1. PRODUCT NAME

TEC® HydraFlex™ Waterproofing Crack Isolation Membrane (316)

2. MANUFACTURER

H.B. Fuller Construction Products Inc.
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Aurora, IL 60504-6451 U.S.A.
800.552.6225 Office
800.952.2368 Fax
tecspecialty.com

3. DESCRIPTION

Ready-to-use, flexible, mold and mildew resistant waterproofing crack isolation membrane for interior and exterior applications. Forms a smooth, monolithic, watertight surface over walls, floors and ceilings. HydraFlex™ Membrane stops in-plane cracks up to $\frac{1}{8}$" (3 mm) or up to $\frac{1}{4}$" (6 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 A118.10 Specifications for Waterproof Membranes
- Exceeds ANSI A118.12 Specifications for Crack Isolation Membranes
- Use for Positive Hydrostatic Pressure Applications
- Fast Drying – ready for tile installation in 1 to 3 hours
- Easy roller, trowel or spray application
- No mesh required (optional for waterproofing applications)
- Apply over new (green) concrete as little as 3 days old
- Isolates cracks up to $\frac{1}{8}$" (3 mm) or up to $\frac{1}{4}$" (6 mm) based on application
- Membrane resistant to growth of mold and mildew
- IAPMO approved
- Approved over control joints – no need to locate tile or stone field movement joints directly over control joints
- Contributes to LEED® project points
- Low VOC

Key Features and Benefits
- Adhesive residue (except tacky or pressure-sensitive adhesive, interior only)
- Cold rolled steel

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 m²) 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.

4. TECHNICAL DATA

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, 1½" (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)
- Cold rolled steel

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 m²) 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.

Shell 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 A118.10 Specifications for Waterproof Membranes
Exceeds ANSI A118.12 Specifications for Crack Isolation Membranes
5. INSTALLATION INSTRUCTIONS

5.1 INSTALLATION INSTRUCTIONS AS WATERPROOFING MEMBRANE

Application—Waterproofing Membrane

To achieve waterproofing properties, a continuous membrane (no voids) of at least 46-50 mils ([½” (1.14-1.27 mm)]) wet film thickness is required over the entire surface. Pre-fill all concrete cracks and plywood gaps up to 1/8 (3 mm) wide with membrane prior to application. Treat cracks greater than 1/4” (6 mm) wide as expansion joints (see following section).

Apply membrane to entire surface using a 1/4” to ½" (6-12 mm) nap roller, ¾” (4.7 mm) v-notch trowel, or airless sprayer*. For waterproofing installations, membrane must be applied in two coats. Apply first coat, measuring membrane with a wet film thickness gage† to ensure a minimum thickness of 25 mils wet. Allow first coat to dry approximately 1 hour, until membrane changes to a semi-transparent color. Then apply second coat at right angles to the first coat. An additional 25 mils wet film thickness shall be applied to achieve a combined total thickness of 50 mils wet, curing to a dry film thickness of 30 mils.

* Graco Electric Airless Sprayer Model 390 or equivalent. Specifications: 0.020 Maximum Nozzle Orifice, Maximum Sprayer Pressure 3,300 psi, flow rate of 0.43 gallons per minute, Contractor FX11 Gun, RACK 515 Tip & Guard. Graco is a trademark of Graco Inc.
† If a gage is not available, for 25 mils: Insert a dime into the wet HydraFlex™ with Roosevelt’s head upside down and facing you. HydraFlex™ should completely cover the outer groove on the edge of the dime. For 50 mils: Lay the dime flat and HydraFlex™ will be the thickness of the dime.

Application—Mesh (Flashing)

Flashing with TEC® Waterproof Mesh for common problem areas like; inside corners, outside corners, anywhere vertical surfaces meet horizontal surfaces; or anywhere dissimilar materials meet is optional.

To accomplish flashing, first pre-coat the substrate intersections 4” (100 mm) on each side. Then fully embed the 6” (150 mm) wide waterproofing mesh in both directions into the pre-coated areas with a 3” (76 mm) overlap on each side. Allow to dry (approximately 30 to 45 minutes) before full application of membrane.

Application—Joint Details

Cracks or Control Joints (typically ½” (6 mm) or smaller): Ensure crack or joint is clean and free of all debris. Then fill the crack or joint with membrane. For optional mesh application, spread to 4” (100 mm) on either side, embedding the waterproofing mesh. Install the membrane over the entire surface ensuring a continuous 50 mil wet film thickness. 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. When HydraFlex™ is applied over the entire substrate, it is not necessary to locate tile or stone field movement joints directly over control joints or cracks as shown in EJ171B. For treatment of cracks or control joints where HydraFlex™ Waterproofing Crack Isolation Membrane is not applied over the entire substrate, see Technical Bulletin “Treatment of INDIVIDUAL Concrete Cracks with TEC® Products” on tecspecialty.com.

Fig. 1: Treatment of Cracks or Control Joint with TEC® HydraFlex™ Waterproofing Crack Isolation Membrane

HydraFlex™ must extend to the bottom of the drain flange, with sufficient coverage to channel all water flow to and down the drain. DO NOT cover weep holes with membrane.
TEC® HydraFlex™ Waterproofing Crack Isolation Membrane  

**Technical Bulletin “Treatment of INDIVIDUAL Concrete Cracks with TEC**

HydraFlex™ membrane is typically ready for tile application in 1-3 hours. 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. If water testing is desired/required prior to tile installation, allow membrane to cure at least 12 hours after application of second coat. Plug all drains and dam the floor area to be tested. Flood the area to a meaningful test level and place a mark at the initial water level. Check the area carefully, looking for any signs of leakage (air bubbles rising from the leak source). After 24 hours, check water level against mark(s) made at initial height. If significant loss has occurred, further investigation will be necessary to identify leaks.

**Curing/protection**

<table>
<thead>
<tr>
<th>Membrane Type</th>
<th>Application Method</th>
<th>Thicknesses</th>
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<tbody>
<tr>
<td>HydraFlex™</td>
<td>Epoxy 1/4” per foot toward drain</td>
<td>30 mils (0.76 mm) wet, curing to a dry film thickness of 20 mils (0.51 mm).</td>
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<tr>
<td></td>
<td></td>
<td>15 mils (0.38 mm) wet, curing to a dry film thickness of 10 mils (0.25 mm).</td>
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<td></td>
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<td>25 mils (0.64 mm) wet, curing to a dry film thickness of 16 mils (0.41 mm).</td>
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<td></td>
<td></td>
<td>50 mils (1.27 mm) wet, curing to a dry film thickness of 32 mils (0.81 mm).</td>
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**INSTALLATION INSTRUCTIONS AS CRACK ISOLATION MEMBRANE**

Pre-fill all concrete cracks, control joints and plywood gaps up to 3/4” (3 mm) wide with membrane prior to application. 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 1/4” (6 mm) wide for 50 mil wet film thickness, or 1/8” (3 mm) wide for 25 mil wet film thickness 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. When HydraFlex™ is applied over the entire substrate, it is not necessary to locate tile or stone field movement joints directly over control joints or cracks as shown in EJ171B. For treatment of cracks or control joints where Hydraflex™ is applied, use the flat side of the trowel. If a gage is not available, for 25 mils: Insert a dime into the wet Hydraflex™ with Roosevelt’s head upside down and facing you. Hydraflex™ should completely cover the outer groove on the edge of the dime. For 50 mils: Lay the dime flat and HydraFlex™ will be the thickness of the dime.

**Curing**

Cure for 1-3 hours. Cure times based on 70°F (21°C) and 50% RH. Thicker films, cooler temperatures, higher humidity or green concrete (not fully cured) will extend cure times.

**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 Tile and Stone 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.

**9. TECHNICAL SERVICES**

Technical assistance

Information is available by calling the Technical Support Hotline.

Toll Free: 800-832-9023
Fax: 630-952-1235

**10. FILING SYSTEM**

Division 9