RIGID GRAPHITE FELT BOARD

PRODUCT MANUAL

1. Overview

Graphite board/ rigid composite felt is a carbon matrix composite material reinforced by carbon fiber and its fabric. It has the advantages of low density, high strength, high specific modulus, high thermal conductivity, low expansion coefficient, good friction performance, good thermal shock resistance and high dimensional stability.

2. Product technical properties

Product categories	Pan based felt /Laminated		Rayon based felt /Laminated		Pan&Rayon mix Rigid felt /integral	Rayon based felt /integral	
Technical index	Graphitized products	High purity products	Graphitized products	High purity products	Graphitized products	Graphitized products	High purity products
Grade name	PRF-3	PRF-4	RRF-3	RRF-4	**MRF-3W**	RRF-3W	RRF-4W
Processing temperature (°C)	2200	2500	2200	2500	2200	2200	2500
Carbon content (%)	≥99.8	≥99.9	≥99.8	≥99.9	≥99.8	≥99.8	≥99.9
Thermal conductivity (W/m·K)(50℃)	0.15-0.25	0.18-0.30	0.12-0.22	0.16-0.30	**0.16-0.25**	0.15-025	0.16-0.30
Thermal conductivity (W/m·K)(1000℃)	0.30-0.32	0.30-0.35	0.25-0.30	0.25-0.30	0.25-0.30	0.25-0.30	0.25-0.30
Thermal conductivity (W/m·K)(1500℃)	0.40-0.42	0.40-0.45	0.30-0.35	0.30-0.35	0.30-0.35	0.30-0.35	0.30-0.35
Density (g/cm^3)	0.14-0.28	0.14-0.28	0.14-0.22	0.14-0.22	**0.18-0.30**	0.14-0.22	0.14-0.22
Bending strength (MPa)	1.4-3	1.4-3	1.2-2.2	1.0-2.2	0.8-2.2	0.6-1.2	0.6-1.2
Compressive strength (MPa)	1.2-2.5	1.2-2.5	1.0-2.0	1.0-2.0	0.2-0.9	0.5-1.5	0.5-1.5
Ash content (ppm)	＜500	＜50	＜150	≤20	<300	＜150	≤20
Environment to Use (℃)/in vacuum	1200~2300	1800~3000	1200~2300	1800~3000	3600	1200~2300	1800~3000
Max Length(Board) (mm)	2000	2000	2000	2000	2000	1600	1600
Max Width (Board) (mm)	2000	2000	2000	2000	2000	1300	1300
Max Thickness (Board) (mm)	250	250	250	250	450	450	450

3. Product application

It is mainly used in single crystal furnace, polycrystalline furnace, semiconductor industry, and can also be used in powder metallurgy industrial furnace, vacuum sintering furnace, etc.

4. Product Specifications

Customized services can be provided, product specifications, thickness, raw materials and surface coatings can be customized.

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