CONPROCO® MATRIX SUPERFINE

Composite repair mortar

1. PRODUCT NAME

Tenon® Conproco® Matrix Superfine

2. MANUFACTURER

TCC Materials®
2025 Centre Pointe Blvd.
Mendota Heights, MN 55120 USA
Phone: 651.688.9116
Web: tccmaterials.com

3. PRODUCT DESCRIPTION

Tenon® Conproco® Matrix Superfine is a trowel applied, composite repair mortar, formulated to be compatible with the color and physical properties of parent material. Repair and reconstruct natural and cast stone, terracotta and brick when a very smooth finish is required.

Features and Benefits

- Maintains integrity of repair, resists cracking
- Thermal compatibility - Prevents delamination due to temperature change
- Durable - Resistant to weathering action, excellent freeze/thaw stability and abrasion resistance.
- Resistant to deicing salts, chloride, and chemical attack, and environmental pollution.
- Breathable - Will not cause damage to structure by restricting moisture vapor flow.
- Shaveable - recreate sharp edges and architectural details. Long carving" window while mortar cures
- Single component - Easy to batch in less than full pail quantities

When/Where to Use

- Natural & cast stone repairs
- Terracotta repairs
- Brick repair
- Smooth finish required

4. TECHNICAL DATA

Typical Values • Conproco Matrix Superfine	
Physical State & Appearance	Dry, pigmented powder
Base	Portland cement
pH (Wet Mix)	>12
Water/Dry Material Ratio	0.20
Dry Bulk Density (ASTM C188)	92 lbs. / ft.^{3}
Density (Hardened)	118 lbs. / ft.^{3}
Setting Time by Vicat Needle (ASTM C191)	240 minutes
% Air - Pressured Method (ASTM C231)	4%
Water Absorption (ASTM C140)	11%
Water Vapor Transmission (ASTM E96)	10.07 perms
Length Change (ASTM C157)	<500 µstrains @28 days

Typical Values • Conproco Matrix Superfine cont.	
Modulus of Elasticity (ASTM	2.6 X 10^6
Slant Shear Bond Strength -	1880 psi
Compressive Strength - psi	7 days: 2,900 28 days: 3,000
Tensile Strength - psi (ASTM C307)	7 days: 400 14 days: 480 28 days: 560

Available Sizes

- 5 gallon pail - 50 lbs. Superfine Std/Color (BOM #115297)
- 5 gallon pail - 50 lbs. Superfine SP/Color (BOM #115311)

Coverage

Theoretical Yield		
Yield per Pail	**Repair Depth**	**Square Feet**
0.5 cubic feet	½ inch	12.00
0.5 cubic feet	1 inch	6.00
0.5 cubic feet	1 ½ inches	4.00
0.5 cubic feet	2 inches	3.00

5. INSTALLATION

Preparation

Read all directions before starting work. Proper surface preparation is crucial to achieving a successful application.

1. Remove loose and deteriorated material, laitance, dirt, dust, oil and any surface contaminants that will inhibit proper penetration.
2. Saw cut edges with a diamond blade at a 90° angle to eliminate feather edging. Avoid polishing the edges, as this will inhibit bond.
3. Avoid bruising or micro cracking during surface preparation. Refer to ICRI Surface Preparation Guide 03732.
4. Repair zone must be a minimum of ½ inch deep, of simple geometry, with no complex edge conditions.
5. Avoid long narrow repairs; these have a greater tendency to crack.
6. Apply Conpro Start where a consolidant is of benefit.
7. Saturate substrate with clean water, (saturated surface dry/SSD), with no standing water during Priming or Application.
8. Remove stone/concrete from corroded steel and several inches beyond to expose non-corroded steel.
9. Provide a ¾ inch clearance between the stone/concrete and steel.
10. Damaged reinforcing steel should be examined by a qualified engineer and appropriate action taken

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

Priming

Stone, Terracotta & Concrete

- Prime the prepared substrate including all edges with a bond coat of Matrix Superfine just prior to starting application. Work the bond coat into the substrate to ensure intimate contact and establish bond (about $^1/_{16}$" – $^1/_8$"). The repair mortar must be applied into the plastic bond coat. If the bond coat dries, remove and re-apply.

Embedded Metal & Steel
- Remove all scaling rust from embedded metal and steel. Apply ECB anti-corrosion coating.

Mixing
1. Measure Matrix Superfine powder and water to achieve a 4 part powder to 1 part water ratio.
2. Pour measured water into a clean container suitable for mixing.
3. Place ½ of measured Matrix Superfine into mixing container with water and mix until uniform. Add remaining ½ Matrix Superfine to the mixing container and mix until fully blended to a uniform, lump free consistency.
4. Mechanically mix using a low speed drill (400–600 rpm) and mixing paddle or mortar mixer.
5. Additional water may be added to achieve desired consistency for placement of the Matrix Superfine.
6. Over watering the mix will affect final color.
7. For multiple batches, the additional water should be added in a uniform fashion to avoid color shift.
8. Insufficient water will not hydrate the material and it will not achieve full strength. Mix only as much material as can be placed in 15 -20 minutes.
9. Do not over mix, as this will entrain air.
10. Do not retemper, this will affect color.

Application
1. At the time of application, surfaces should be saturated surface dry (SSD) but hold no standing water.
2. Follow instructions for Priming.
3. Force the material against the edges of the repair, working from right to left or left to right.
4. Over build repair zone by $^{1}/_{8}$ - ¼ inch.
5. Shave to final form with Mitre Rod up to 2+ hours (longer in cold temperatures) after application.
6. Do not overwork the finish.

Curing
Ensure repair zone stays properly hydrated. This may vary depending on ambient conditions. If hydration is not maintained, the repair may flash dry and not achieve full strength. Refer to ACRI 308R-01 for detailed curing recommendations. If the repair is inaccessible, tape polyethylene over area to retain moisture. Do not allow polyethylene to contact the material. Protect repair from direct sunlight, wind, rain and frost during curing period.

Clean Up
Clean tools and equipment with water immediately after use. Cured material must be removed mechanically.

Limitations
1. Do not apply unless substrate and ambient temperature can be maintained at a minimum of 40°F for 24 hours. Refer to ACI Cold Weather Application Guidelines.
2. Cold mixing water and low temperatures will retard set. Hot water and high temperatures will accelerate set.
3. Protect application from precipitation and high wind for at least 24 hours.
4. Do not add more water than specified.
5. Do not re-temper, as this will affect color.
6. Avoid overworking material during placement as this will affect color and cause surface (map) cracking.
7. Do not allow polyethylene or burlene to touch surface while curing as this will cause whitening of the material.
8. Do not ingest.
9. Avoid breathing dust.
10. Avoid contact with skin & eyes.

Safety
READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT. SDS information is available on our website:
tccmaterials.com
- In case of skin contact, wash thoroughly with soap and water.
- For eye contact, flush immediately with a high volume of water for at least 15 minutes and contact a medical professional
- For respiratory problems, remove person to fresh air.

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, TCC Materials cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

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.

Shelf Life	18 months in unopened containers.
Storage Conditions	Transport and store in cool, clean, dry conditions in unopened containers. High temperature or high humidity will reduce shelf life.
Color	Pigmented Powder

KEEP PRODUCT IN CONTAINER FROM FREEZING

WARNING: INJURIOUS TO EYES

KEEP OUT OF REACH OF CHILDREN

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