



Figure 1: Typical Powder Morphology (SEM 200X)

1. PHYSICAL PROPERTIES

HA 8350 is fine grade spray dried and sintered spherical powder. It produces dense, erosion resistant coatings with excellent wear properties at low temperatures.

Molecular Formula	86 WC 10 Co 4 Cr
Melting Point [°C]	approx. 1250
Apparent Density [g/cm³] ASTM B212	4.0 ± 0.5
Hall Flow [sec/50g] ASTM B213	16 ± 3

2. CHEMICAL PROPERTIES

2.1. Typical Chemical Analysis

<u>Element</u>	<u>Weight Percent</u>
Tungsten	Balance
Carbon (total)	5.0 - 5.5
Cobalt	9.5 – 10.5
Chromium	3.5 – 4.5
Iron	< 0.10
All Others	< 0.5

3. POWDER MORPHOLOGY AND PARTICLE SIZE DISTRIBUTION

3.1. Powder Morphology

- 3.1.1. Powder has dense spherical shape as produced by spray-dry and sinter processes.
- 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 -325 mesh +15 μ m
- 3.2.2. Table 1 shows the required and typical particle size distribution measured with Microtrac according to ASTM B822
- 3.2.3. Figure 2 shows the typical Microtrac particle size distribution graph

Table 1: Typical and Required Microtrac Particle Size Distribution

<u>Percentile</u>	<u>Typical Particle Size</u>		<u>Mean</u>	<u>Required Particle Size</u>
[%]	[μm]			
0.01	9.30		D ₁₀	15 - 25 μm
5.00	14.80			
10.00	17.70			
16.00	20.86		D ₅₀	27 - 37 μm
50.00	31.98			
84.00	42.50			
90.00	45.81		D ₉₀	45 - 55 μm
95.00	50.63			
99.99	73.65			

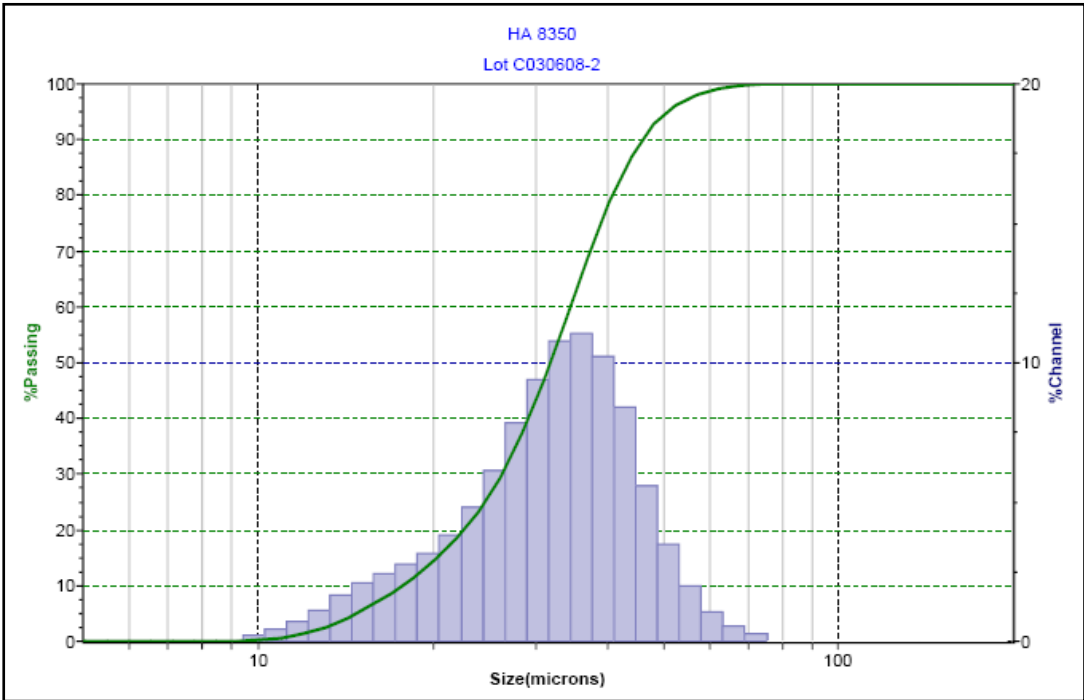


Figure 2: Typical Microtrac Particle Size Distribution

