Advanced Material Specialists,Inc.

HA 9202

ZrO_2 20% Y_2O_3

Product Code: 439202
Technical Data Sheet

Revision: #002
Dated: 5/17/12

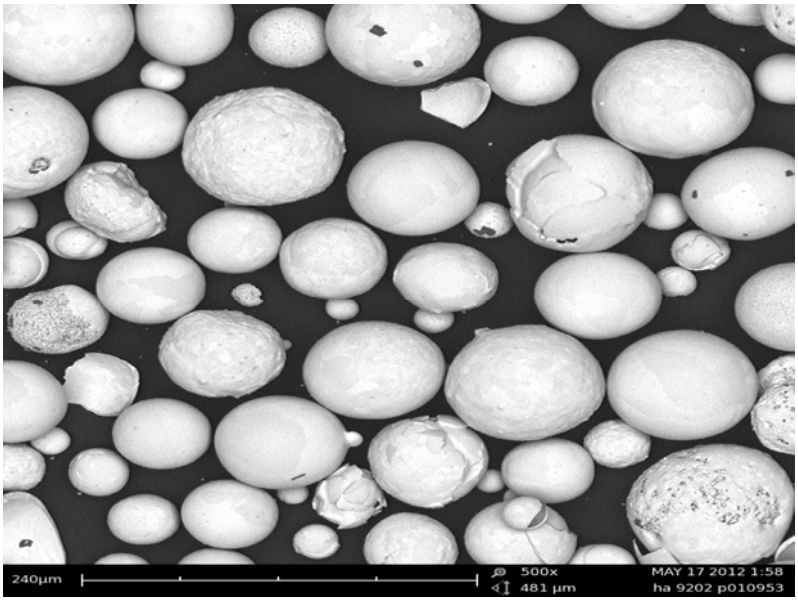

Figure 1: **Typical Powder Morphology (SEM 500X)**

1. PHYSICAL PROPERTIES

Name	**HA 9202**
Formula	**ZrO_2 20%Y_2O_3**
Product Description	**Yttria Stabilized Zirconia**
Melting Point [°C]	**2,700 °C**
Apparent Density (typical) [g/cm^3] ASTM B212	**2.0**
Hall Flow (typical) [sec/50g] ASTM B213	**28.90**

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2. CHEMICAL PROPERTIES

2.1. Typical Chemical Analysis

Element	Weight Percent
ZrO_2	BAL.
Y_2O_3	18.0 - 22.0
HfO_2	1.0 – 2.0
TAO	<1.0

3. POWDER MORPHOLOGY AND PARTICLE SIZE DISTRIBUTION

3.1. Powder Morphology

3.1.1. Powder has predominantly spherical shape with hollow centers.

3.1.2. Typical Powder Morphology using SEM is shown in Figure 1.

3.2. Particle Size Distribution

3.2.1. The typical powder size range measured with Tyler according to ASTM B214 is -140 mesh +20 µm.

3.2.2. Table 1 shows the typical particle size distribution measured with Microtrac according to ASTM B822

3.2.3. Figure 2 shows the typical Microtrac particle size distribution graph

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Table 1: Typical Microtrac Particle Size Distribution

Percentile	Typical Particle Size		Mean	Particle Size
[%]	[µm]			
0.01	11		D_{10}	25 - 35 µm
5.00	23			
10.00	30			
16.00	36		D_{50}	50 - 60 µm
50.00	56			
84.00	76			
90.00	84		D_{90}	80 - 90 µm
95.00	98			
99.99	208			

Figure 2: Typical Microtrac Particle Size Distribution