

SILICON CARBIDE Technical Data Sheet



Reaction Bonded Silicon Carbide (RB Sic)

Calyco Reaction bonded silicon carbide has an excellent wear, chemical, oxidation and thermal shock resistance. The MOR of RB Sic is approximately 2 x that of Recrystallised Sic and almost 50 % greater than Nitride bonded Sic. Our RB Sic is produced to stringent manufacturing specifications which results in a very consistent product.

FEATURES:

- Excellent thermal shock characteristics
- Corrosion resistance
- As cast tight dimensional tolerances
- Superior wear resistance
- Maximum use temperature 1380°C

BENEFITS:

- Excellent oxidation resistance
- Improved performance
- Longer life between replacement / rebuilds
- High thermal conductivity

APPLICATIONS:

- Beams
- Burner tubes
- Wear liners
- Kiln shelves
- Thermocouple sheaths
- Burner nozzles

| ITEM: | UNIT: | DATA: |
|----------------------------------|-------------------|----------------|
| Temperature | Celcius | 1380 c |
| Density | g/cm ³ | 3.1 - 3.2 |
| Open porosity | % | ≤1.56 - 1.66 |
| Bending strength | MPa | 250 (20 c) |
| | MPa | 280 (1200 c) |
| Modulus of elasticity | GPa | 330 (20 c) |
| | GPa | 300 (1200 c) |
| Thermal conductivity | W/m.k | 45 (1200 c) |
| Coefficient of thermal expansion | K-1 x 10-6 | 4.5 |
| Rigidity | | 13 |
| Acid proof alkaline | | Excellent |

| STANDARD TOLERANCES: | |
|----------------------|--------------|
| Flatness | ≤ 0.2% |
| Thickness | + / - 1.0 mm |
| Length / Width | + / - 1.5 mm |

Mining Products

- **Wear Protection** • Equipment & Machinery
- Drilling and Blasting • Engineering Plastics
- Consumables • Safety