

PRODUCT DESCRIPTION

CAFCO FENDOLITE M-II / ISOLATEK Type M-II is a single package, factory controlled Spray-Applied Fire Resistive Material (SFRM) recommended for use in petrochemical facilities, refineries, nuclear power plants, and tunnels.

CAFCO FENDOLITE M-II / ISOLATEK Type M-II can be a spray texture or smooth trowel finish and requires only the addition of water as an activator.

CAFCO FENDOLITE M-II / ISOLATEK Type M-II is the most commonly specified and widely used spray applied fire protection system for tunnel application throughout the world due to its long track record and ease of application. Internationally tested for all types of tunnel construction means that Isolatek is able to develop solutions and systems for any particular tunnel requirement (fire type, duration, failure criteria). With an independently developed Finite Element Model, CAFCO FENDOLITE M-II / ISOLATEK Type M-II thicknesses can be optimised to provide the most cost-effective solution for any given fire scenario.

PRODUCT ADVANTAGES

- Proven material with over 30 years of in-place performance in hydrocarbon environments
- Tested to the latest industry fire standards (RWS, hydrocarbon and jet fire) including exposure to gas explosion and liquid nitrogen
- Vermiculite aggregate provides excellent thermal resistance
- Formulated for durability offering long-term weather, abrasion, and erosion resistance, including high level impact protection
- Reduced thicknesses deliver required ratings with less material

Physical Performance

Characteristic	ASTM Method	Laboratory Tested Performance*
Density	E605	44-48 pcf (704-768 kg/m ³)
Durometer Hardness (Shore DO)	D2240	65+
Surface Burning	E84	Flame Spread 0 Smoke Developed 0
Combustibility	E136	Noncombustible
Cohesion/Adhesion	E736	16,154 psf (774 kPa)
Deflection	E759	No Cracks or Delaminations
Bond Impact	E760	No Cracks or Delaminations
Compressive Strength	E761	550 psi (3,793 kPa)
Air Erosion Resistance	E859	0.000 g/m ² (0.000 g/ft ²)
Corrosion Resistance	E937	Does Not Promote Corrosion of Steel
Thermal Conductivity	C518	1.14 BTU in/hr ft ² °F @75°F (0.164 W/m•K) (R Value = 0.88 / in)
Maximum Strain	D790	0.0024 in/in (0.06 mm/mm)
Fungal Resistance	G21	Passed

* Values represent independent laboratory tests under controlled conditions.
Test reports available upon request.

FIRE TEST PERFORMANCE

CAFCO FENDOLITE M-II / ISOLATEK Type M-II has been extensively tested for fire endurance in accordance with industry specific protocols.

- Rijkswaterstaat (RWS) Curve
- Increased Time/Temperature Curve (HCinc)
- ANSI/UL1709 Rapid Fire Test of Protection Materials for Structural Steel
- 2nd ANSI/UL 1709 Rapid Rise Fire Test of Protection Materials for Structural Steel (following initial ANSI/UL 1709 Rapid Rise Fire Test)
- ANSI/UL1709 Environmental Exposure Tests (Aging, High Humidity, Industrial Atmosphere, Salt Spray, Combined Wet/Freeze/Dry Cycling, Acid Spray and Solvent Spray)
- BS 476, Parts 20-21: 1987 Appendix D Hydrocarbon Heating Conditions
- Gas Explosion Test (3-Bar Blast Overpressure)
- ANSI/UL 1709 Rapid Rise Fire Test (Following Gas Explosion)
- ISO 22899-1 Determination of the Resistance to Jet Fires of Passive Fire Protection Materials
- ISO 22899-1 Jet Fire Test (Following Gas Explosion Test)

ENVIRONMENTAL TEST PERFORMANCE

In addition to the required ANSI/UL1709 environmental test conditions (Aging, High Humidity, Industrial Atmosphere, Salt Spray and Combined Wet/Freeze/Dry Cycling), CAFCO FENDOLITE M-II / ISOLATEK Type M-II has also been tested under the following conditions:

- Acid Spray - Exposure of the material (with and without topcoat) to a hydrochloric acid /water fog spray.
- Solvent Spray - Exposure of the material (with and without topcoat) to a spray applied solvent for 5 cycles. Each cycle consists of the application of the solvent, 6 hour dry time, re-application of the solvent, and dry time of 18 hours.
- Investigated for UL 2431 Classification Category I-A - Outdoor, Heavy Industrial Use

SPECIFICATION AND STANDARDS COMPLIANCE

- NFPA 502, Standard for Road Tunnels, Bridges and Other Limited Access Highways
- American Petroleum Institute (API) Section 2510, 2510A, 2218
- UK Highways Agency - BD 78 / 99
- PIARC – 'Risk Analysis for Tunnels'
- 'European Tunnel Directive 2004/54/EC'. NFPA 130

Technical Data

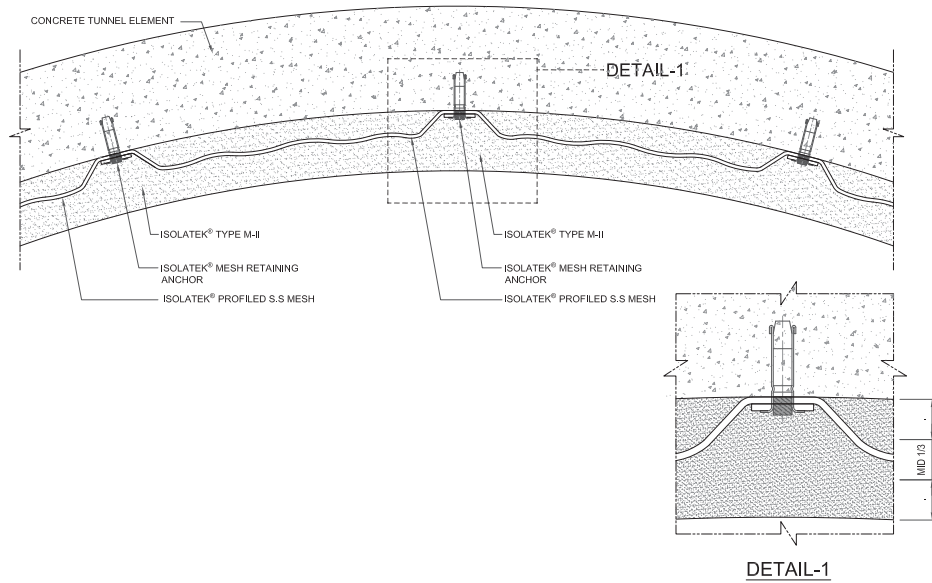
Color	Off-White
Theoretical Coverage (gross)	16 Bd. Ft./Bag
Thickness	Depends on desired rating and assembly being protected
VOC Compliance	0.0 g/L (EPA Method 24)
Outgassing Analysis, ATD GC-MS (50° C @ 30 mins.)	<12 ppmw (ug/g)
Storage	Dry, Covered, Off-Ground
Shelf Life	24 months



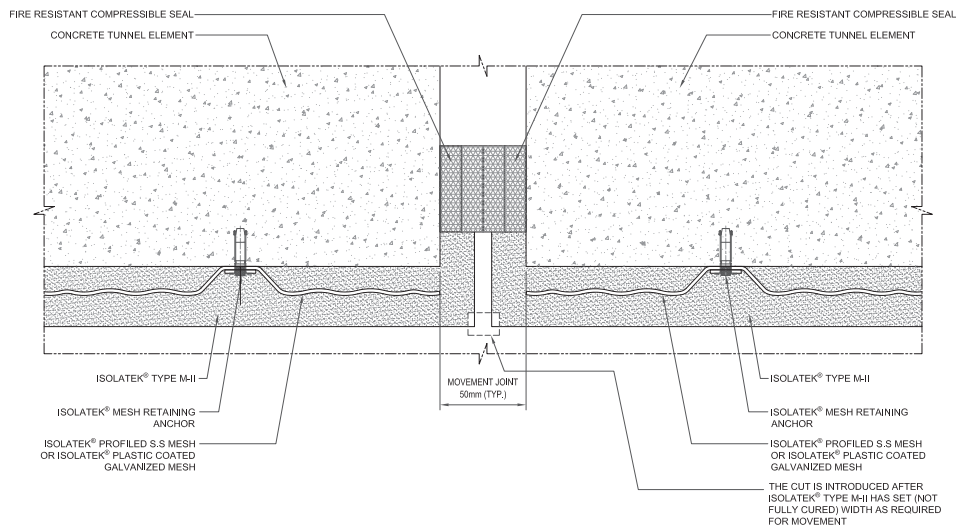
Brand

CAFCO® / ISOLATEK® Tunnel Detail

CAFCO / ISOLATEK® Profiled Stainless Steel Mesh (Mesh Stand-off)



Typical Expansion Joint Detail



ISOLATEK INTERNATIONAL is registered with the
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The performance data herein reflect our expectations based on tests conducted in accordance with recognized standard methods under controlled conditions. The applicator, general contractor, property owner and/or user MUST read, understand and follow the directions, specifications and/or recommendations set forth in Isolatek International's publications concerning use and application of these products, and should not rely merely on the information contained in this Technical Data Sheet. Isolatek International is not responsible for property damage, bodily injuries, consequential damages, or losses of any kind that arise from or are related to the applicator's general contractor's, or property owner's failure to follow the recommendations set forth in Isolatek International's publications. The sale of these products shall be subject to the Terms and Conditions set forth in the Company's invoices.



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