Tenmat Wear

tenmatwear.com

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.

Wear Components

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 superiorperformance 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 Lighterthan 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 ofApplications

Approved Applications

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

Properties - Ambient	Unit	Value
Compressive strength	GPa	2.9
Fracture toughness	MPa m $^{1/2}$	4
Hardness Hv	Kg / mm ^{2}	3000
Flexural strength	MPa	390
Density	g / cm ^{3}	3.1
Poissons ratio		0.24
Electric resistivity	Ωm	10
Coefficient of Thermal expansion	10-6 / °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 Diamers up to 200mm standard; longer upon

Transportation & Storage

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

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Advanced materials.
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Tenmat Wear warrants the materials it produces will conform to Tenmat Wear specifications and approved drawings where applicable. It is entirely the customer's responsibility to make the final product choice and satisfy themselves of the suitability of the product for the intended application, carrying out testing where required. For construction projects, all products which the customer is intending to use on a particular project must be approved in writing by the customer's building designer, system designer or design control professional, to ensure compliance with the latest regulations.

The information contained in Tenmat Wear data sheets is presented in good faith. The values are "typical only" and are based on test results generally in accordance with BS2782, ASTM, a variety of other main test bodies along with Tenmat Wear internal test methods. These values should not be relied upon for specification purposes or the primary selection of materials. As the data sheet values are typical only, Tenmat Wear does not warrant the conformity of its materials to these properties or the suitability of its materials for any particular purpose. It is the responsibility of the customer to do the necessary testing and satisfy themselves the product is suitable for the intended application.

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