

1. PRODUCT NAME

Tenon[®] Self-Leveling Resurfacer

2. MANUFACTURER

TCC Materials[®]
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3. PRODUCT DESCRIPTION

Tenon[®] Self-Leveling Resurfacer is a cement-based, polymer modified product for resurfacing concrete floors with damaged finishes or as a wear surface for light industrial floors where a hard, flat smooth surface and a quick return to service is desired. Also use as an underlayment for installation of ceramic tile, stone, resilient flooring, carpet, or other finished flooring. Typical substrates include: fully cured concrete, APA rated exterior grade/exposure 1 plywood or OSB underlayment grade equivalent with expanded wire lath reinforcement. Install from feather edge to 2 in. (50.8 mm) thick.

Features and Benefits

- Sets in approximately 75–90 minutes
- Provides a smooth, hard, flat surface
- Underlayment or wear surface
- Accepts foot traffic in 6 hours
- Applications from 1/8 in. to 2 in. (3–50.8 mm) and can be featheredged to adjoining elevations
- ASTM C 109 = 5,500 psi (28 day compressive strength)
- ASTM C 348 = 1,200 psi (28 day flexural strength)

Uses

Use to smooth and level properly prepared horizontal surfaces over:

- New concrete floor slabs with unacceptable finishes
- Damaged existing concrete floors
- Interior and exterior concrete applications
- Interior use over APA rated exterior grade/exposure 1 plywood or OSB underlayment grade equivalent with expanded metal lath reinforcement

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

Typical Values • Self-Leveling Resurfacer	
Mix Ratio (Water to Powder)	4.75 qt. (4.5 L) per 50 lb. (22.7 kg)
Flow	120 – 140 mm
Final Set Time @ 70°F (21°C)	75 - 90 minutes
Length Change	<+/- 0.10%
Compressive strength ASTM C109	
24 hours	≥ 1,800 psi (12.4 MPa)
7 days	≥ 4,000 psi (27.6 MPa)
28 days	≥ 5,500 psi (37.9 MPa)
Flexural Strength ASTM C348	
28 days	≥ 1,200 psi (8.3 MPa)

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

Note: Test results obtained under controlled laboratory conditions at 72°F (22°C) and 50% relative humidity. Reasonable variations can occur due to atmospheric and job site conditions.

Packaging

Gray: 50 lb. (22.7 kg.) bag (BOM #121017)

Shelf Life

Best when used within 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

Read all directions before starting work. All materials should be stored between 40°F–80°F (4°C–27°C) for a minimum of 24 hours prior to installation.

Proper surface repair preparation is crucial to achieving a successful application.

Note: Before installing Tenon® products the installer is responsible for ensuring that the wood subfloor is structurally sound and clean.

Concrete Substrates

- Concrete must be fully cured (28 days minimum), free of efflorescence, and not subject to hydrostatic pressure or moisture condensation.
- All surfaces must be clean, stable, solid, and structurally sound. Remove all unsound concrete, grease, oil, dirt, paint, sealers, curing compounds, waxes, old adhesive residue, gypsum based underlayments, old flooring, and any other foreign materials that will inhibit adhesion. Mechanical removal is recommended, chemicals often serve to drive them deeper into the concrete substrate.
- Maximum bond over a concrete substrate can be achieved by mechanically profiling the surface either by grinding, shot blasting, sand blasting, or scarifying to achieve an ICRI CSP3 to CSP5 standard. Structurally sound concrete that is porous, and has not been troweled smooth and flat may not require mechanical profiling. Typical applications that fall into this category include precast concrete floor panels, or concrete in new construction that is left unfinished in anticipation of receiving self-leveling underlayment.
- Repair deep areas, holes, and non-moving cracks with an appropriate concrete repair product prior to application of self-leveling and allow curing as recommended for the product.
- All surfaces require priming using a self-leveling bonding primer that is designed for use on concrete, such as Tenon® Level-Flo® Primer Pro (sold separately). Allow primer to dry to the touch.
- Isolate and install a bond breaker, using ¼ in. (6 mm) foam tape or caulking, where vertical surfaces meet new toppings and at all perimeters and sharp corners such as column bases, pedestals, supports, etc.

Wood Subfloors

Residential and light commercial interior applications.

- Follow Tile Council of North America (TCNA) F185 installation method for cementitious self-leveling underlayments over plywood.
- All wood subfloors must be structurally sound, securely fastened. When using as underlayment the maximum deflection allowed is L/360 for ceramic tile, or L/720 for stone (including live, dead, impact, and concentrated loads).
- The wood must be either ¾ in. (19 mm) tongue and groove, APA rated exterior grade/exposure 1 plywood or OSB underlayment grade equivalent.
- The surface must be clean, free from any contaminants that may act as bond breakers such as dirt, paint, wall compound, varnish, grease, oils, or wax. All loose boards must be refastened.
- Allow a ½ in. (3 mm) gap between sheets. Fill gaps and all

nail holes or areas where flow could leak with caulk.

- Prime clean surface with a self-leveling bonding primer that is designed for wood substrates such as Tenon® Level-Flo® Primer Pro (sold separately). Allow primer to dry to the touch.
- Securely fasten every 4–6 in. (10–15 cm) either galvanized metal lath or plastic lath designed for this purpose to the wood surface after priming, and prior to applying self-leveling cement. Overlap lath edges by ¼ in. (6 mm) and secure using a minimum ⅜ in. (9.5 mm) staple with no gaps, keeping lath flat. Be sure to offset lath joints. To keep the job moving, it is helpful to prime first, then stand on the lath while fastening securely.
- Install expansion joints where self-leveling cement meets restraining surfaces such as perimeter walls and sharp corners such as column bases, pedestals, supports, etc. using ¼ in. (6 mm) foam tape or caulking. Restrict flow from moving to unwanted areas by creating small dams constructed of 1"x2" lumber edges wrapped with duct tape.
- When using Tenon® Self-Leveling Resurfacer over lath, install no less than ¼ in. (6 mm) thickness of self-leveling above the surface of the lath.

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

1. In a clean 5 gal. container, add 4.75 qt. (4.5 L) of clean, cool, potable water. Next add the 50 lb. (22.7 kg) bag of powder, while mixing at full speed using a square mortar paddle mixing blade attached to a heavy-duty ½ in. drill (400–600 rpm). Measure water carefully, be accurate, **do not add extra water.**
2. Mix completely for a minimum of 2–3 minutes until lump free, adding no additional water. Avoid over watering, over mixing, or moving the mixer up and down during mixing as this will entrap air, lower the strength, and may cause cracking and/or pin-holing. The formation of a white film on the surface is an indication of over watering.
3. For larger jobs, to keep the job moving, it is recommended that multiple mixing containers be used simultaneously. This will allow one mixing container to be poured while the other is being mixed.
4. After use clean all mixing equipment thoroughly to avoid hardened product in subsequent batches.
5. Self-Leveling Resurfacer may be extended up to 50% with clean pea gravel (3/8 in.) for areas deeper than 2 in. (50.8 mm). For best results, apply a final ¼ in. to 2 in. (6–50.8 mm) topping layer without extension. A self-leveling primer must be used when layering.

Application

Apply only to surfaces that are frost free and between 50°F–90°F (10°C–32°C) for 24 hours prior and 48 hours after application.

1. Apply only to surfaces that are frost free and between 50°F–90°F (10°C– 32°C) for 24 hours prior and 48 hours after application.
2. Close all interior windows, doors, and HVAC vents to minimize air flow. Protect exterior application areas from excessive drying due to temperatures, air movement, direct sunlight and rainfall.
3. Divide the areas to permit continuous placement without cold joints.
4. Pour the blended Tenon® Self-Leveling Resurfacer directly from the mixing container across the surface in a continuous, uniform manner to achieve a flat, level surface. No troweling is required. The mixed compound remains fluid for approximately 15–20 minutes.
5. To prevent ridges work a narrow dimension, best results are obtained pouring across the shorter distance in the room in continuous strips about 1 foot (31 cm) wide. Optimum results can be obtained by providing a continuous wet flow throughout the placement, always pouring into a wet edge.
6. Troweling is not recommended, do not overwork material once it is on the floor.
7. Honor all existing expansion joints, control joints, and moving cracks through the resurfacer application. Failure to do so could result in delamination or cracking.
8. Tenon® Self-Leveling Resurfacer has a working time of 25 to 30 minutes at 70°F (21°C). Temperatures and humidity will affect flow, working time, and set time.
9. If a higher build-up is needed over the first pour, allow 24 hours drying time between pours and prime surface again with a self-leveling bonding primer such as Tenon® Level-Flo Primer or Primer Pro (sold separately).
10. Tenon® Self-Leveling Resurfacer will not correct or compensate for a structurally defective substrate. Faults in the substrate can appear in the resurfacer. The use of alkali resistant glass fabric or galvanized metal reinforcing (Federal Specification QQL.101C) can be helpful in reducing reflective cracking.
11. Typically surfaces will accept foot traffic in 6 hours, non-moisture sensitive tile and stone in 24–48 hours, and resilient flooring after 3 days at temperatures of 72°F (22°C).
12. Before laying floor tiles and other flooring materials test for MVER (moisture vapor emission rate, reference ASTM F1869) and concrete substrate's relative humidity (RH, reference ASTM F2170). The requirements of the floor covering and floor adhesive manufacturers must be followed with respect to, but not limited to, levels of moisture.

Refer to:

ACI 305R Guide to Hot Weather Concreting

ACI 306R Guide to Cold Weather Concreting

RFCl (Resilient Floor Covering Institute publication) MRP:

Addressing Moisture Related Problems Relevant to Resilient Floor Coverings Installed Over Concrete

WFNA (National Wood Flooring Association) publication: Installing Hardwood Flooring, Rev 3/10/98

TCNA (Tile Council of North America) Handbook:

Ceramic Tile Installation

American National Standard Specifications: Installation of Ceramic Tile

UBC (Uniform Building Code) 1997 Volume 1, Section 1906.3.10

Limitations

- Tenon® Self-Leveling Resurfacer may be used for outdoor applications, the smooth surface may prove too slippery when wet. To provide better traction, a light broom finish may be applied when material has reached initial set. Most outdoor applications require the surface to slope for drainage, however Self-Leveling Resurfacer flows easily to provide a level surface and will not provide that slope.
- Do not over trowel or over work.
- Metal or plastic lath design for this purpose is required when going over wood subfloors, it is not needed over concrete surfaces.
- When using over lath, install no less than ¼ in. (6 mm) thickness of self-leveling above the lath surface.
- Do not install over dimensionally unstable substrates such as gypsum, gypsum based patching compounds, particle board, luan, asbestos, or chip board.
- Do not install over old tacky or pressure sensitive adhesive residue, paints, sealers, curing compounds, old flooring, and other foreign material.
- Do not allow heavy or sharp metal objects to be dragged directly across the fresh surface. Protect new surface from use until material is completely hard and set.
- Protect from excessive drying due to temperatures, air movement, and direct sunlight.
- The use of damp curing or the use of curing compounds is not recommended.
- Allow 14 days curing time before turning on in-floor radiant heating systems, bring heat up slowly during the first usage.
- Rubber gloves and goggles are recommended safety equipment
- Store in tightly sealed original factory container.

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.

Coverage

Per 50 lb. (22.7 kg) bag

Note: Coverage will vary depending on the substrate type, surface texture, and application method.

6. AVAILABILITY

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

Phone: 1.651.688.9116

Email: info@tccmaterials.com

Nominal Thickness	Approximate Coverage
1/8 in. (3 mm)	44.0 sq. ft. (4.09 m ²)
1/4 in. (6 mm)	22.0 sq. ft. (2.04m ²)
1/2 in. (12 mm)	11.0sq. ft. (1.02 m ²)

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 and Division 9



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