Waterproofing & Crack Isolation Membrane

1. PRODUCT NAME
Tenon® Waterproofing & Crack Isolation Membrane

2. MANUFACTURER
TCC Materials®
2025 Centre Pointe Blvd.
Mendota Heights, MN 55120 USA

Phone: 651.688.9116
Fax: 651.688.9164
Internet: tccmaterials.com

3. PRODUCT DESCRIPTION
Tenon® Waterproofing & Crack Isolation Membrane is an advanced latex polymer-based technology used as a waterproofing underlayment membrane or as part of a crack isolation system.

Features and Benefits
- Flexible with exceptional elongation
- Waterproof
- Solvent free and VOC compliant
- Interior and exterior
- Horizontal and vertical applications
- Will not support mold growth
- Ready to use - no mixing required
- Flood test in 12 hours
- Allows light foot traffic in 4-6 hours
- Anti-fracture protection up to ⅛ in. (3 mm)
- Exceeds ANSI A118.10 and A118.12

Uses
- Above and below grade walls or floors
- Swimming pools, spas, and fountains
- Food processing areas
- Balconies over unoccupied space
- Shower stalls and tub surrounds
- Light commercial bathrooms
- Steam rooms
- Crack isolation membrane

Recommended Substrates
- Concrete **
- Brick masonry **
- Cement Backer Unit (CBU) **
- Mortar beds **
- Gypsum wall board*
- Exterior grade plywood*
- OSB*
- Plaster*
- Countertops*
- Gypsum-based cement topping (min. 2000 psi compressive strength*)
- Existing ceramic tile and resilient flooring*

* Interior only
** Suitable as a load bearing substrate for installation of direct adhered masonry veneer applications.

Note: Consult CMU manufacturer to verify acceptability for exterior use and specific installation instructions.

SAFETY
READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT. SDS information is available on our website: tccmaterials.com or contact TCC Materials® at 651-688-9116 (7:30 AM to 4:00 PM, M-F, Central US Time).

CAUTIONS
Read complete cautionary information printed on product container prior to use.

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 Tenon® brand product (s) under normal environmental and working conditions. Because each project is different, neither Tenon® nor TCC Materials® can be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

4. TECHNICAL DATA

	Time	Typical Values	ANSI A118.10
Shear Strength	12 weeks dry	200 psi (1.4 MPa)	>50 psi (0.3 MPa)
Water Immersion	100 days	150 psi (1.0 MPa)	>150 psi (1.0 MPa)
Fungus & Micro Organism Resistance	n/a	Passes	
Breaking Strength	n/a	400 psi (2.8 MPa)	Min. 170 psi (1.2 MPa)
Waterproofness	n/a	Passes	

Permeability @ 16 mil dry film (30 mil wet)			
Water Vapor Permeance	n/a	0.96 Perms (54.7 nanograins/ Pa-s-m2)	ASTM E 96-12 Procedure B
Water Vapor Transmission	n/a	0.38 grains/ hr-ft2 (0.26 grains/ hr-m2)	ASTM E 96-12 Procedure B
Hydrostatic Resistance	n/a	Passes	ASTM D 751
Dimensional Stability	n/a	600%	ASTM D 638
Permeability @ 30 mil dry film (57 mil wet)			
Water Vapor Permeance	n/a	0.27 Perms	ASTM E 96-12 Procedure E (100°F/90% RH)
Water Vapor Transmission	n/a	0.48 grains/ hr-ft2	ASTM E 96-12 Procedure E (100°F/90% RH)

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

Test results obtained under controlled laboratory conditions. Reasonable variations can occur due to atmospheric and job site conditions.

VOC
<11 g/l

LEED® Eligibility[1]
- Low-Emitting Materials (IEQ-c4.1)

Packaging
- 1 gal. (3.8 L) tub (BOM #120675)
- 5 gal. (18.9 L) tub (BOM #120676)

Commonly available 1.5 - 3.0 oz/yd^2 (51 g/m^2 - 102 g/m^2) Alkali-Resistant Fiberglass Waterproofing & Crack Isolation Mesh Fabric
6 in. x 60 ft. / (15.2 cm x 18 m) rolls
36 in. x 60 ft. / (91.4 cm x 18 m) rolls

Shelf Life
12 months from the date of manufacture when stored in the original, unopened container, away from moisture, under cool, dry conditions and out of direct sunlight. Keep container from freezing.

5. INSTALLATION
Preparation
- Surface must be clean, dry, hard and free from dirt, loose particles, wax, sealers, curing compounds, grease, paint, efflorescence and any foreign materials that will inhibit adhesion.
- Walls and floors must be structurally sound, free of movement and dimensionally stable.
- Surfaces to receive tile or veneer stone shall be plumb and true with square corners. Maximum variation from the required plane shall be: Subfloor Surfaces – ¼ in. (6 mm) in 10 ft. (3 m) for stone or tile less than 15 in. (381 mm) on any one side and the required plane shall be ⅛ in. (3 mm) in 10 ft. (3 m) for tile 15 in. (381 mm) or greater on any one side.
- Concrete floors must be fully cured (28 days) and have a fine broom finish. Sprinkle water on the substrate in various areas looking for penetration. If water droplet or beading of water is noticed then surface contaminates are present that will cause loss of adhesion and must be removed. Smooth troweled surfaces should be scarified to assure bond. Inspect surfaces that will receive the tile and the tools used to install it.

Notify the architect or other designated authority in writing of any defects or conditions that prevent a satisfactory tile installation. (See ANSI A108.5)

In case of truing or leveling the work of others on concrete surfaces, use a concrete repair product like Self-Leveling Floor Underlayment or Vinyl Cement Patch.

Note: It is the responsibility of the installer/applicator to ensure the suitability of the product for its intended use.

Job Mockups

The manufacturer requires that when its Tenon® products are used in any application or as part of any system that includes other manufacturers' products, the contractor and/or design professional shall test all the system components collectively for compatibility, performance and long-term intended use in accordance with pertinent and accepted industry standards prior to any construction. Written documentation of the tests performed shall be satisfactory to the design professional and contractor. Test results must include the means and methods of application, products used, project-specific conditions being addressed, and standardized tests performed for each proposed system or variation.

Mixing

No mixing is required. Gently stir to re-blend if needed, prior to application.

Application

- Apply Waterproofing & Crack Isolation Membrane only to surfaces that are frost free and above 40°F (4°C) for 72 hours.
- Do not apply under wet conditions or where these conditions are likely to occur before the membrane has fully dried.
- Color will be salmon when applied, dries to dark orange.

Note: Waterproofing & Crack Isolation Membrane is not designed for use as a wear surface or finished floor. The final wear surface (stone veneer, ceramic tile, concrete, etc.) should be installed within 24 hours after the second coat of Waterproofing & Crack Isolation Membrane has dried.

Pre-treating of corners, wall/floor intersections

1. Using a paint brush fill all corners, cracks, or wall/floor intersections that are greater in width than 1/32 in. (1 mm) and smaller in width than ⅛ in. (3 mm) with a liberal amount of Waterproofing & Crack Isolation Membrane. Allow to dry.
2. Apply a second coat of the Waterproofing & Crack Isolation Membrane and allow to dry.

Pre-treating around pipe/penetrations

1. Fill all openings and small holes or gaps around the pipes with the proper modified Tenon® concrete repair material such as Tenon® Vinyl Concrete Patch.
2. Using a paint brush apply a liberal amount of the Waterproofing & Crack Isolation Membrane over the repaired or filled areas. Embed the Tenon® Mesh Fabric over the Waterproofing & Crack Isolation Membrane followed by a liberal coating. Allow to dry.
3. Apply a second coat of the Waterproofing & Crack Isolation Membrane and allow to dry.
4. A urethane or silicone sealant will be needed around the pipe where the Waterproofing & Crack Isolation Membrane ends.

Application around pipe/penetrations

1. Brush, roll or spray two coats to achieve a total minimum thickness of 30 wet mil thickness. Check the mil thickness periodically during the application with a mil gauge to assure that the thickness is minimum 30 wet mils.
2. Apply each coat at right angles to each other to assure all pin holes are completely filled.
3. Allow the first coat to dry completely before the second coat is applied. Drying time will take approximately 1 hour but may vary due to the environmental conditions.
4. Do not bridge over existing expansion or control joints.

Crack Isolation over concrete

1. Brush, roll or spray two coats to achieve a total minimum thickness of 30 wet mil thickness. Check the mil thickness periodically during the application with a mil gauge to assure that the thickness is minimum 30 wet mils.
2. Apply each coat at right angles to each other to assure any pin holes are completely filled.
3. Allow the first coat to dry completely before the second coat is applied. Drying time will take approximately 1 hour but may vary due to the environmental conditions. Additional coats of Waterproofing & Crack Isolation Membrane can be applied if necessary.
4. Do not bridge over existing expansion or control joints.

Existing Cracks

1. Using a paint brush apply a liberal amount of the Waterproofing & Crack Isolation Membrane over the cracked area at least 6 in. (15 cm) on each side of the crack.
2. Embed the Mesh Fabric splitting it evenly on each side of the crack and into the Waterproofing & Crack Isolation Membrane. Caution should be taken to assure that it completely wets out and that there are no dry or uncoated areas under the Mesh Fabric.
3. Apply a second coat of the Waterproofing & Crack Isolation Membrane over the Mesh Fabric to assure that it is completely covered. Allow to dry.

Waterproofing and reinforcing of corners and cracks

1. Apply a liberal coat of Waterproofing & Crack Isolation Membrane over the area in which you are waterproofing. Embed the Mesh Fabric into the wet Waterproofing & Crack Isolation Membrane being careful to ensure that the mesh is in full contact with the Waterproofing & Crack Isolation Membrane.
2. Apply a second coat over the Mesh Fabric to ensure that it is completely covered.
3. At all corners, embed Mesh Fabric extending a minimum of 6 in. (152 mm) on each side.
4. For exterior applications, follow the same procedure for change of plane as written in number 3.
5. A margin trowel or equivalent may be necessary to push the mesh into the corners insuring full contact to the wet Waterproofing & Crack Isolation Membrane and the substrate. Once the mesh has been installed, apply a sufficient amount of the Waterproofing & Crack Isolation Membrane over the mesh being sure to cover the mesh completely.
   It is not necessary for the first coat under the mesh to dry prior to applying the final coat. Allow to completely dry (approximately 4 hours) before applying topping. When applying mesh reinforcement to areas larger than 4 ft. (1 m) in width the mesh should be overlapped by 2 in. (51 mm) and sealed by applying the Waterproofing & Crack Isolation Membrane between the seams completely.

6. Required total minimum thickness:
   a. General Waterproofing - 30 wet mils (16 mil dry, nominal)
   b. Steam Rooms - 57 wet mils (30 mil dry, nominal)

Drain application

Clamping ring type drains with weeping ability must be used asper ASME A112.6.3. The Mesh Fabric must be used for all shower pan applications.

1. Cut the Mesh Fabric to the size of the shower stall area allowing for enough material to turn up the wall a minimum of 3 in. (76 mm) above the shower curb.
2. Cut a circular hole in the center of the Mesh Fabric to the size of the drain throat.
3. Apply a liberal amount of the Waterproofing & Crack Isolation Membrane around and over the bottom of the drain clamp up to the drain throat.
4. Place the Mesh Fabric over the wet Waterproofing & Crack Isolation Membrane, wetting the Mesh Fabric completely.
5. Apply a second liberal coat of the Waterproofing & Crack Isolation Membrane over the Mesh Fabric.
6. When dry, apply a bead of sealant around the drain throat where the Waterproofing & Crack Isolation Membrane terminates. Follow by installing top drain clamping ring.

Expansion joints

1. Apply a liberal amount of Waterproofing & Crack Isolation Membrane into the expansion joint being sure to fully coat the sides and bottom of the entire area.
2. 2. Fold and place the Mesh Fabric into the wet Waterproofing & Crack Isolation Membrane being sure to have the fold or U-shape fully embedded at the bottom of the expansion joint.
3. Follow with a second coat of the Waterproofing & Crack Isolation Membrane over the entire Mesh Fabric.
4. A closed cell backer rod can be placed into the expansion joint once the Waterproofing & Crack Isolation Membrane is dry.

Note: This method is for waterproofing applications only. Not for bridging expansion joints.

Changes in the substrate plane and any expansion joints in the substrate must be honored. Refer to TCNA Handbook for Ceramic Tile Installations Method EJ171 for recommended installation procedure.

It is the user's responsibility to perform a flood test where required. Allow Waterproofing & Crack Isolation Membrane to cure 12 hours, or once completely dried throughout, prior to flood test.

Additional coats of Waterproofing & Crack Isolation Membrane can be applied if necessary.

Clean up

Clean tools and hands with warm soapy water immediately after use and before material dries.

Limitations

- Do not apply when air or substrate temperature is below 40° F (4°C) or above 100°F (38°C) within 24 hours of application.
- Do not apply fewer than two coats to ensure uniform and minimum thickness.
- Do not bridge over existing expansion or control joints.
- Do not use as a primary roofing membrane over occupied space.
- Do not use where exposed to negative hydrostatic pressure.
- Do not apply on substrates that are frozen or contain frost.
- Do not use in a steam room unless the dry film is >30 mil thick (57 mil wet).
- Initial set time is 1-1½ hours at 70°F (21°C)

Note: Unprotected membrane should not be directly exposed to sun or inclement weather prior to the installation of the wear surface materials

Coverage

- 1 gal. (3.8 L) pail: Yields approximately 40 sq. ft. (3.7 m^2) coverage when applied 30 mil wet film (two coat application)
- 3.5 gal. (13.2 L) pail: Yields approximately 140 sq. ft. (13 m^2) coverage when applied 30 mil wet film (two coat application)
- 5 gal. (18.9 L) pail: Yields approximately 200 sq. ft. (18.5 m^2) coverage when applied 30 mil wet film (two coat application)

6. AVAILABILITY

To locate Tenon® products in your area, please contact:

Phone: 651.688.9116
Email: info@tccmaterials.com

7. WARRANTY

Seller warrants that its product will conform to and perform in accordance with the product specifications. The foregoing warranty is in lieu of all other warranties, expressed or implied, including, but not limited to those concerning merchantability and fitness for a particular purpose. Because of the difficulty in ascertaining and measuring damages hereunder, it is agreed that Seller's liability to the Buyer shall not exceed the total amount billed and billable to the Buyer for the product hereunder.

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Technical Assistance:
Information is available by calling TCC Materials®
(hours 7:30 AM to 4:00 PM, M-F, CST):

Phone: 651.688.9116
Email: info@tccmaterials.com
Web: tccmaterials.com

Technical and Safety Literature:
To acquire technical and safety literature, please visit our website at: tccmaterials.com.

10. FILING SYSTEM

Division 9

[1] Tenon® products can contribute to LEED® credits within the Material Resource, (Recycled Content & Regional Materials) and Indoor Environmental Quality (Low Emitting Materials).

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