Retouched product image; local surface repairs and residual marks may be visible. Not a dimensional or performance verification reference.

# Silicon Carbide Vacuum Chucks

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

Material: Silicon Carbide (SiC)

Product type: Silicon Carbide Ceramic Component

Silicon carbide vacuum chucks for precision workholding and transfer, with application-specific contact surfaces, vacuum passages and mounting interfaces.

## Dense SiC Typical Properties

| Property | SSiC - sintered | SiSiC / RBSiC - reaction bonded | Condition |
|---|---|---|---|
| Density (g/cm³) | ≥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·m¹/²) | 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 ($10^{-6}$/K) | 4.0 | 4.0 | 25-1000°C |
| Typical maximum material temperature (°C) | 1650 | 1300 | - |