

Rigid Felt Board Insulation

RFB provides a cost effective solution for most conventional heat treating furnaces and is well suited to the solar industry. RFB can be used in high temperature applications operating up to 2,800°C (5,072°F) in an inert or vacuum environment.



CONSTRUCTION: RFB is produced by laminating multiple layers of soft felt with a resin and firing it to a high temperature. Optionally, graphite foil may be bonded to one or both faces to lower the emissivity and minimize process gas infiltration.

STANDARD SIZES: In addition to these standard sizes, boards can be manufactured to customer specification, eliminating the need for most joints. Panels are available in sizes up to 90" long x 55" wide x 8" thick (2290 x 1400 x 200mm).

Length	Width	Thickness	Thickness Tolerance
1000mm	1500mm	20, 30, 40, 50	± 2mm
1000mm	1000mm	20, 30, 40, 50	± 2mm
24"	42"	1", 1.5", 2"	± 0.08"
24"	48"	1", 1.5", 2"	± 0.08"
24"	52"	1", 1.5", 2"	± 0.08"
48"	60"	1", 1.5", 2"	± 0.08"

MATERIAL ATTRIBUTES:

- **Machinability:** RFB is readily machinable with conventional methods such as cutting, drilling, sawing, and milling. Panels may be supplied with pre-machined shiplap joints to facilitate rapid furnace rebuilds.
- **Dimensional Stability:** RFB will not bow, warp, or crack as a result of thermal shock or cycling.
- **Low Specific Heat:** Allows for rapid furnace cycling and improved throughput.
- **Purity:** Halogen and Vacuum purification is available for Semiconductor and other specialty applications.

Typical Properties	SI Units		English Units	
Density	0.18	g/cm ³	11.2	lb/ft ³
Thermal Conductivity (Argon)				
1,000°C (1,832°F) (⊥)	0.47	W/mK	3.26	BTU in/hr ft ²
2,000°C (3,632°F) (⊥)	1.05	W/mK	7.29	BTU in/hr ft ²
Thermal Conductivity (Vacuum)				
1,000°C (1,832°F) (⊥)	0.33	W/mK	2.29	BTU in/hr ft ²
2,000°C (3,632°F) (⊥)	0.92	W/mK	6.39	BTU in/hr ft ²
CTE: 20 – 1,000°C (//) (68 – 1,832°F) (//)	2.5 x 10 ⁻⁶	1/K	1.4 x 10 ⁻⁶	1/°F
Flexural Strength (⊥)	2.0	MPa	300	psi
Compressive Strength (⊥) @ 10% Deformation	0.25	MPa	40	psi

Material Grade	Total Ash	Sulfur Content	Total Elemental Impurities	Processing Temp
RFB-210	≤ 0.1%	300 ppm	500 - 1,000 ppm	1,900°C
RFB-210H	≤ 0.01%	25 ppm	≤ 150 ppm	1,900°C
RFB-210HP	N/A	5 ppm	≤ 20 ppm	2,100°C w/ Halogen