Metro Mix AE

1. PRODUCT NAME
Tenon® Metro Mix AE

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

Phone: 1.651.688.9116
Fax: 1.651.688.9164
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3. PRODUCT DESCRIPTION
Tenon® Metro Mix AE is an air–entrained, super plasticized, high performance, ready mix, concrete with corrosion inhibitor.

Features and Benefits
- Excellent freeze/thaw resistance
- Full depth repairs 1½ in. (38 mm) or greater
- Engineered to meet commercial/industrial ready mix specifications
- Replaces ready mix truck where access is restricted
- Super plasticized for higher slump and compressive strengths
- Ideal for projects requiring small structural concrete applications
- Contains corrosion inhibitor to protect reinforcing steel
- High strength
- Pumpable
- Excellent workability
- Exceeds ASTM C 387

Uses
Structural applications and full depth repairs:
- Highways
- Structural piers
- Bridge decks
- Balconies
- Parking garages
- Slabs
- Industrial floors
- Foundations

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 • Metro Mix AE		
Compressive Strength, psi (ASTM C39)		
	1 day	>5,000 psi (34 MPa)
	7 day	>7,000 psi (48 MPa)
	28 day	>8.500 psi (58.6 MPa)
Length Change (28d) (ASTM C157)		
	Dry	–0.071%
	Wet	+0.004%

Test Description	Test Method	Test Value
Air Content	C231	4.5% – 7.5%
Slump	C143	4”–6”
Flexural Strength (28d)	C78	735 psi (5.1 MPa)
Slant Shear Bond Strength (28d)	C882	2560 psi (17.7 MPa)
Modulus of Elasticity (28d)	C469	3.49 x 10–6 psi
Splitting Tensile Strength (28d)	C496	680 psi (4.7 MPa)
Resistance to Chloride Penetrability (28d)	C1202	< 2000 coulombs
Absorption (28d)	C497	5.6%
Coefficient of Thermal Expansion (28d)	Tex–428–A	5.78x10–6 in./in/°F
Freeze–Thaw Resistance (300 cycles)	C666 A	RDM–95%

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

Note: Test results obtained under controlled laboratory conditions. Tested using 5 pt. (2.3 L) water per 50 lb. (22.7 kg.) powder. Reasonable variations can be expected due to atmospheric and jobsite conditions.

4. TECHNICAL DATA (Cont.)

LEED® Eligibility[1]

- Regional Materials (MR–c5)

Packaging

50 lb. (22.7 kg.) bag (BOM #128270)

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°F–80°F (4°C–27°C) 24 hours prior to installation. Proper surface repair preparation is crucial to achieving a successful application.

1. Clean area and remove all unsound concrete, grease, oil, paint and any other foreign materials that will inhibit performance.
2. Slick or sealed surfaces must be thoroughly roughened to an ICRI CSP of 3 to 5.
3. Sides must be squared off.
4. Clean all reinforcing steel to bare white metal and coat with a rust preventative coating if not covering within 8 hours.
5. Surface should be brought to a saturated surface dry (SSD) condition with clean potable water.

Refer to:

- ACI 302 Guide for Concrete Flooring and Slab Construction
- ACI 304 Guide for Measuring, Mixing, Transporting and Placing Concrete

Forming

Forms must be sealed to prevent material from escaping. Release agents are recommended for pre–treating wood form surfaces that can absorb moisture. The design of the form work should take into consideration the consistency of the mix, the method of placement and the distance the material must travel. Form sides must be squared off.

Note: It is the responsibility of the installer/applicator to ensure that test areas are performed to determine 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

Mix only the amount of material that can be placed in 1 hour. The use of a mechanical mixer is recommended.

1. Mix approximately 4 pt. up to 5 pt. (1.9–2.3 L) of cool, clean potable water per 50 lb. (22.7 kg) bag. Always add powder to the liquid for easier blending.
2. Mix for 3 – 5 minutes to a lump free consistency.
3. Addition of cold water at high temperatures or warm water at low temperatures will aid in adjusting the mix temperature.
4. Do not retemper, exceed water limits or add any materials other than clean potable water.
5. Clean mixer often to prevent buildup of material.

Application

Ideal application conditions are when air, material, and substrate temperatures are between 50°F–90°F (10°C–32°C).

1. Do not apply over concrete cured less than 28 days or that is frozen or contains frost.
2. Do not bridge over existing expansion or control joints.
3. Immediately place the blended material into the properly prepared area.
4. Maintain a minimum thickness of 1½ in. (38 mm).
5. Compact to eliminate voids.
6. Initial set time is ~4 hours; final set time is ~5½ hours. Forms may be removed after 8 hours.
7. Protect from freezing or rain for a minimum of 24 hours.

Finishing and Curing

Standard concrete finishing and curing practices should be followed as described in ACI Manual of Concrete Practice.

Refer to:

ACI 308 Standard Practice for Curing Concrete

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

- Do not add aggregate.
- Do not overwater. Do not exceed water limits listed when mixing.
- Do not use for repairs less than 1.5 in. (38 mm).
- Do not mix more material than can be placed in 60 minutes.

Coverage

50 lb. (22.7 kg) bag yields 0.38 cu. ft. (0.01 m^3)

6. AVAILABILITY

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

Phone: 1.651.688.9116
Email: 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).

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