RFM CS, FS, SiC and ZR

LOW THERMAL CONDUCTIVITY COMPOSITE MATERIAL

Reinforced fibreglass material (RFM®) is composite fiberglass fabric material embedded in a calcium silicate (RFM CS), fused silica (RFM FS), silicon carbide (RFM SiC) or zirconium silicate (RFM ZR) slurry.

RFM has high fracture resistance and can be moulded into thin walled complex shapes. The material reduces thermal loss with low density, high insulating backup linings.

BENEFITS

- Minimal preheating required
- Excellent mechanical properties
- Excellent erosion resistance
- Shaped to project specifications
- Fracture and crack resistant

APPLICATIONS

- Ingot casting wheels
- Distribution troughs
- Reusable Molten Aluminium Distributor (ReMAD)
- Float bottom parts
- Autopour ladles
- Skim dams
- Control pins
- Thermocouple protection tubes
- Sampling spoons
- Automatic skimmer blades
- Pouring cups
- Dosing launders
- Insulating lids/covers

PHYSICAL PROPERTIES

Property	Value			
	RFM CS	RFM FS	RFM SiC	RFM ZR
Slurry	Calcium silicate	Fused silica	Silicon carbide	Zirconium silicate
Density–kg/m^3 (lb/ft^3)	1600 (100)	1850 (115)	2000 (125)	2270 (142)
Maximum Service Temperature*	780°C (1436°F)	780°C (1436°F)	780°C (1436°F)	1000°C (1832°F)
Thickness–mm (in)	3–35 (0.12–1.38)	3–35 (0.12–1.38)	3–35 (0.12–1.38)	3–35 (0.12–1.38)
Hardness–Shore D	77	79	82	73
Cold Modulus of Rupture–MPa (psi)	16.5 (2393.12)	19.2 (2784.73)	17.1 (2480.15)	22.9 (3321.36)
Thermal Expansion Coefficient–mm/mm·°C (in/in·°F)	9 x 10^{-6} (5 x 10^{-6})	2.4 x 10^{-6} (1.33 x 10^{-6})	9 x 10^{-6} (5 x 10^{-6})	9 x 10^{-6} (5 x 10^{-6})
Thermal Conductivity–W/m·K (BTU·in/ft^2·hr·°F) at 300°C (572°F) at 500°C (932°F) at 700°C (1292°F)	 0.45 (3.10) 0.52 (3.60) 0.57 (3.94)	 0.49 (3.42) 0.62 (4.31) 0.73 (5.09)	 0.88 (6.08) 1.22 (8.44) 1.52 (10.52)	 0.55 (3.80) 0.67 (4.66) 0.75 (5.19)

**Maximum service temperature may vary depending on the application. Please consult with a Pyrotek sales engineer for questions.*

Note: The physical and chemical properties listed represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

FEB-23-EN-676

Product Type: 110, 117, 126, 144, 150, 167, 173, 177, 183
Commodity Code: 02029