



Owner-supplied wear lining photograph; original proportions preserved.

# Silicon Carbide Wear Linings

Product ID / SKU: FWM/SC-LINING-001

Material: Silicon Carbide (SiC)

Product type: Silicon Carbide Ceramic Component

Silicon Carbide Wear Linings (also known as SiC liners or sand mill liners) are high-performance ceramic lining components designed for extreme wear, abrasion and corrosive environments.

## Dense SiC Typical Properties

| Property                                                        | SSiC - sintered | SiSiC / RBSiC - reaction bonded | Condition          |
|-----------------------------------------------------------------|-----------------|---------------------------------|--------------------|
| Density (g/cm <sup>3</sup> )                                    | ≥3.12           | ≥3.03                           | -                  |
| Apparent porosity (%)                                           | <0.2            | <0.2                            | -                  |
| Vickers hardness (HV0.5)                                        | 2100            | 2000                            | 0.5 kgf test force |
| Young's modulus (GPa)                                           | 400             | 350                             | -                  |
| Fracture toughness (MPa·m <sup>1/2</sup> )                      | 4-5             | 2.5-3.5                         | -                  |
| Flexural strength (MPa)                                         | ≥400            | ≥350                            | 25°C               |
| Compressive strength (MPa)                                      | ≥2200           | ≥2000                           | 25°C               |
| Thermal conductivity (W/(m·K))                                  | ≥110            | ≥90                             | 25°C               |
| Mean linear thermal expansion coefficient (10 <sup>-6</sup> /K) | 4.0             | 4.0                             | 25-1000°C          |
| Typical maximum material temperature (°C)                       | 1650            | 1300                            | -                  |