Product Technical Information

Sprayable Superfine Nickel-Chromium /Tungsten Carbide Infralloy™ S7427 Thermal Spray Powder

[U.S. Patent Nos. 6,277,774 ; 6,287,714; 6,576,036; 7,238,219; 7,537,636; 7,625,542]

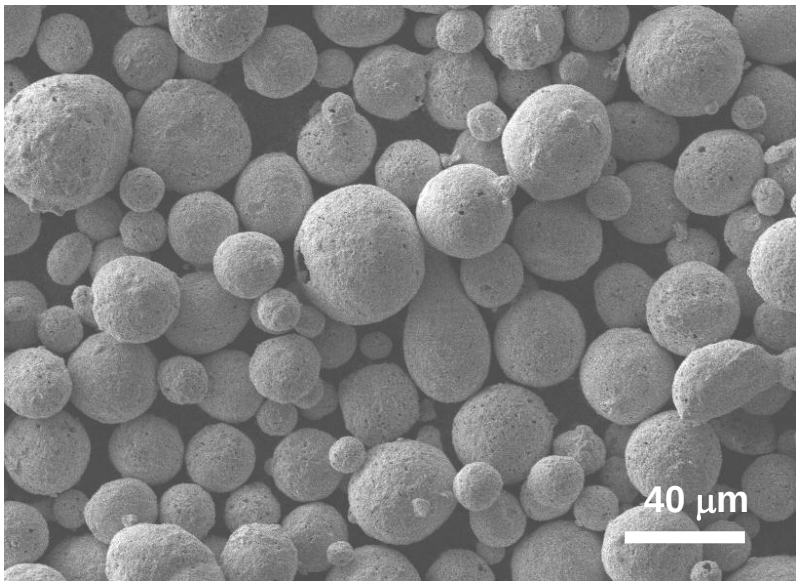
Thermal Spray Grade

Nickel-chromium/tungsten carbide is a metal-ceramic- (cermet) composite material used as a high temperature wear and corrosion resistant coating. The alloyed form gives superior hardness. Infralloy™ powder is made from tungsten carbide nanoparticles (0.1-1 μm) with a nickel-chromium binding matrix phase.

Infralloy™ Series S7427 powder is available as agglomerated particles with dimension $15 < \Phi < 45$ μm with high flowability for HVOF thermal spray applications.

Morphology

SEM micrograph typical of Infralloy™ S7427 Ni-Cr/WC thermal spray feedstock powder showing spherical geometry with high flowability.



Infralloy™ S7427 Powder

Ni	6
Cr	21
C	5.0
W	Remaining
Other alloy additives	<1%
Particle size (μm)	0.1-0.5
Agglomerate size (μm)	-45 to +15
Hardness (VHN)	1000

1 micron = 10^{-6} meter 1 nanometer = 10^{-9} meter

Suggested Applications

Inframat® Infralloy™ S7427 Series nickel-chromium/tungsten carbide powder is a superior coating material providing high temperature wear-, erosion-, and corrosion-resistant surfaces where excellent to exceptional fracture toughness is required, especially for temperatures above 400°C. It is an excellent candidate for hard chrome replacement coatings:

- Compared to WC/Co coatings, it has much improved oxidation and corrosion resistance properties
- Good chemical corrosion resistance
- Application temperature: 1400°F (760°C)

The Thermal Spray Grade material can be applied with DC Arc plasma and HVOF guns.

Contact Information

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