



# REFEL

REFEL is a reaction bonded silicon carbide product, it is a high performing wear resistant material that has been successfully integrated in to advanced equipment throughout industry.

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## Product Description

REFEL reaction bonded silicon carbide products contain a microstructure, which gives superb interlocking strength and surface quality.

This extremely fine grain structure enables it to outperform other silicon ceramics as a hard wearing material and provides superior performance in arduous environments. When REFEL is used in mechanical seals, the seals have the lowest level of surface distortion which gives counter faces superior life. REFEL has a reputation for supreme performance and cost effectiveness. Custom designed linings have been made for equipment that transfers aggressive liquids and molten metals.

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## Product Advantages

- Fine Grained Microstructure
  - 5x Lighter than Tungsten Carbide
  - High Wear Resistance
  - High Strength
  - Lightweight
  - Excellent Wear Resistance
  - Anti-corrosion Properties
  - High Thermal Conductivity
  - Thermal Shock Resistance
  - Reliable, Trusted Performance
  - Unsurpassed Thermal Resistance
  - Superb Interlocking Bonding Strength
  - Can be formed into complex shapes
  - Suitable for a Range of Applications
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## Approved Applications

- Mechanical seal faces
- Shaft seals
- Centrifuge port liners
- Decanter flights
- Linings for pipework for extremely abrasive processes

Properties - Ambient	Unit	Value
Compressive strength	MPa	2.9
Fracture toughness	MPa m <sup>1/2</sup>	4
Hardness Hv	Kg / mm <sup>2</sup>	3000
Flexural strength	MPa	390
Density	g / cm <sup>3</sup>	3.1
Poissons ratio		0.24
Electric resistivity	Ωm	10
Coefficient of Thermal expansion	10 <sup>-6</sup> / °C	4.3
Thermal conductivity	W/mK	150
Maximum continuous operating temperature	°C	1350
Typical grain size	Micron (0.001mm)	10

### Sizes

Length up to 250mm (as a single piece); longer parts with joints  
Diameters up to 200mm standard; longer upon request

### Transportation & Storage

- Store in a cool dry place
- Take care not to exceed safe working loads and heights for storage shelves and racks



# REFEL

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