Avikote AV 800

Petrochemical Grade Cementitious Fireproofing

Product Information

Avikote AV 800 Petrochemical Grade Cementitious Fireproofing has been developed by Arabian Vermiculite Industries to meet petrochemical fireproofing requirements.

The **Avikote AV 800** is a Portland cement-based, spray and/or trowel applied product. Only the addition of water at the jobsite is required for application.

Type **Avikote AV 800** may be used in petrochemical, chemical processing, gas processing, refinery facilities and specialty utility applications.



Features and Benefits

Fire Tested: Tested in accordance with Underwriters Laboratories, Inc. UL 1709 and ASTM E 119 (UL 263); investigated by UL for exterior use.

Durability: **Avikote AV 800** has been tested for Coefficient of Thermal Expansion, Compressive Strength, Hardness, and other properties in accordance with API Guidelines (Publication 2218) and ASTM procedures.

Equipment Versatility: **Avikote AV 800** may be applied by a wide range of pumping equipment – Moyno, Rotor Stator, Piston or Hydraulic. Also, **Avikote AV 800** may be used with paddle mixers and some continuous mixers.

Weatherability: **Avikote AV 800** is formulated with ingredients that enhance its ability to resist weather and freeze thaw cycling. Uniquely, **Avikote AV 800** combines this multiple of ingredients to help extend its usable life beyond that of other products.

Economical: **Avikote AV 800** can build to higher thicknesses per pass and allows for greater applicator efficiency. This reduces time on the job site and the labor required in application compared to other products.

Conditions Not Recommended

Operating temperatures in excess of 93°C (200°F)

Use on aluminum or other non-steel surfaces

Use as a refractory cement

Coatings Requirement

Steel Coatings

Avikote AV 800 neither prevents nor promotes the corrosion environments, a corrosion inhibitive, non-alkali sensitive coating should be applied to the steel prior to application of fireproofing.

Contact an Arabian Vermiculite Industries representative for a list of recommended coatings.

Fireproofing Topcoats

Avikote AV 800 can be top coated with AVI TuffKote, latex, epoxy or polyurethane topcoats.

Performance Characteristics

Physical Properties	Recommended Specifications	Test Methods/Notes	Laboratory Tested* Value
Dry Density	800 kg/m^3 – 880 kg/m^3 (50 pcf – 55 pcf) nominal	ASTM E 605	See note below***
Bond Strength	478 kN/m^2 (10,000 psf)	ASTM E 736 (Modified)**	835 kN/m^2 (17,741 psf)
Coefficient of Thermal Expansion	-	ASTM C 531	3x10^{-4} cm/cm/°C (1.71 x 10^{-4} in./in./ °F)
Compressive Strength	6675 kN/m^2 (1000 psi)	ASTM E 761	7460 kN/m^2 (1082 psi)
Hardness (Shore D)	44	ASTM D 2240	48
Flexural Strength	2750 kN/m^3 (400 psi)	ASTM D 790	2989 kN/m^2 (433.7 psi)
Yield	-	Theoretical Maximum	0.743 kg gives 1mm thickness for an area of 1 m^2
Bag Weight	-	Polyethylene Lined Kraft Bag	22.3 kg/bag (49 lbs/bag)
Color	-	Natural Concrete Gray	

* Independent laboratory tested value
** Modified to allow for high density, high strength materials
*** All in place performance test should be conducted at or below the minimum recommended specification density. Test reported were conducted at 790 kg/m^3 (49.3 pcf)

www.avi-sa.com | info@avi-sa.com
Arabian Vermiculite Industies P.O. Box 7137, Dammam 31462, Saudi Arabia Tel: +966 13 847 1450 Fax: +966 13 847 1575



Delivery and Storage

All material to be used for fireproofing shall be delivered in original unopened packages bearing the name of the manufacturer, the brand and proper Underwriters Laboratories, Inc. labels for fire hazard and fire resistance classifications.

The material shall be kept dry until ready for use. Packages of material shall be kept of the ground, under cover and away from sweating walls and other damp surfaces. All material that has been exposed to water before use shall be discarded. Stock of material is to be rotated and used before its expiration.

Steel Surfaces

Prior to the application **Avikote AV 800** fireproofing, an inspection shall be made to determine that all steel surfaces are acceptable to receive fireproofing. Where necessary, the cleaning of steel surfaces to receive fireproofing shall be the responsibility of the general contractor.

Mixing

Avikote AV 800 fireproofing shall be mixed by machine in a conventional, plaster type mixer, continuous mixer, or hand held mixer, specifically modified for cementitious fireproofing. The mixer shall be kept clean and free of all previously mixed material. The mixer speed shall be adjusted to the lowest speed which gives adequate blending of the material and a mixer density of 1040 kg/m^3-1120 kg/m^3 (65-70 pcf).

Using a suitable metering device and mixer, approximately 11.5 liters (3 US gals) per bag shall be first added to the mixer as the blades turn. Mixing shall continue until the mix is lump-free with a creamy texture. All material is to be thoroughly wet. Target density of 1040 kg/m^3-1120 kg/m^3 (65-70 pcf) is most desirable. Over mixing **Avikote AV 800** will reduce pumping rate and density.

Avikote AV 800 may also be troweled directly from the mixer or after passing through the spray nozzle. For trowelling from the mixture use 10.5L (2 ¾ US gal) and adjust mixing to obtain a wet mix density of 1100 kg/m^3 (69-75 pcf).

Application

Avikote AV 800 fireproofing material shall not be used if it contains partially set, frozen or caked material.

Avikote AV 800 shall have a minimum average dry, in-place density of 800 kg/m^3 (50 pcf).

Avikote AV 800 is formulated to be mixed with water at the job site.

Spray Application

Avikote AV800 is applied directly to the steel, at various rates of application which will be job dependent using standard plastering type equipment or continuous mixer/pump units. A spray gun with a properly sized orifice with spray shield, and air pressure at the nozzle of approximately 175 kN/m^2 (25 psi) will provide the correct hangability, density and appearance.

Trowel Application

As stated above, **Avikote AV 800** may also be trowelled directly from the mixer or after being sprayed. As with all cement based products, material should not be overworked.

Temperature and Ventilation

An air and substrate of 4°C (38°F) minimum shall be maintained for 24 hours prior to application, during application and for a minimum of 24 hours after application of **Avikote AV 800**.

Provisions shall be made for ventilation to properly dry the fireproofing after application. In enclosed areas lacking natural ventilation, air circulation and ventilation must be provided.

Safety

Avikote AV 800 is slippery when wet. The general contractor and applicator shall be responsible for posting appropriate cautionary *SLIPPERY WHEN WET* signs. Signs should be posted in all areas in contact with wet fireproofing material. Anti-slip surfaces should be used on all working areas.

A Material Safety Data Sheet for Avikote AV 800 is available upon request.