

**CODE: FR-1700**

**PRODUCT NAME: Vermiculite & Portland Cement Based Fire Proofing**

**General specification:**

- ✓ FR-1700 is fire resistant coating with inorganic (mineral) formulation and is based on vermiculite and cement. It is mixed with clean water and applied.
- ✓ Description: FR-1700 is applied on the steel and concrete surfaces including columns, beams, walls, fittings, floors and platforms in order to reinforce the structure against the fire.

**Properties:**

- ✓ The cement-based product is resistant and remains resistant during the implementation and after the film formation
- ✓ It forms a high quality film on the all surfaces including columns, beams and platforms
- ✓ It does not need additives in order to form a high quality film and is easily applied
- ✓ It is free of asbestos under OSHA and EPA regulations
- ✓ It is free of mineral wool and airborne fiber
- ✓ It is free of toxic and anti-fungal compounds
- ✓ It is cost-effective economically
- ✓ It is ready to use and needs no additives

**Primer:**

- ✓ FR-1600 should be applied on the surfaces that has alkali-resistant primer

**Topcoat:**

- ✓ Generally, it does not need Topcoat. In severe corrosion conditions, the appropriate Topcoat is applied by consulting technical services of Pedram Engineering Group with consideration of environmental conditions.

**Dry film thickness:**

- ✓ Recommended thickness depends on the desired rate of resistance to fire.

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Approved by



## Physical properties:

property	Method	Standard Performance	TEST RESULT
cure	-	-	By hydraulic set
Color	Normal	-	GREY
Density	ASTM E605	400 ± 12% kg/m <sup>3</sup>	405
Compressive Strength	ASTM E761	Min 300 Kpa	498
Air Erosion	ASTM E859	Less than 0.27 g/m <sup>2</sup>	0
Bond Strength Unprimed Steel	ASTM E736	Min 20 kpa	128
Impact Resistance	ASTM E760	No cracks	No cracks
Deflection Resistance	ASTM E759	No Delamination	No Delamination
Flame spread	ASTM E84	0-25	0
Smoke a Development	ASTM E84	0- 450	0
Corrosion	ASTM E937	Does not promote corrosion of steel	Does not increase corrosion of this product
Thermal conductivity	ASTM C518	-	0.076 W/mk
Combustibility	ASTM E136	Non Combustible	Non Combustible
PH value	-	-	12-12.5
packing	-	-	12 OR 20 kg
Shelf Life	-	-	Maximum 12 months
ASTM E 119(UL-263) : Standard Test Methods for Fire Tests of Building Construction and Materials These test have resulted in ratings of up to 4 hours for : .Beams .Columns .Roof Assemblies .Joists			
Minimum practical thickness : 8-15 mm when unreinforced, 15 - 30mm when reinforced 100 m <sup>2</sup> /tone at 25mm thickness			

## Maintenance conditions:

Maintenance conditions	The materials should be stored in dry and covered environment above the ground
Storage temperature and humidity	29 <sup>0</sup> C to 66 <sup>0</sup> C Relative humidity (0%-90%)

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