Product Technical Information

Superfine Tungsten Carbide/Cobalt Infralloy™ S7412Z-SR Thermal Spray Powder for Sink Rollers (Zn bath)

[U.S. Patent Nos. 6,277,774; 6,576,036; 7,238,219]

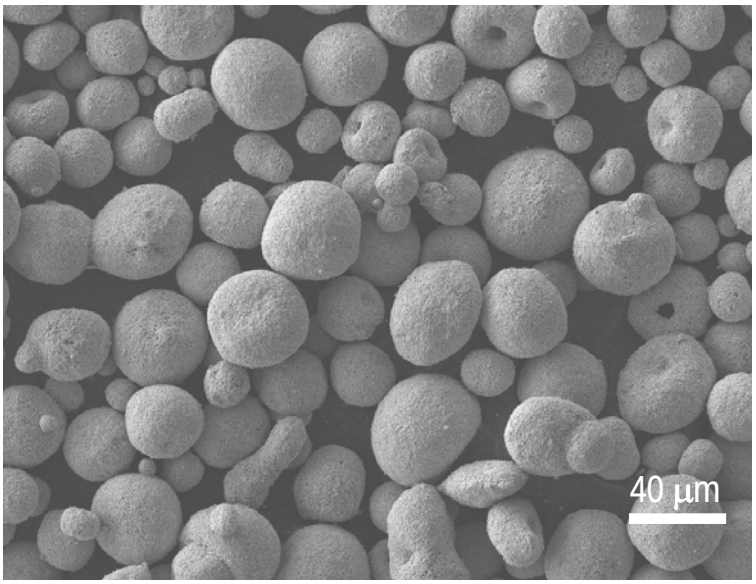
Thermal Spray Grade

Tungsten carbide/cobalt is a ceramic-metal (cermet) composite material used as a wear resistant coating. The alloyed form gives superior hardness. Infralloy™ powder is made from WC nanoparticles alloyed with a cobalt binding matrix phase.

Infralloy™ S7412Z –SR powder is available as agglomerated particles with dimension 15 < Φ < 45 μm with high flowability for HVOF grade thermal spray Zn bath sink roller applications.

Powder Morphology

SEM micrograph typical of Infralloy™ S7412Z-SR feedstock powder showing spherical geometry with high flowability.



Infralloy™ S7412Z Powder

WC: Co wt ratio	88: 12
Alloy content	< 1 %
Carbon content	4.85-5.15 wt%
Particle size μm	0.1 - 0.5
Agglomerated size (μm)	-45 to +15 -
Coating hardness (VHN)	850 -1100

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

Suggested Applications

Inframat® Infralloy™ S7412Z is a special HVOF grade powder for sink roller applications in galvanizing steel lines. It is a superior high toughness coating material providing wear-, erosion-, and corrosion-resistant surfaces, especially in aggressive Zn bath environments. The special S7412Z-SR sink roll WC/Co is superior to competitive products due to:

1) The composition of the cobalt and carbide phases are specifically formulated to minimize buildup of the dross from the zinc bath
2) The nucleation sites of zinc on the surfaces are much smaller than those in traditional micro-grained coatings

When defects occur they are fewer in number and much smaller (3-orders of magnitude smaller) which allows for longer use of the sink roll before replacement.

Contact Information

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