

Elastomeric Waterproofing and Anti-Fracture Membrane

PRODUCT DESCRIPTION

C-Cure ULTRACURE[®] is a cementitious based elastomeric anti-fracture waterproofing membrane modified with an acrylic polymer that will produce a tile setting adhesive specially developed for the installation of all types of tile, marble and stone over a variety of surfaces. ULTRACURE 971 is trowel applied to develop a continuous positive moisture barrier with excellent adhesion to wood, dry concrete slabs, steel, plastic laminate countertops, concrete block and cementitious backer units.

▶ BASIC USE

C-Cure ULTRACURE 971 is used to waterproof the substrate prior to installation of vinyl tile, rubber tile, brick, marble, slate, stripwood, parquet, stone and ceramic tile. C-Cure ULTRACURE 971 is also used as an anti-fracture membrane under thin-set or "mud-bed" ceramic tile or stone installations to prevent cracks in the substrate from transferring to the tile. Due to its excellent flexibility, ULTRACURE 971 allows the installation of hard surfaces to substrates subject to vibrations and deflection up to 1/240 of the span. With special precaution, ULTRACURE 971 can be used as the adhesive to bond the tile or stone directly to the substrate.

▶ AREAS OF USE

ULTRACURE 971 can be used on exterior or interior for both vertical or horizontal applications requiring integral waterproofing such as laundry areas, residential and commercial kitchens, counter tops, balconies, showers, spas and virtually anywhere elastomeric waterproofing material is specified.

ULTRACURE 971 can also be used to set tiles and stone over hard-to-bond-to surfaces such as existing vinyl flooring, ceramic tile and old cutback adhesives (*in dry above grade areas*), if they are well bonded to the substrate.

Certain high compressive strength gypsum mortar beds are also suitable substrates when properly prepared (*see C-Cure Technical Bulletin #104*).

When used as a crack suppressant elastomeric membrane, ULTRACURE 971 allows installations over properly prepared cracks or control joints with less than 1/8" (3 mm) movement.

▶ LIMITATIONS

Do not apply to surfaces below 40°F (4°C) or above 90°F (32°C). Keep above 40°F (4°C) at least 72 hours after application to allow for proper cure. Do not apply over wet surfaces. Do not use as a wearing surface. Do not use over substrates subject to hydrostatic pressure. Not recommended to set hard tiles over cushion-back resilient flooring. Do not use to set high lug-back

ceramic tile. Use over exterior grade plywood and gypsum board are limited to interior applications only. Because of its soft nature, marble should not be installed over substrates with movement in excess of 1/360 of the span. Do not use as a bonding mortar to install green marble. Do not apply to aluminum, stainless steel, galvanized or copper surfaces. When used as an adhesive over vitreous surfaces, allow for additional cure time.

▶ APPLICABLE STANDARDS

ULTRACURE 971 exceeds the American National Standards Institute's Specifications for Load Bearing, Bonded, Waterproof Membranes For Thin-Set Ceramic Tile and Dimension Stone Installations—ANSI A118.10. ULTRACURE 971 may be used in all installations that must conform to ANSI A108.5, ANSI A108.17, A118.12, Installation of Ceramic Tile—ANSI A136.1, Type I, Organic Adhesives and C.T.I. 64-2.1, Organic Tile Setting Adhesive.

▶ PACKAGING

ULTRACURE 971 is packaged as follows:

A Two Gallon (7.6 L) Unit consists of:

1.2 gallon (4.5 L) pail of ULTRACURE 971 Liquid; 13 lb. (5.9 kg) plastic bag of ULTRACURE 971 Powder; 1 Quart (.94 L) of ULTRACURE 971 Flashing Liquid; and 50 ft. (15.2 m) roll of ULTRACURE 971 Flashing Mat. Packaged as a unit in a 5 gallon (18.9 L) plastic pail.

A Four Gallon (15.1 L) Unit consists of:

2.4 gallon (9.1 L) pail of ULTRACURE 971 Liquid; 26 lb. (11.8 kg) bag of ULTRACURE 971 Powder. Packaged independently, ULTRACURE 971 Flashing Liquid and ULTRACURE 971 Flashing Mat are required components for waterproofing. Flashing Kits may be ordered to supplement 2 and 4 gallon units.

A Flashing Kit consists of:

1 Quart (.94 L) of ULTRACURE 971 Flashing Liquid; 150 ft. (15.2 m) roll of UltraCure 971 Flashing Mat. Packaged in corrugated box. Patent pending.

INSTALLATION

▶ PREPARATORY WORK

All surfaces must be structurally sound and not subject to deflection exceeding 1/240 of the span for concrete and 1/360 for plywood. Surfaces shall be smooth, dry, clean, and free of oil, grease, dirt, efflorescence, loose material, curing compounds, sealers and wax. Where the surface is to be leveled, smoothed, or patched prior to application of the ULTRACURE 971, it should be left with a light broom finish. UltraCure 971 is not designed to be used as a leveling or patching material and must never be applied over 1/8" (3 mm) thick.

▶ PLYWOOD FLOORS FOR CERAMIC TILE

All wood flooring, when placed over floor

joists or other systems, shall be of a design and thickness so as to maintain a substrate deflection not to exceed 1/360 of the span, including live and dead load. Further, the flooring to receive the ceramic tile, slate, marble or stone must be exterior grade plywood only, secured with screw-type nails and glued where possible. A gap of 1/8" - 3/16" (3 - 5 mm) shall be left between the sheet edges and areas where they abut walls, drains, posts, etc. These gaps shall be filled with ULTRACURE 971. In addition, all plywood surfaces must be for interior use only and protected from continuous exposure to water.

▶ CEMENTITIOUS SUBSTRATES

Rough or porous cementitious surfaces (*i.e. shot-blasted, scarified or masonry block*) should be pre-dampened by sponge with clean water to aid in troweling prior to application of membrane. For added adhesion latex additives CUREMIX[®] 937, CURECRYLIC[®] 938 or CureCrylic[®] Premium 939 can be painted or rolled onto these surfaces at a rate of 250 - 300 sq. ft. per gallon (23.2 - 27.9 m² per 3.78 L), then allow latex additive to dry clear on surface for approximately 30 - 60 minutes depending on ambient temperature and apply membrane on the same day.

▶ FLASHING, COVES, CORNERS AND WALL TO FLOOR EDGES

Integral flashing is required where vertical surfaces such as curbs, columns, penetrations, walls, and drains abut horizontal surfaces or any other intersecting planes. To accomplish this, ULTRACURE 971 has provided a special ULTRACURE 971 Flashing Unit that consists of a liquid and polyester mat. Flashing of all edges is accomplished by first pre-coating the edges with ULTRACURE 971 Flashing Liquid using a 4" (10 cm) standard paint brush, into corners and gaps and 4" (10 cm) in both directions from the junction. Second, fully embed ULTRACURE 971 Flashing Mat 3" (7.6 cm) in both directions into the pre-coated areas. Third, brush additional liquid to completely cover and saturate the mat. The minimum thickness of the flashing shall be 1/32" (.8 mm). The maximum thickness shall not exceed 3/32" (2.4 mm). Allow the flashing to dry (approximately 20 minutes) before applying the ULTRACURE 971 membrane. Drying Flashing Liquid is indicated by darkening of color and when no liquid is moved or transferred by touch.

NOTE: When installing the ULTRACURE 971 Flashing, be sure to overlap the mat 3" (8 cm) at the ends where any cut is made.

▶ TREATMENT OF SMALL CRACKS

Small hairline shrinkage cracks of 1/8" (3 mm) or less do not require special treatment. Fill the cracks during the normal installation of

ULTRACURE 971. A second application can be made if necessary to provide a full 30 mil (1/32" or .8 mm) in thickness above the crack. Cracks in excess of 1/8" (3 mm) should be treated as expansion joints. See section on expansion joints.

▶ WATERPROOFING INTERIOR CONTROL JOINTS

Interior control joints with movement exceeding 1/8" (3 mm) shall be treated as expansion joints (see *Expansion Joint section*).

Interior control joints with movement of 1/8" (3 mm) or less should be dry and clean of any dirt, release agents, coatings and foreign material. The following steps shall be complied with:

STEP 1: On the flush control joints, apply bond breaker tape (*masking tape*) over the joint. On joints up to 1/8" (3 mm) wide, fill the joint with a sealant or ULTRACURE 971 flush with the substrate surface. Allow the sealant or the ULTRACURE to cure and apply bond breaker tape over the sealant.

STEP 2: Coat the slab with a continuous 30 mil film of UltraCure 971 and embed ULTRACURE 971 flashing mat over the joint and extending 3" (8 cm) on either side of the joint. Re-coat the embedded flashing mat with 30 - 50 mils of the ULTRACURE 971. Do not bridge these joints with subsequent tile installation.

▶ CONSTRUCTION/EXPANSION/ EXTERIOR CONTROL JOINTS/ ISOLATION JOINTS

Do not bridge joints which are designed to experience movement. Carry these types of joints through any subsequent finishing material. If waterproofing is specified, clean the joint and install open or closed cell backer rod to the proper depth as outlined in EJ171 in the TCA Handbook. Next, compress a sealant as specified by the architect into the joint, coating the sides and leaving it flush with the surface. After the sealant is dry, place bond breaker tape over the joint. Apply a minimum 30 mils of the UltraCure 971 over joint and substrate following the instructions detailed in "Application". Install the tilework onto the membrane, but do not bridge the joint. After the tile work is set properly, fill the joint with any specified colored sealant, following the architect's and manufacturer's instructions.

▶ MIXING

The correct mixing ratio for a 2 gallon (7.6 L) unit is 13 pounds (5.9 kg) of powder and 1.2 gallons (4.5 L) of liquid. The mixing ratio for a 4 gallon (15.1 L) unit is 26 pounds (11.8 kg) of powder and 2.4 gallons (9.1 L) of liquid.

Add the full contents of a container of liquid to a clean bucket first, then add the required powder slowly while mixing. Let slake for 10 minutes. Do not use mechanical mixers greater than 300 RPM to avoid entrapment of air. Do not add water, more liquid, powder or any other material to this mix.

NOTE: The bucket life of a mixed unit of ULTRACURE 971 may exceed 6 hours depending on the ambient temperature and the volume of material in the bucket. Do not use the mixed mortar after the initial 6 hours. Performance of the stated specifications of ULTRACURE 971 after this time period can not be guaranteed.

▶ CONTINUOUS WATERPROOFING OR CRACK ISOLATION MEMBRANE

Apply the ULTRACURE 971 membrane to a minimum continuous film of 30 mils (1/32" or .8 mm) thick as a positive membrane to prevent migration of water or moisture or to isolate previously treated cracks. First, using the flat side of a 3/32" (2.4 mm) V-notch or suitable trowel, key in a coating of the material into the substrate. Second, recoat with additional material, combing out with 3/32" (2.4 mm) V-notch trowel, holding at a 45° angle to the substrate. Overlap the areas previously installed with the ULTRACURE 971 Flashing Kit with ULTRACURE 971, avoiding direct contact with the junction where the two surfaces meet. Care must be taken not to rupture this area with the sharp edge of the trowel. Third, flatten the membrane to a smooth uniform coating of 30 mils with the flat side of the trowel or suitable float. Check the depth of the membrane occasionally with a wet film thickness gauge. Allow the membrane to dry for 24 hours or when tack free enough to support foot traffic. Then inspect for air pockets, voids or pin holes. Fill any voids with a second coat if necessary.

After the ULTRACURE 971 is completely dry, 24 to 48 hours after application, the system is ready for application of the finishing material. Water tests, where required, should be completed prior to the installation of the finishing material, but after the ULTRACURE 971 membrane has been allowed to cure for a minimum of 72 hours above 65°F (18°C).

▶ COMPATIBLE ADHESIVES

Any of C-Cure's dry-set mortars meeting ANSI A118.4 can be bonded directly to the ULTRACURE 971 to set ceramic tile, stone, slate or marble. These products can be applied after the ULTRACURE 971 has dried 24 hours but before 72 hours. After 72 hours, wipe with water or denatured alcohol, if necessary, to completely clean the membrane.

Most of the standard adhesives used to bond other finishing materials are normally compatible with the ULTRACURE 971 membrane, but a test application of a 4 sq. ft. (0.5 m²) area is recommended. Follow the manufacturer's installation instructions for the specific type of mortar or bonding adhesive used.

NOTE: Installation of specific finishing materials over the ULTRACURE 971 must comply with established installation standards and procedures in accordance with state and local building codes and accepted trade practices.

▶ AS A SETTING ADHESIVE

UltraCure may also be used as an adhesive to set ceramic tile, marble, slate and stone. Mix the ULTRACURE as described above and spread a thin layer of the mortar with the flat side of a trowel to key mortar into the substrate; then apply additional ULTRACURE 971 to a depth sufficient to be notch with a suitable trowel to give 100% contact with the back of the tile and subsequent mortar bed of 1/16" - 1/8" (1.6 - 3 mm) after embedding the tile. During the installation, it is advisable to occasionally remove a tile to be sure the ULTRACURE 971 has not skinned over and sufficient transfer is being made. Do not adjust tiles after they have set past 30 minutes. When using as an adhesive for marble, set several pieces in the ULTRACURE 971 and allow to dry to test for any bleed through or discoloring.

▶ FOR ISOLATION OF CRACKS 1/8" (3 MM) OR LESS

ULTRACURE 971 can be used to bond tile directly over the crack. To accomplish this, first fill the crack by compressing the ULTRACURE 971 mortar into the cracks with the flat side of the trowel. Then follow the directions for usage as an adhesive.

When used as a crack isolation membrane, first compress the ULTRACURE 971 into the crack. Second, with a flat trowel, key the ULTRACURE into the adjacent substrate. Third, comb the ULTRACURE 971 with a 3/16" x 3/16" (5 x 5 mm) V-notch trowel and smooth with the flat side of trowel. Apply the ULTRACURE 971 to a minimum of 1/16" (1.6 mm). Allow to cure 24 hours, then use one of C-Cure's polymer-modified dry-set mortars such as MULTICURE® 905, PRO M-FLEX STRATA® FASTSET 914-FS, QUICKCURE 908, PERMABOND® 902 mixed with CURECRYLIC® PREMIUM 939 or PORCELAIN STONE & TILE 948, or more ULTRACURE 971 over the ULTRACURE 971 as the tile bonding mortar.

For crack isolation using either of the above methods, ULTRACURE 971 shall be applied over the crack and extended on both sides of the crack a minimum of diagonal measurement of the tile to be installed or one foot, whichever is greater. Do not bridge cracks greater than 1/8" (3 mm), follow installation procedures as outlined in the section EJ171 in the TCA Handbook and ANSI A108.5.

▶ CLEAN UP

Tools should be cleaned as soon as possible with water.

▶ WARRANTY

ULTRACURE 971 is included in C-Cure's Five and Ten Year System Warranties. For terms and conditions see Warranty Documents #WRTDS and #CCW10.

GUARANTEE

The recommendations, suggestions, statements and technical data are based on the best knowledge available to C-Cure and are given for informational purposes ONLY and without any responsibility for their use.

C-Cure MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE PRODUCT SOLD HEREIN except that the quality of the ingredients shall be in accordance with C-Cure specifications. It is expressly understood and agreed that the buyer's sole and exclusive remedy shall be replacement of defective products and under no circumstances shall C-Cure be liable for incidental or consequential damages. C-Cure neither assumes nor authorizes any others to assume for it any liability with respect to furnishing of the product. Handling and use of the product are beyond the control of C-Cure, therefore, no warranty is made, expressed or implied, as to the results obtained from the use of the product or against any claims for infringement of patents resulting from the use of the product.

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UltraCure® 971

Elastomeric Waterproofing and Anti-Fracture Membrane

ULTRACURE 971 TECHNICAL DATA	
TEST	TYPICAL PROPERTIES
A. Appearance	White light bodied liquid with white powder.
B. Density	12 lbs./gal. (5.44 kg/ 3.78 L) when mixed.
C. Shelf Life	One year if kept dry and unopened and protected from freezing.
D. Usable Time	Maximum 6 hours.
E. Skin Time	1/2 to 1 hour depending on humidity and temperature.
F. Open to Traffic	Light: 24 hours for membrane; 48 hours for adhesive Heavy: 72 hours.
G. Curing Time	72 hours for water testing; Waterproof after 7 days.
H. Curing Temperature	40°F - 120°F (4°C - 49°C). Ideal cure temperature is 60°F - 70°F (15°C - 21°C) Cure time is increased with low temperature. Do not allow to freeze for the first 72 hours.
I. Hardness	40 Shore "D"
J. Use Range	-40°F to 225°F (-4°C to 107°C)
K. Vapor Transmission at 30 mils	<1 perm
L. Bond Strength to Paver Tile As an adhesive ANSI A118.4 28 Days As a membrane and tile bonded with C-Cure Modified Latex Mortars 7 Days 28 Days	400 psi (28.12 kg/cm ²) 200 psi (14.1 kg/cm ²) 350 psi (24.6 kg/cm ²)
M. Elongation ASTM D751	>225%
N. Tensile Strength	>180 psi (12.7 kg/cm ²)
O. Safety—CAUTION: LIQUID: Avoid inhalation of vapors, use in well ventilated areas. Avoid contact with eyes, flush with water and call physician immediately. POWDER: Eliminate exposure to dust. Use NIOSH approved mask for nuisance dust. Contains Portland cement. If any cement or cement mixtures get into eye, flush immediately and repeatedly with water, and consult a physician promptly. Freshly mixed cement, mortar, concrete or grout may cause skin injury. Avoid contact with skin where possible and wash exposed skin areas promptly with water.	
KEEP OUT OF REACH OF CHILDREN	
P. Storage Life—One year if kept dry in sealed containers. Protect from freezing.	

COVERAGE			
PRODUCT	SQUARE FEET (M ²)		
	3/32" x 3/32" (2 x 2 mm) V-Notch Trowel*	3/16" x 5/32" (5 x 4 mm) V-Notch Trowel*	1/4" x 1/4" x 1/4" (6 x 6 x 6 mm) Square-Notch Trowel*
Two Gallon Unit (7.6 L)	104 (9.5) at 30 mils	90 (8.26) at 45 mils	60 (5.5) at 55 mils
Four Gallon Unit (15 L)	208 (19.1) at 30 mils	180 (16.5) at 45 mils	120 (11) at 55 mils

zA 50 ft. (15.2 m) roll of ULTRACURE 971 Mat and one quart (.94 L) of ULTRACURE 971 Flashing Liquid will extend 30 lineal feet (.3048 m). Extra mat has been provided for overlaps.

*Trowels listed provide approximate mil thickness noted.

Members of National Tile Contractors Association,
Materials & Methods Standards Association, Ceramic Tile Distributors Association.

NOTICE: The information in this bulletin is presented in good faith, but no warranty, express or implied, is given nor is freedom from any patent. In as much as any assistance furnished by C-Cure with reference to the safe use and disposal of its products is provided without charge, C-Cure assumes no obligation or liability therefore, except to the extent that any such assistance shall be given in good faith.

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