



Water Defense Pro

Updated September 2025

1. PRODUCT NAME

TEC® Water Defense Pro
(413)

2. MANUFACTURER

TEC Specialty Products LLC
1105 South Frontenac Street
Aurora, IL 60504-6451 U.S.A.
800.832.9002 Customer Service
800.832.9023 Technical Support
tecspecialty.com

3. DESCRIPTION

TEC Water Defense Pro forms a smooth, monolithic watertight surface over walls, floors and ceilings. TEC Water Defense Pro stops in-plane cracks up to 1/8" (3 mm) wide at the subfloor from telegraphing through to ceramic and stone tile. Use for residential to extra heavy commercial applications. Exceeds ANSI A118.10 Specifications for Waterproofing Membranes and ANSI A118.12 Specifications for Crack Isolation Membranes.

Key Features and Benefits

- Protects from water intrusion and tile cracking
- Mold and mildew resistant
- For areas such as showers and backsplashes
- Interior/exterior use
- Ready for tiling in 2-4 hours
- IAPMO approved
- Exceeds ANSI A118.10 and A118.12

Packaging

3.5 gallon plastic pail (13.24 L)

Product #15036191

Coverage

One gallon covers approximately 50 sq. ft. (4.65 m²).

Suitable Substrates

Recommended for use over the following clean, dry, structurally sound and unpainted surfaces:

- 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, 1 1/8" (28 mm) total minimum thickness, interior floors only]
- 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)

Substrate Preparation

All materials should be stored at 50°F (10°C) to 90°F (32°C) 24 hours prior to installation. 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 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. Substrate temperature should be a minimum of 43°F (6°C) and air temperature maintained above 50°F (10°C) during installation and drying. 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 unopened containers in a cool, dry location out of direct sunlight and protected from weather. 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 final wear surface.
- Do not apply over wet areas.
- Do not use over dimensionally unstable substrates such as particle board, pressboard, lauan plywood, oriented strand board, waferboard, tempered hardboard (e.g, Masonite), fiberglass or single layer wood floors.
- Do not use in areas subject to hydrostatic pressure from beneath the membrane.
- Avoid inhaling dust if abrading product.

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, TEC Specialty Products LLC cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

4. TECHNICAL DATA

Applicable Standard

TEC Water Defense Pro (413)		
Description	ANSI A118.10 Requirement	Typical Results
Shear Strength		
7-Day	50 psi (.34 MPa)	160 psi (1.09 MPa)
7-Day, Water Immersion	50 psi (.34 MPa)	105 psi (0.72 MPa)
4-Week	50 psi (.34 MPa)	180 psi (1.23 MPa)
12-Week	50 psi (.34 MPa)	200 psi (1.37 MPa)
100-Day, Water Immersion	50 psi (.34 MPa)	220 psi (1.50 MPa)
Fungus Resistance	Shall not support mold growth	Passes
Seam Strength	8 lb./inch width	8.1 lb./inch width (1.4 kg/cm)
Breaking Strength	Minimum 170 psi (1.17 MPa)	200 psi (1.37 MPa)
Dimensional Stability	Maximum 0.7% length change	< 0.4% length change
Waterproofness Tested in accordance with American Standards for Load Bearing, Bonded, Waterproof Membranes for Thin Set Ceramic Tile and Dimension Stone Installations—ANSI A118.10	No visible water penetration after 48 hours	Passes
IAPMO	Shower pan liner	Passes

Product Data

Description	ANSI A118.12 Requirement	Typical Results
Point Load	Minimum 1000 lb. load without cracking tile	Passes
Shear Deflection (Movement Before Shear)	Standard Performance Min. 1/16" (1.5 mm) High Performance Min. 1/8" (3 mm)	High Performance
Crack Resistance Test	Standard Performance Min. 1/16" (1.5 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
Elongation	ASTM D751	1400%
Tensile Strength	ASTM D751	95 psi (0.65 MPa)

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

Physical Properties

Description	
Physical State	Liquid: Styrene Butadiene Rubber Emulsion Waterproofing Mesh: Non-hazardous Fibrous Mesh
Color Cured	Orange
Odor	Cured: None
Tile Installation	Time 2-4 hours after membrane application. See CURING [at 70°F (21°C)] 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/Liter of Material	6.1 g/L
VOC (less water)	9.56 g/L
Freeze/thaw Stability of Liquid	1 cycle

5. INSTALLATION INSTRUCTIONS

Mesh Application (Flashing): Flashing with TEC® Waterproofing 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" (102 mm) on each side. Then fully embed the 6" (152 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.

Membrane Application: Clean substrate from dust with a damp sponge and install membrane right away. For crack isolation apply one coat 50 mils (1.27 mm) thick. For waterproofing installations, membrane must be applied in two 25 mils (0.6 mm) thick coats over the entire surface. Using a 1/4"-1/2" (6-12 mm) nap roller or 3/16" x 5/32" (4.7 x 4 mm) V-notch trowel, apply a continuous, even film with overlapping strokes. Make sure there are no voids, bubbles or breaks in the membrane after cured. Apply first coat at 25 mils (0.6 mm) wet thickness measuring periodically with a wet film thickness gage. Let it dry for 1 hour. Apply a second 25 mils (0.6 mm) thick coat at right angle to the first in order to fill the imperfections and pinholes. If trowel used, smooth out the membrane ridges with a flat side of the trowel immediately after the application.

NOTE: If water testing is desired/required prior to tile installation, allow membrane to cure at least 24 hours or when color is changed from milky orange to dark orange. If chalk lines will be used for tile layout, smooth out the surface of the membrane with a flat side of the trowel when membrane is still wet.

Curing/Protection

TEC Water Defense Pro is typically ready for tile application in 2-4 hours. In all cases, care should always be taken to not gouge or otherwise disturb or damage the integrity of the cured membrane. Install tile using any TEC latex-modified mortar. 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.

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. **TEC Specialty Products LLC 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 TEC Specialty 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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