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TECHNICAL BULLETIN – B 115

Si3N4 Bonded SiC Bricks

(Silicon Carbide Bricks)

Product Description

SiC Brick (Silicon Carbide Brick) are refractory materials manufactured with SiC as the main raw material, which include 72%~99% SiC content.

Manufactured with mixing SiC granule, SiC powder and binding agent through ageing mixture, molding, drying and firing, they provide excellent thermal conductivity and great wear resistance.

Composition

SiC	≥ 72.0
Si_3N_4	≥ 21.0
Fe_2O_3	≤ 0.3
Si	≤ 0.3
Apparent Porosity (%)	≥ 16.0
Bulk Density (g/cm^3)	≥ 2.68

Typical Physical Data

Compressive Strength (Mpa)	Room temperature	≥ 180.0
Bending Strength (Mpa)	Room temperature 1400°C	≥ 45.0 ≥ 55.0
Thermal Conductivity (W/m-K)	650°C 1000°C	18.5 16.0
Thermal Diffusivity (cm^2/s)	650°C 1000°C	0.064 0.053
Linear Expansion	30°C - 1100°C 30°C - 1100°C	4.02 x 10^{-6} (k^{-1}) 4.06 x 10^{-6} (k^{-1})

Applications

- Aluminum Electrolytic Cell
- Chemical Reaction Pots
- High Temperature Furnaces
- Piping for Aluminum Transport

Note

The information contained in this bulletin is believed to be accurate and reliable but is not to be construed as implying any warranty or guarantee of performance. Data are subject to reasonable variations and should not be used for specification purposes.