Crack Defense Pro Crack Isolation Membrane

Updated September 2024

1. PRODUCT NAME

TEC® Crack Defense Pro Crack Isolation Membrane
(412)

2. MANUFACTURER

H.B. Fuller Construction Products Inc.
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3. DESCRIPTION

Ready-to-use, flexible, mold and mildew resistant crack isolation membrane for interior and exterior applications. Forms a smooth, monolithic surface over walls, floors and ceilings. TEC Crack Defense Pro Membrane stops in-plane cracks up to 1/8" (3 mm) wide at the subfloor from telegraphing through to ceramic and stone tile. For residential to extra heavy commercial applications.

Key Features and Benefits

- Exceeds ANSI A118.12 Specifications for Crack Isolation Membranes
- Fast Drying – ready for tile installation in 1 hour
- Easy roller, trowel or spray application
- Apply over new (green) concrete as little as 3 days old
- Isolates cracks up to 1/8" (3 mm)
- Membrane resistant to growth of mold and mildew
- Contributes to LEED® project points
- Low VOC

Packaging

3.5 U.S. gallon plastic pails (13.24 L) Product #15036190

Coverage

Application	Required Coats	Wet Film Thickness (mils)	Approximate Coverage per Gallon
1/8" (3 mm)	1	37.5 mils [.0375" (1 mm)]	80 sq. ft. (7.4 m^2)

Suitable Substrates

When properly prepared, suitable substrates include:

- Concrete (minimum 3 days old), cured mortar beds and masonry (interior or exterior)
- Gypsum wallboard (interior), cementitious backer units (CBU or cement board. Interior or exterior)
- APA Grade Trademarked Exposure 1 Plywood [CDX or better; two layers, 1⅛" (28 mm) total minimum thickness, interior floors only]
- Gypsum underlayment (minimum compressive strength 2000 psi)
- Existing ceramic tile, VCT or non-cushioned sheetgoods provided they are single layer only and well bonded to a substrate approved for tile (interior)
- Adhesive residue (except tacky or pressure-sensitive adhesive, interior only)

Substrate Preparation

Application surfaces must be free from oil, grease, dust, paint, concrete sealers, floor finishes or curing compounds. New concrete shall be finished with a steel trowel, have a fine broom finish, and must cure a minimum of 3 days. For high moisture vapor emission concrete applications, the maximum acceptable moisture vapor emission rate is 12 pounds per 1000 square feet (5.4 kg per 92.9 m^2) per 24 hours when evaluated by ASTM F1869 or 90% relative humidity per ASTM F2170. Where required, existing concrete surfaces shall be prepared by mechanical method such as scarifying, grinding, sand blasting or shot blasting. Surface protrusions and tile glazes will be removed by sanding, scraping or scarifying. After preparation, remove all dust by vacuuming. Clean concrete floor from dust with a wet sponge and let the floor dry completely before membrane application. Note: Vinyl asbestos tile or any substrate containing asbestos must not be sanded, scored or scarified because of the potential health hazard of breathing dust. Any substrate containing asbestos must be handled in accordance with existing EPA regulations. Contact your local EPA office. Patch and fill holes and voids with an appropriate TEC surface preparation product. Treat existing building construction, contraction (control), expansion or isolation joints as required in the following installation instructions. Provide movement joints in the tile where specified.

Storage

Store in cool, dry location. Do not store open containers, nor leave containers exposed to sunlight. Product must be kept at temperatures of 40°-90°F (4°-32°C). Keep from freezing.

Shelf Life

Maximum of 1 year from date of manufacture in unopened package.

Limitations

- Not for use as a wear surface.
- Do not apply over wet areas.
- Do not use over dimensionally unstable substrates such as particle board, pressboard, lauan plywood, waferboard, tempered hardboard (e.g. Masonite) or fiberglass.
- Do not use in areas subject to hydrostatic pressure from beneath the membrane.
- For exterior wall applications, refer to local building codes for moisture vapor transmission requirements.

Cautions

Read complete cautionary information printed on product container prior to use. For medical emergency information, call 1-888-853-1758.

This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about and guidelines for the proper use and application of the covered TEC brand product(s) under normal environmental and working conditions. Because each project is different, H.B. Fuller Construction Products Inc. cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

4. TECHNICAL DATA

Applicable Standard

Exceeds ANSI A118.12 Specifications for Crack Isolation Membranes

TEC Crack Defense Pro Crack Isolation Membrane (412)		
Description	**ANSI A118.12 Requirement**	**Typical Results**
Point Load	Minimum 1000 lb. load without cracking tile	Passes
Shear Deflection	Standard Performance Min. 1/16" (1.6 mm) High Performance Min. 1/8" (3 mm)	High Performance
Crack Resistance Test	Standard Performance Min. 1/16" (1.6 mm) High Performance Min. 1/8" (3 mm)	High Performance
Additional Tests	**Test Method**	**Typical Results**
Accelerated Test for Fungal Defacement	ASTM D5590	Passed with no growth and 10 mm zone off inhibition.
Water Vapor Permeance	ASTM E96 Procedure B	1.5 perms (85.8 ng/PA·s·m^2)
Elongation	ASTM D751	750%
Tensile Strength	ASTM D751	250 psi (1.72 MPa)

Greater than: > Greater than or equal to: ≥ Less than: < Less than or equal to: ≤

Physical Properties

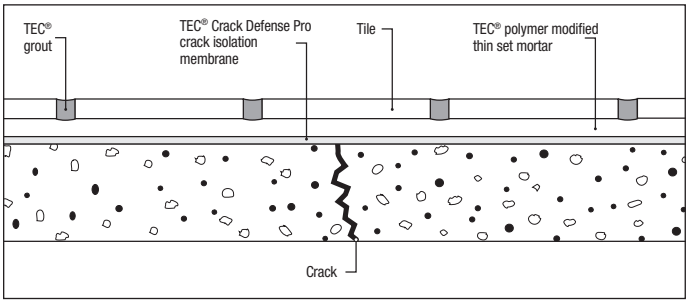
Description	
Physical State	Liquid: Acrylic Emulsion Modified with a Polyurethane Dispersion
Color	Cured: Blue
Odor	Cured: None Uncured: Mild Ammonia
Tile Installation Time [at 70°F (21°C)]	1 hour after membrane application. See CURING section for more information.
Foot Traffic Rating (ASTM C627)	Residential to Extra Heavy Commercial (depending on substrate)
Service Temperature Rating	-20°F (-29°C) to 320°F (160°C)
VOC (less water)	12 g/L
Storage	Store in cool, dry location. Do not store open containers, nor leave containers exposed to sunlight. Keep from freezing.
Shelf Life	Maximum 1 year from date of manufacture in properly stored, unopened package.
Freeze/thaw Stability of Liquid	None. KEEP FROM FREEZING.

5. INSTALLATION INSTRUCTIONS

INSTALLATION INSTRUCTIONS

Pre-fill all concrete cracks and plywood gaps up to 1/8" (3 mm) wide with membrane prior to application. Apply membrane to entire surface using a ¼" to ½" (6-12 mm) synthetic nap roller, 3/16" (4.7 mm) V-notch trowel, or airless sprayer. Membrane may be applied in one coat. Measure membrane periodically with a wet film thickness gage to ensure a minimum thickness of 37.5 mils [.0375" (1 mm)] wet, curing to a dry film thickness of 22.5 mils [.0225" (.57 mm)]. For expansion, isolation and construction joints continue joints through the tile installation in accordance with Installation Method EJ171 in the Tile Council of America handbook. Treat dynamic cracks (subject to movement) greater than 1/8" (3 mm) wide as expansion joints. Generic movement joints in the tile should be placed as shown in TCNA EJ171F Movement Joint Guidelines. Place at a frequency of 20' to 25' in each direction for interior installations and 8' to 12' for exterior installations or interior installations with direct sunlight or moisture exposure. Perimeter joints should be placed as shown in EJ171.

Fig. 1: Treatment of Cracks with TEC Crack Defense Pro Crack Isolation Membrane



Curing/protection

TEC Crack Defense Pro Crack Isolation Membrane is typically ready for tile application in 1 hour. Cure times based on 70°F (21°C) and 50% RH. Colder temperatures, higher humidity or green concrete (not fully cured) will extend cure times. In all cases, care should always be taken to not gouge or otherwise disturb or damage the integrity of the cured membrane.

Inspect cured film to make sure there are no voids, bubbles or breaks in the membrane. Apply additional membrane to fill all voids.

Install tile using a suitable TEC polymer modified mortar or TEC® AccuColor EFX® Epoxy Grout and Mortar.

Clean-up

Clean tools, hands and excess material immediately (while still fresh) with water. Material that is cured is difficult or impossible to remove.

6. AVAILABILITY

TEC premium surface preparation, tile, stone, carpet, wood and resilient floor covering installation products are available nationwide. To locate TEC products in your area, please contact:

Phone: 800-832-9002
Website: tecspecialty.com

7. LIMITED WARRANTY

The product(s) covered by this Product Data Sheet are sold subject to a Limited Warranty and related terms. **H.B. Fuller Construction Products disclaims the implied warranties of merchantability and fitness for a particular purpose and all incidental and consequential damages arising out of the sale, purchase or use of this product.** For Limited Warranty details visit tecspecialty.com. To obtain a hard copy of the Limited Warranty call H.B. Fuller Construction Products at 800-832-9023 or mail a written request to the address in Section 2 of this Product Data Sheet.

8. MAINTENANCE

Not applicable

9. TECHNICAL SERVICES

Technical and safety literature

To acquire technical and safety literature, please visit our website at tecspecialty.com.

10. FILING SYSTEM

Division 9

To learn more, visit TECspecialty.com

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