

ThermaSiC® 1545 Silicon Carbide

Agglomerated and Sintered Powder for Thermal Spraying with High Velocity Oxygen Fuel

Creates a dense wear-, corrosion- and temperature-resistant SiC coating

Powder Characteristics

| Ceramic binder | Description | Shape |
|----------------|---------------------------|---------------------------|
| YAG | Agglomerated and sintered | Spheroidal |
| Binder content | Size distribution | Tap Density |
| ~20vol% | -45 +15 µm | 1,1-1,6 g/cm ³ |

Typical Spraying Parameters

| Sample preparation | Spray rate | Coating thickness | |
|---|---|-------------------------|---------------------------|
| Grit blast surface, 4-6µm Ra rec. | 5-15µm per pass | 50-250µm recommended | |
| Starting indication JP 5000 (others available on request) | | | |
| <i>Spray distance</i> | <i>Fuel</i> | <i>Powder feed rate</i> | <i>Traversal</i> |
| 8" / 200mm | Kerosene + Oxygen (25 SLPH + 900 NLPM) | 20 g/m | 400-1500mm/s, 4mm drop |

Typical Coating Characteristics

| Porosity | Microhardness | Tensile Strength |
|--|----------------------|--------------------------|
| 0.5-2% | 500-700 HV0.3 | 20-40 MPa |
| Friction Coefficient | Corrosion Resistance | Thermal Shock Resistance |
| 0.15 @ 0.3µm Ra (Alumina pin-on-disc) | Excellent | 800°C → RT in 1s |

Packaging

By Agreement

Other

Coating properties are highly dependent on substrate and spraying conditions

