



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.

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.

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

Physical Properties

Property	Unit	Value
Compressive strength	MPa @ ambient	2.9
Fracture toughness	MPa m ^{1/2}	4
Hardness Hv	Kg / mm ²	3000
Flexural strength	MPa @ ambient	400
Density	g / cm ³	3.1
Poissons ratio		0.24
Electric ratio	Ωm	10
Thermal expansion	10 ⁻⁶ / °C	4.3
Thermal conductivity	W/mK	150
Maximum continuous operating temperature	°C	1350
Thermal shock resistance	Delta T (°C)	400
Elasticity Modulus	Gpa	390

Sizes

Isopressed products: Iso pressed shapes up to 240mm diameter, 300mm length and a wall thickness of up to 15mm

Extruded shapes: up to 200mm length, 60mm width and 8mm thickness

Green machining: max diameter 300mm, max length 538mm
Sintered tolerances: 1% nominal, minimum +/- 0.25mm

Reaction sintered: up to 300mm in length by standard, larger lengths are available contact for more details.

Transportation & Storage

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



REFEL

ARCLEX

FEROFORM

FIREFLY

NITRASIL

REFEL

**REFRACTORY
PRODUCTS**

REFRAVER

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Advanced materials.
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