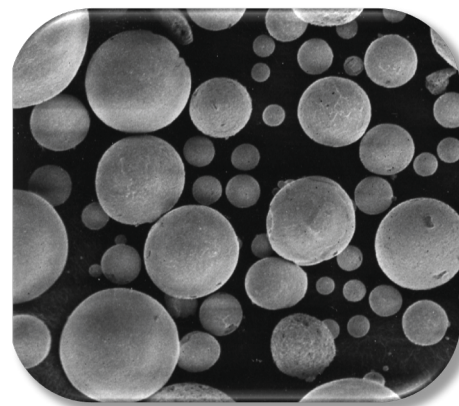


Thermal Spray Powders Technical Datasheet



Saint-Gobain High Purity 8% Yttria Stabilized Zirconium Oxide

POWDER CHARACTERISTICS

Product	Nominal Size	Color	Morphology
#204HP	25-95 micron	White	Hollow sphere
#204HP PR	44-100 micron	White	Hollow sphere
#204HP F	10-45 micron	White	Hollow sphere

TYPICAL CHEMISTRY

ZrO ₂	HfO ₂	Y ₂ O ₃	SiO ₂	MgO	Na ₂ O	U+Th	Fe ₂ O ₃	CaO
91%	1.80%	7.10%	0.01%	0.01%	0.02%	<0.01%	0.01%	0.01%

PROPERTIES AND APPLICATIONS

Saint-Gobain #204HP series 8% yttria stabilized zirconium oxide (YSZ) is a high purity hollow sphere powder designed for increased performance in thermal barrier applications. YSZ is most commonly used for thermal barrier applications like the hot zones of aircraft or industrial gas turbines. The high purity increases sintering resistance providing up to double the coating life versus standard YSZ materials. The spherical shape 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. Powder characteristics should be chosen based on application, required porosity, and desired coating microstructure.

Status	Customer Specifications
Meets spec	PWA 1375, CPW 673, GE A50TF278 CL A-C, GE P16BAG8 CL B, GE A50A557, A50AG1, A50A558, Honeywell EMS 57750, EMS 52510, M3966 Type 2, MHCP 010-006, RR 9507/46, RRMS 40000, and TACR MS004. Please inquire about others.

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SAINT-GOBAIN COATING SOLUTIONS

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