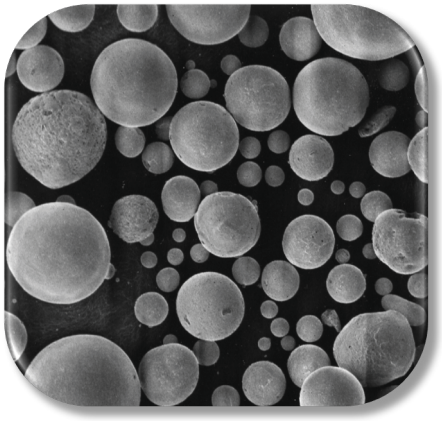
Thermal Spray Powders Technical Datasheet



Saint-Gobain 20% Yttria Stabilized Zirconium Oxide

POWDER CHARACTERISTICS

Product	Nominal Size	Color	Morphology
#202	25-95 micron	Cream	Hollow sphere

TYPICAL CHEMISTRY

ZrO_2	HfO_2	Y_2O_3	SiO_2	TiO_2	Al_2O_3	U+Th	Fe_2O_3	Na_2O
78%	1.60%	20%	0.15%	0.04%	0.07%	0.02%	0.02%	0.04%

PROPERTIES AND APPLICATIONS

Saint-Gobain #202 series 20% yttria stabilized zirconium oxide (20YSZ) was designed with a spherical shape that produces more uniform build up rates without clogging or pulsing of the feed lines. In addition, the hollow particles lead to more complete melting and higher deposit efficiencies. Crystal phase content is also tightly controlled to minimize the undesirable monoclinic phase of zirconia. Monoclinic zirconia will expand and contract during thermal cycling and can lead to coating failure.

These coatings resist thermal shock, erosion, and corrosion in high temperature applications. 20YSZ is most commonly used for thermal barrier applications like the hot zones of aircraft or industrial gas turbines.

Compared to 8% yttria stabilized zirconium oxide, 20YSZ will provide lower thermal conductivity, better corrosion resistance, and coatings that are more easily machined.

Status	Customer Specifications
Approved	CPW 388, Lycoming M3966, GE A50AG4 CL A
Meets spec	Honeywell EMS 57750, GE A50TF204 CL A, PWA 36087, LCPMC 79774 Please inquire about others.

CoatingSolutions@Saint-Gobain.com | www.coatingsolutions.saint-gobain.com

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