

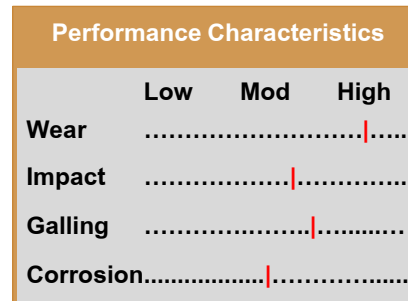
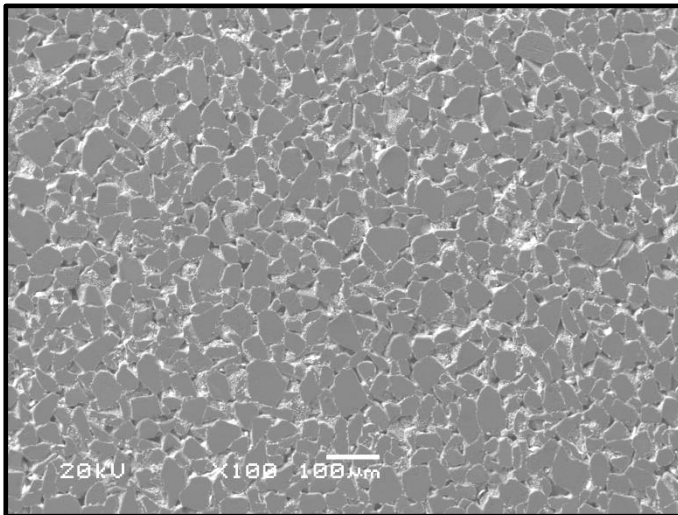
## Grade Specifications

**Grade:** Binderless SiC-WC

**Composition:** Silicon Carbide: 80.0wt%  
Tungsten Carbide: 20.0wt%

**Physical Properties:**

Hardness, Rockwell, HRA (ASTM B294)	89.5-90.0
Vickers, HV30 (ASTM E384)	1300-1350
Fracture Toughness, MPa√m (ISO 28079)	n/a
Density, g/cm <sup>3</sup> (ASTM B311)	3.35-3.55 (10% Porosity)



**Grade Attributes:** These 40-60µm SiC powders are coated with a 150-250nm thick barrier layer of WC which provides protection of the SiC throughout processing as well as increased wettability with Cu and other infiltrant alloys. Spark Plasma Sintering (SPS) and Rapid Omnidirectional Processing (ROC) of these materials produce exceptionally strong skeleton structures (up to 90% density) which can be infiltrated for thermally and mechanically demanding applications.

- Typical Applications:**
- Industrial Mining/Tunneling
  - Thermal Management
  - Thermal Spray

