



TECHNICAL DATASHEET - HVOF

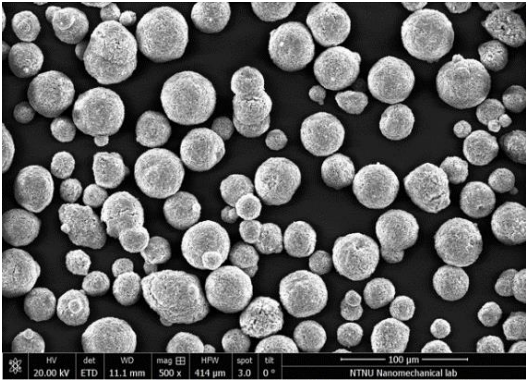
ThermaSiC® 1545 Silicon Carbide
 Agglomerated and Sintered Powder for HVOF Thermal Spraying

Description

ThermaSiC is the world’s only commercially available powder for thermal spraying of silicon carbide. It is combined with an yttria-alumina binder for plasticity and oxidation resistance during thermal spraying.

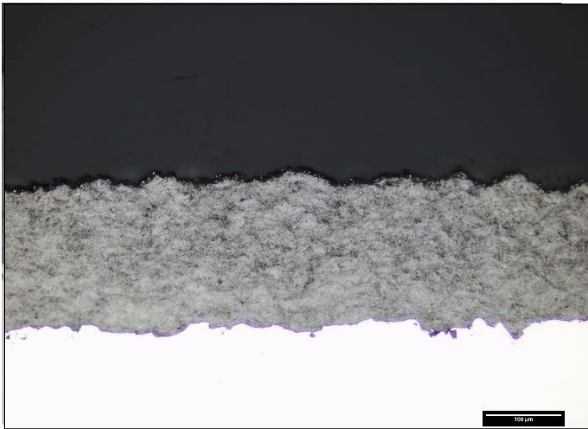
Powder Characteristics

Ceramic Binder:	Yttrium Aluminum Garnet (YAG)	Morphology:	Agglomerated and Sintered
Binder Content:	~20vol.% : 25-30wt.%	Shape:	Spheroidal
Powder density:	1.1-1.6 g/cc	Size distribution:	-45µm +15µm



Typical Physical Properties of the Coating

By HVOF	
Porosity:	0.5-2vol%
Porosity Type:	Not Connected
Microhardness:	500-750 HV0.3
Tensile Strength:	20-40MPa
Friction Coefficient:	0.15 @ 0.3µm Ra
Corrosion Res. :	Excellent
Thermal Shock Res. :	800°C → RT in 1 s
Typical Thickness:	50-250µm
Coating Weight:	~3.5 g/cc
Roughness	
as-sprayed:	4-6µm Ra
Roughness polished:	<0.03µm Ra



Applications

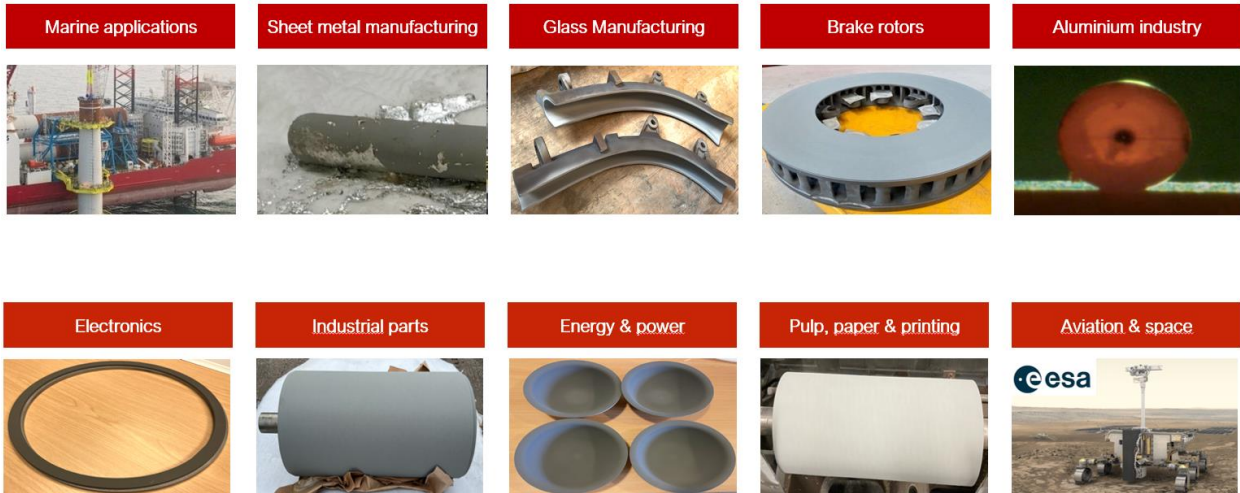
ThermaSiC is recommended for applications where high temperature, wear and/or corrosion resistance is needed.

It has low wetting against molten aluminum and glass, and is therefore excellent in use for protecting equipment and components exposed to such.

ThermaSiC sprayed by HVOF can be used as an un-sealed ceramic barrier in marine environments, without bond coats.

The applied coating can be grinded and polished to the desired roughness.

Typical industries include glass manufacturing, metallurgy, print and paper, marine, space and aviation.



Spraying

HVOF Gun:	JP5000
Barrel:	8"
Oxygen:	900 NLPM
Kerosene:	25 NLPH
Carrier gas:	12 NLPM
Powder feed:	20 g/min
Spray distance:	200mm
Injector:	Std.
Angle:	90°

Thermal spraying of ThermaSiC is recommended with JP5000 for HVOF. It is also possible to spray with DJ2700, Met Jet, and several other guns.

ThermaSiC is ideal for thermally spraying on hard metallic substrates (steel, Inconel, cast iron, titanium etc.), but it is also possible to spray on aluminium, ceramics and graphite using specific setups and/or bond coats. Contact sales@seramcoatings.com to learn more about using different guns and substrates.

Website	Contact Us	Digital Downloads
		