

1. PRODUCT NAME

Tenon® Vertical Repair CI

2. MANUFACTURER

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

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3. PRODUCT DESCRIPTION

Tenon® Vertical Repair CI is a polymer modified, high-strength, fast-setting, non-shrink, patching material for commercial and industrial vertical and overhead holes in concrete or masonry. Can be shaved or molded to required shapes.

Features and Benefits

- Fast-setting patching material, initial set-time of 15 minutes
- Easy to mix and handle
- Excellent freeze/thaw and salt resistance properties
- High-strength, exceeds 7,000 psi in 7 days
- Cures with low-shrinkage
- Mix with water, no bonding additive needed
- Enhanced with corrosion inhibitor

Uses

- For use when downtime is critical
- When high early strength and fast-setting is required
- Patching holes and honeycombs
- Repair industrial exposed reinforcing rods
- Filling precast concrete
- Patching concrete pipe exposed to water
- Holes and repairs on masonry and stucco

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 651-686-9116 (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

Note: Independent test results obtained under controlled

Tests Performed	Tenon® Rapid Patch Vertical Repair CI
Set Time (ASTM C807)	
Initial (hrs:min)	:15
Final (hrs:min)	Approx. 30 minutes
Compressive Strength, psi (ASTM C109)	
24 hours	1,500 psi (10.3 MPa)
7 days	7,000 psi (48.3 MPa)
28 days	8,000 psi (55.2 MPa)
Flexural Strength, psi (ASTM C348)	
7 days	750 psi (5.2 MPa)
28 days	1,100 psi (7.6 MPa)

laboratory conditions at 73°F (22.7°C) and 50% relative humidity.

LEED® Eligibility¹

- Regional Materials (MR-c4, MR-c5)

Packaging

Gray: 50 lb. (22.7 kg) bag (BOM #113810)
Also available without corrosion inhibitor (BOM# 126171)

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.

5. INSTALLATION

Preparation

All materials should be conditioned to 40°–75°F (4°–24°C) 24 hours prior to installation. Proper surface repair preparation is crucial to achieving a successful application.

1. Roughen surface and remove all unsound concrete. Clean area and remove grease, oil, paint, and any other foreign materials that will inhibit performance.
2. All concrete surfaces must be fully cured, structurally sound and non-flexing.

- Any rust on exposed rods should be removed by mechanical methods, wire brushing, sandblasting, or scraping.
- The surface should be saturated with water, Surface Saturate Dry (SSD) with no puddling of water, prior to placement.

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

Refer to:

- ACI 546 [Concrete Repair Guide](#)
- ICRI Technical Guideline Number 03730 [Guide for Surface Preparation for the Repair of Deteriorated Concrete from Reinforced Steel Corrosion](#)

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

- Use potable water, clean tools, and clean containers.
- Mix only amount that can be placed within the 15 minute initial set-time. During weather warm conditions, keeping mixing water and material cool should assist in maintaining open time of the product. During cold weather conditions, the use of warm mixing water and warming surfaces should accelerate set times.
- Add dry mix to water at a ratio of approximately 4 qt. (3.8 L) up to 5 qt. (4.7 L) per 50 lb. bag of powder.
- Mix thoroughly to a lump-free, trowelable consistency. A mechanical mixer such as a paddle and ½" heavy-duty drill will result in a better consistency and save time. Smaller quantities should be mixed by hand.
- A slurry coat of Tenon® Rapid Patch® Vertical Repair CI should also be mixed just prior to placement. This wetter, batter-like consistency uses approximately equal weights of water to powder.

Application

Apply only when air and substrate temperatures are between 40°–90°F (4°–32°C) within 24 hours of application and placement, and when rain is not forecast 24 hours after. Do not apply on substrates that are frozen or contain frost.

- Always begin with application of the cement/water slurry mixture immediately prior to placing the patching mortar. Apply with brush over the entire pre-dampened area to be patched, including any exposed steel reinforcing rods. Slurry should be damp when patch is placed.

- Apply mortar with trowel with maximum application thickness of ¾"–2" (19–51 mm) per layer. Material may sluff off of repair with thicknesses exceeding 2 in. (51 mm).
- When additional thickness is needed, apply in layers of 2 in. (51 mm) each. Allow 20 minutes between layer application. Scratch surface and wash gently with clean water just prior to applying next layer.

Curing

- Keep patch area dampened for 30 minutes after application.
- Maintain a minimum of 40°F (4°C) for 24 hours after application.
- Refrain from using curing or sealing compounds over patching materials for a minimum of 2 weeks.
- Protect patches from rapid drying on hot windy days.

Cleaning

Use clean potable water to clean all tools immediately after use. Dried material must be mechanically removed. Use a waste water hardener (e.g. Conglez™ or similar product) for cementitious waste disposal.

Limitations

- Use potable water for mixing, do not add bonding additives.
- Warm conditions will accelerate set-times.
- Shade and protect patch in windy and/or hot weather conditions.
- Do not apply to surfaces that are frozen or contain frost.
- Do not use product when ambient air temperature is below 40°F (4°C) or if it is expected to drop below 40°F (4°C) within 24 hours of placement.
- Do not overwater, retemper, or over-mix.
- Maximum height per application layer is 2 in. (51 mm).
- Clean trowel frequently during application.
- Tenon® Rapid Patch® Vertical Repair CI should be installed in accordance with local building code provisions and all applicable ASTM standards.

Coverage

50 lb. (22.7 kg) bag yields approximately 0.46 cu. ft. (0.013 m³).
1 lb. (0.45 kg) yields approximately 16 cu. in. (0.26 L)

6. AVAILABILITY

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

Phone: 1.651.688.9116
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: 1.651.688.9116

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 3

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

LEED® is a registered trademark of U.S. Green Building Council.



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