D-SF Microfiber (1&2)

Dry-Process, Silica Fume Microfiber Shotcrete for Civil Construction Repair

1. PRODUCT NAME

Tenon® D-SF1 Microfiber, Tenon® D-SF2 Microfiber

2. MANUFACTURER

Tenon® is a registered trademark of TCC Materials
2025 Centre Pointe Blvd.
Mendota Heights, MN 55120 USA
Phone: 1.651.688.9116
Web: Tenonpro.com

3. PRODUCT DESCRIPTION

Tenon® D-SF Microfiber is a dry process shotcrete containing a pre-blended Portland cement, silica fume, air-entraining admixture, set time accelerator, synthetic fibers, selectively blended aggregates, and propriety performance enhancing components. Tenon® D-SF Microfiber is specifically designed to provide excellent application characteristics with balanced performance properties.

Features and Benefits

- Preblended to meet ACI 506 Table 1.1 Gradation No. 1 or 2
- Low shrinkage, low permeability and low rebound
- Freeze-thaw and salt-scaling resistant

When/Where to Use

- Civil construction and repair or tunneling
- Vertical or overhead
- Concrete structures
- Tunnel lining
- Soil stabilization and soil-nailing

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.

4. TECHNICAL DATA

Representative of typical values using proper application spray techniques as outlined in ACI 506 “Guide to Shotcrete”. The data was obtained during project field testing and internal evaluations.

Typical Values • Tenon D-SF1 Microfiber	
Compressive Strength, psi (ASTM C1604 / C109)	
1 day	>3800 psi (26.2 MPa)
3 days	>5000 psi (34.5 MPa)
7 days	>6000 psi (41.4 MPa)
28 days	>7000 psi (48.3 MPa)
Flexural Strength, psi (ASTM C78)	
28 days	>1000 psi (6.9 MPa)
Air Content, percent (ASTM C457)	
6% ± 2%	
Set Times, (ASTM C1117)	
Initial 4hrs, Final 6hrs	

Typical Values • Tenon D-SF1 Microfiber
Rapid Chloride Permeability, (ASTM C1202)
700 Coulombs
Maximum Volume of Permeable Voids, (ASTM C642)
15%
Boiled Absorption, ASTM C642)
6%
Maximum Air Void Spacing Factor, (ASTM C457)
300 um/m
Freeze-Thaw Resistance, (ASTM C666)
90% (Excellent durability factor)
Salt Scaling Resistance, (ASTM C672)
0.04 lb./ft² (0.2 kg/m²)
Drying Shrinkage, (ASTM C157)
650 um/m

Available Size

- 80 lb. (36 kg) bag (D-SF1 BOM #112870
- 80 lb. (36 kg) bag (D-SF2 BOM #112868)
- 3,000 lb. (1,360 kg) bag (D-SF1 BOM #112869)
- 3,000 lb. (1,360 kg) bag (D-SF2 BOM #112867)

Yield.

- Each 80 lb. (33 kg.) bag will yield approximately 0.6 cu. ft. (0.017 cu. m.)
- Each 3,000 lb. (1,360 kg.) bag will yield approximately 22.5 cu. ft. (0.64 cu. m.)

5. INSTALLATION

Preparation Surface (Restoration or Repair)

All surfaces to accept Tenon® D-SF1 Microfiber, Tenon® D-SF2 Microfiber must be free from all dust, laitance, oils, or surface contamination that may interfere with the bond adhesion. Remove all loose or fractured concrete allowing for a profiled surface, creating a minimum 1inch (25mm) clearance around all reinforcing and structural elements. Repair edges must be sawcut to reveal a minimum 3/4 inch (20mm) depth. Repair surface should be cleaned and moistened to a saturated surface dry (SSD) appearance.

Application

Apply Tenon® D-SF1 Microfiber, Tenon® D-SF2 Microfiber in accordance with ACI 506 “Guide to Shotcrete” publication.

Curing

To reduce shrinkage and optimize physical performance properties, curing techniques to include moist cure or film forming curing compounds must be used. After initial set time Tenon® D-SF1 Microfiber, Tenon® D-SF2 Microfiber must be wet cured for a minimum of 7 days or a spray applied acrylic curing compound that meets ASTM C309 moisture retention must be used. Shotcrete applications in high temperature and low humidity environments require special attention if designed performance is required.

Limitations

- Do not add aggregate.
- Do not add additional additives or admixtures
- Applications are not recommended when ambient and substrate temperatures are below 40°F(5°C) or above 95° (35°C)
- Follow all industry standard safety procedures when working with concrete products including wearing impervious gloves, such as nitrile when handling.
- Qualified shotcrete applicators are recommended.

Safety

READ THE SAFETY DATA SHEET (SDS) BEFORE USING THIS PRODUCT. SDS information is available on our website: Tenonpro.com

6. AVAILABILITY

To locate Tenon products in your area, please contact:
Phone: 1.651.688.9116
Website: Tenonpro.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	Best when used within one year in original, unopened bags
Storage Conditions	Store dry, cool, out of direct elements. Best to condition material to 40-85°F (4°-29°C) before using.
Color	Gray

WARNING: INJURIOUS TO EYES

KEEP OUT OF REACH OF CHILDREN

TCC MATERIALS
A TCC® GROUP COMPANY

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