard® as General Waterproof Membrane (ANSI 118.10)

Cracks to 1/8" (3 mm) should be pre-filled before beginning the waterproofing application. Lightly dampen all porous surfaces. Use a 3/4" (19 mm) rough textured synthetic roller or a 3/16"-1/4" (56 mm) V-notch trowel and heavily precoat the corners and the intersections where the floors and walls meet, extending 6" (15 cm) on either side. For extra protection, embed a 6" (15 cm) wide fiberglass mesh into the membrane for changes of plane and for gaps 1/8" (3 mm) or greater. Apply RedGard at a rate of 110 sq ft per gallon each coat. If using a trowel, spread the material with the trowel held at a 45° angle, and then flattens the ridges. If using a roller, apply a continuous, even film with overlapping strokes. An airless sprayer may be used for the waterproofing application. The sprayer must produce between 1900 - 2300 psi, with a flow rate of 1.0 - 1.5 GPM and must have a tip orifice size of 0.025 - 0.029. Apply a continuous film with overlapping spray. The membrane appearance is pink when wet and dries to a dark red color. It typically takes 1-1.5 hours to turn completely red. After the first coat turns red, inspect the film for integrity and fill any voids or pinholes with additional material. Apply a second coat at right angles to the first coat. To meet the requirements of IAMPO, Two coats should be applied at a rate of 80 sq. ft. per gallon each coat. In all cases the wet film thickness should not exceed 125 mils.

## Curing of Product

RedGard® is dry when it turns solid red, with no visible pink color. Typically, drying time is 1-1.5 hours; depending on ambient conditions, drying time can be as much as 12 hours. After the second coat is applied and both coats are fully cured, the application area can be flood tested.

## Protection

If tile or stone will not be set immediately after curing, protect the application from heavy traffic damage. Protect from rain and inclement weather for 72 hours after application. If delays longer than 72 hours are expected, cover the area with felt paper. Care should be taken to prevent the application from becoming soiled or punctured during and after application.

## Tile and Stone Installation

Install tile or stone with a Custom® Building Products polymer-modified mortar that meets ANSI A118.4 or A118.15 standards.

## Cleaning of equipment

Clean tools and hands with water before the material dries. Clean all spray equipment immediately after use.

## Health Precautions

Wear impervious gloves and eye protection while using this product. Avoid contact with eyes or prolonged contact with skin. Wash thoroughly after handling. If eye contact occurs, rinse cautiously with water for several minutes, remove contact lenses if easy to do: continue rinsing. Immediately seek medical advice if symptoms are significant or persist. Do not take internally. KEEP OUT OF REACH OF CHILDREN.

## Conformance to Building Codes

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

## 6 Availability & Cost

Location	Item Code	Size	Color	Package
USA	LQWAF1	1 gallon (3.78 L)	Pink	Pail
USA	LQWAF3	3.5 gallon (13.2 L)	Pink	Pail
Canada	CLLQWAF1	1 gallon (3.78 L)	Pink	Pail
Canada	CLLQWAF3	3.5 gallon (13.2 L)	Pink	Pail

## 7 Product Warranty

Obtain the applicable **LIMITED PRODUCT WARRANTY** at [www.custombuildingproducts.com/product-warranty](http://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.

When RedGard® Waterproofing and Crack Prevention Membrane 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](http://custombuildingproducts.com).

## 8 Product Maintenance

Properly installed product requires no special maintenance. Do not use as a wear surface.

## 9 Technical Services Information

For technical assistance, contact Custom technical services at 800-272-8786 or visit [custombuildingproducts.com](http://custombuildingproducts.com).

## 10 Filing System

Additional product information is available from the manufacturer upon request.



# CUSTOM®

# RedGard® Waterproofing and Crack Prevention Membrane

## Coverage

Size	Coverage
<b>RedGard as Crack Prevention Membrane:</b>	
1 Gallon (3.78 L)	100 sq. ft. (9.3 M2)
3.5 Gallon (13.2 L)	350 sq. ft. (32.5 M2)
<b>RedGard as Crack Prevention Membrane meeting ANSI A118.12</b>	
1 Gallon (3.78 L)	25 sq. ft. (2.3 M2)
3.5 Gallon (13.2 L)	88 sq. ft. (8.2 M M2)
<b>RedGard as Waterproof Membrane:</b>	
1 Gallon (3.78 L)	55 sq. ft. (5.1 M2)
3.5 Gallon (13.2 L)	192 sq. ft. (17.8 M2)
<b>RedGard as IAPMO Pan Liner meeting ANSI A118.10:</b>	
1 Gallon (3.78 L)	40 sq. ft. (3.7 M2)
3.5 Gallon (13.2 L)	140 sq. ft. (13 M2)

Chart for estimating purposes. Coverage may vary based on installation practices and jobsite conditions.



# CUSTOM®