



# REFRAXE™ FSC

## Advanced Ceramic Cladding and Rendering Coating for Refractories

Protects refractories against spalling, slag adhesion, thermal shock and cracking

### DESCRIPTION

Refrax™ FSC is a zircon modified refractory coating, designed to protect the refractory bricks, monolithics, castables, and steel shells in furnaces, boilers, etc. Refrax FSC provides a protective coating inside furnaces, catalytic crackers, hydrolisers, reactors, heating and re-heating furnaces, heat exchange units, jet burner areas, sulphur recovery plants and steam producing units. With Refrax FSC a layer of protection is provided to refractory brickwork, or castables, from attack by corrosive chemicals at elevated temperatures. Refrax FSC is not affected by chemicals such as sulphur compounds, gases, acids, alkalis, steam, catalysts, products of combustion, furnace atmosphere, chemical composition of reaction products, slags, fluxes, etc.

The Refrax FSC is self supporting up to 1/4" (6 mm) as a coating, and provides a gas tight barrier coating that is resistant to thermal shock, and will seal existing refractory linings affected by cracking or spalling.

### SUGGESTED USES :

Furnaces	Hydrolisers	Chimneys	Rotary kiln
Catalytic crackers	Reheater furnaces	Boilers	Kilns

### PERFORMANCE PROPERTIES

Performance Property	Result
Crushing strength	5000 psi (350 kg per sqm)
Thermal expansion	1 % from 35 °F to 3400 °F
Resistance to thermal shock	Excellent
Temperature resistance	3470 °F (1910 °F)
Chemical Resistance	Excellent
Solids Content	80% once mixed
Volatile Organic Compounds	0 grams/liter

### PHYSICAL PROPERTIES

Color	Tan - will turn to a whitish color once fully cured
Pot life (75 °F)	3 days once mixed
Mix ratio	0.25 gallons of water to 10 kg of FSC mix
Dry to Touch at 75 °F	6 hours (thickness and temperature dependent)
Cure to service	Requires post curing 120 °F (50 °C) per hour to 1800 °F (1000 °C).
Theoretical coverage	Approximately 55 lbs (25 kg) per 25 sqft (2.5 sqm) at a thickness of 120 mils (1/8 inch, 3 mm).
Low temperature application	Minimum 60 °F (15 °C )

## **MIXING INSTRUCTIONS**

Mix Refrax FSC with water to a smooth, creamy paste by adding .25 gallons (1 liter) of water to 25 pounds (10 kg) of powder. Adjust the consistency of the mix to suit brushing or trowelling as required. Use less water for a repair mortar or plugging mix. For spray application, add more water to form a slurry and apply using cement spraying equipment. Large batches can be prepared with a cement mixer. LET STAND for a minimum of 1 hour, then remix briefly.

### **APPLICATION < 120 mils (6 mm)**

Once mixed, the material is ready to use. Dampen down any porous bricks with water prior to coating, then brush or trowel the coating out to a thickness of 120 mils (1/8 inch / 3 mm). For thicker finishes apply further coats once the coating is dry to touch, typically 2 hours. Allow the coating to dry out thoroughly. Thin coatings 120 mils for 6 to 12 hours; 12 to 24 hours for thicker coatings. Seven days when used as a bricking mortar.

### **APPLICATION > 120 mils (6 mm)**

Once mixed, the material is ready to use. Dampen down any porous bricks with water prior to coating, then brush or trowel the coating out to a thickness of 120 mils (1/8 inch / 3 mm). Render the refractory walls with 120 mils of Refrax FSC. While the coating is damp, lay over it high tensile wire mesh, 19 gauge with 1/2" gaps. Hammer on 12" centers, 1" high tensile steel staples to secure the mesh in place. Dry the first layer for 3 hours and while it is almost dry, trowel another 1/8" (3 mm) over the wire mesh. Let the Refrax set for one week to dry out. When dry raise temperature 50°F per hour to start, then gradually increase the temperature until the operating temperature is reached within 96 hours to operating temperature of 1800 °F.

## **SURFACE PREPARATION**

- 1) Brush off blast or power hand tool clean the face surface of the refractory lining. Wet surface of refractory lining as not to over saturate the refractory lining. Apply brush coating of Refrax FSC working the material into the refractory lining.

## **CLEAN-UP AND STORAGE**

- 1) Use water to clean tools immediately after use.
- 2) Keep containers tightly sealed.
- 3) Store between 10°C (50°F) and 27°C (80°F). DO NOT FREEZE. Use product within 36 months of receiving.

## **SAFETY**

Before using any products, please refer to the Material Safety Data Sheet (MSDS). Follow standard confined space entry and work procedures, if appropriate.

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