Product Technical Information

Sprayable Superfine Alumina-based Thermal Spray Feedstock Powder

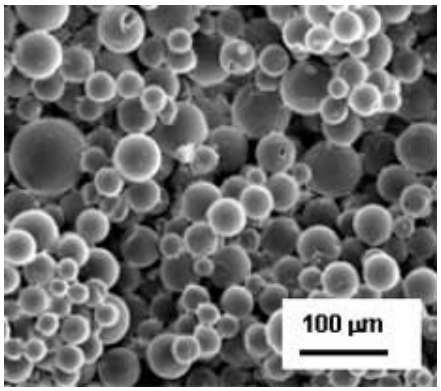
Infralloy™ S2600 Series

Thermal Spray Grade

Alumina and its composite material being used as wear , corrosion resistant coatings for machine components

Infralloy™ S2600 series powders are available as agglomerated particles with an average diameter of 30 μm and high flowability

Powder Morphology



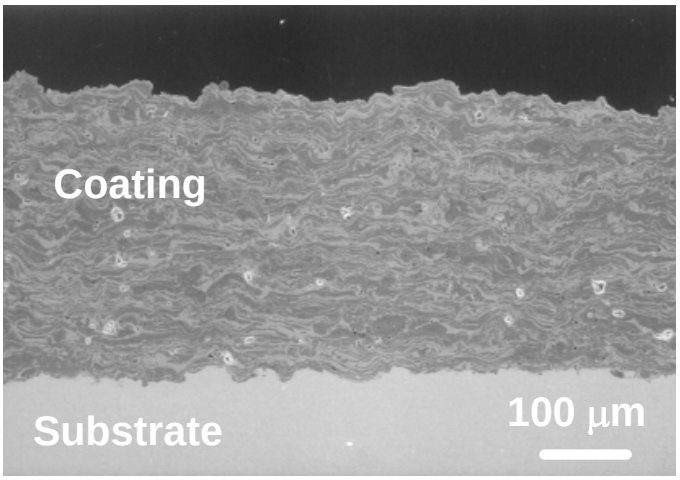
SEM micrograph typical of Infralloy™ 2622 alumina/titania feedstock powder showing spherical geometry that enables high flowability.

Properties of Infralloy™ 2600 Series Powder

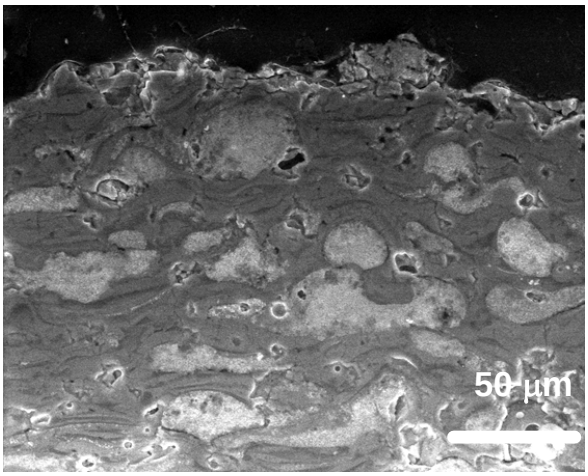
Elements & Properties	InfralloyTM S2600 Thermal Spray Powders						
	S2600	S2602	S2603	S2622	S2622-Ce	S2640	S2622LUB
Al_2O_3	99%+	93%+	97%	87%	81%	60%	52.5%
TiO_2		2.5%	3%	13%	13%	40%	7.5%
SiO_2		2%					
CeO_2					4-6%		4%
Y_2O_3/ZrO_2							6%
Fe_3O_4		1%					30%
Grain Size, μm	0.1 - 0.5	0.1 - 0.5	0.1 - 0.5	0.1 - 0.5	0.1 - 0.5	0.1 - 0.5	0.1 - 0.5

- 1 micron (μm) = 10^{-6} meter (m)
- Particle size cut can be: +5 to 45 mm, +10 to -53 mm, depending on customer's needs

Coating Morphology



SEM micrograph typical of Infralloy™ 2622-LUB coating microstructure revealed ~100% density



SEM micrograph typical of Infralloy™ 2622 coating microstructure revealed high density

Applications

Inframat™ Infralloy™ 2600 series thermal spray powder is an exceptional coating material for sliding wear-, erosion-, abrasion and corrosion-resistant applications at room and elevated temperatures, as well as for dielectric applications.

S2600	Abrasion, erosion, & sliding wear, alkali & acid environment, and dielectric (1500-3000°F Temp.)
S2602	Resistance to erosion & cavitation; resistance to molten: Zn, Al & Cu
S2603	Resistance to abrasion, erosion, sliding wear; and alkali & acid environment
S2622	Resistance to: abrasion, erosion, sliding wear; and alkali & acid environment (1000°F Temp.)
S2622-Ce	Application s similar to S2622 but provide more wear resistance properties
S2640	Similar to S2622 but softer & less resistance to chemical, it provides excellent surface finishing
S2622-LUB	Similar to S2622 but softer & less resistant to chemical; it provides excellent surface finishing & high lubrication for valves, etc.

The Thermal Spray Grade material can be applied with DC Arc plasma guns. Full spray specifications for each composition, including: S2600, S2602, S2603, S2622, S2622Ce, S2640, and S2622-LUB, are available through Technical Applications Bulletin No. 2600.07B.

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