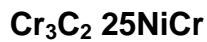


HA 2375



Product Code: 312375
Technical Data Sheet

Revision: # 002
 Dated: 04/14/09



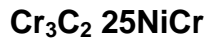
Figure 1: Typical Powder Morphology (SEM 200X)

1. PHYSICAL PROPERTIES

HA 2375 is fine grade spray dried and sintered, dense spherical powder. It produces dense and hard coatings that are excellent for high temperature cavitation, abrasion, and sliding wear applications. Good hot gas corrosion resistance.

Molecular Formula	Cr_3C_2 25NiCr
Melting Point [°C]	1400
Hall Flow [s/50g] ASTM B213	30 ± 2
Apparent Density [g/cm³] ASTM B212	2.3 ± 0.5

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2. CHEMICAL PROPERTIES

2.1. Typical Chemical Analysis

<u>Element</u>	<u>Weight Percent</u>
Chromium	Balance
Carbon (total)	9.60 - 10.00
Nickel	19.20 – 21.00
Iron	< 0.25
All Others	< 0.70

3. POWDER MORPHOLOGY AND PARTICLE SIZE DISTRIBUTION

3.1. Powder Morphology

- 3.1.1. Powder has mainly 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 μm
- 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

HA 2375

Cr₃C₂ 25NiCr

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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	11.05		D ₁₀	15 - 25 μm
5.00	18.22			
10.00	20.97			
16.00	23.23		D ₅₀	30 - 40 μm
50.00	32.01			
84.00	42.85			
90.00	46.73		D ₉₀	45 - 60 μm
95.00	52.25			
99.99	87.21			

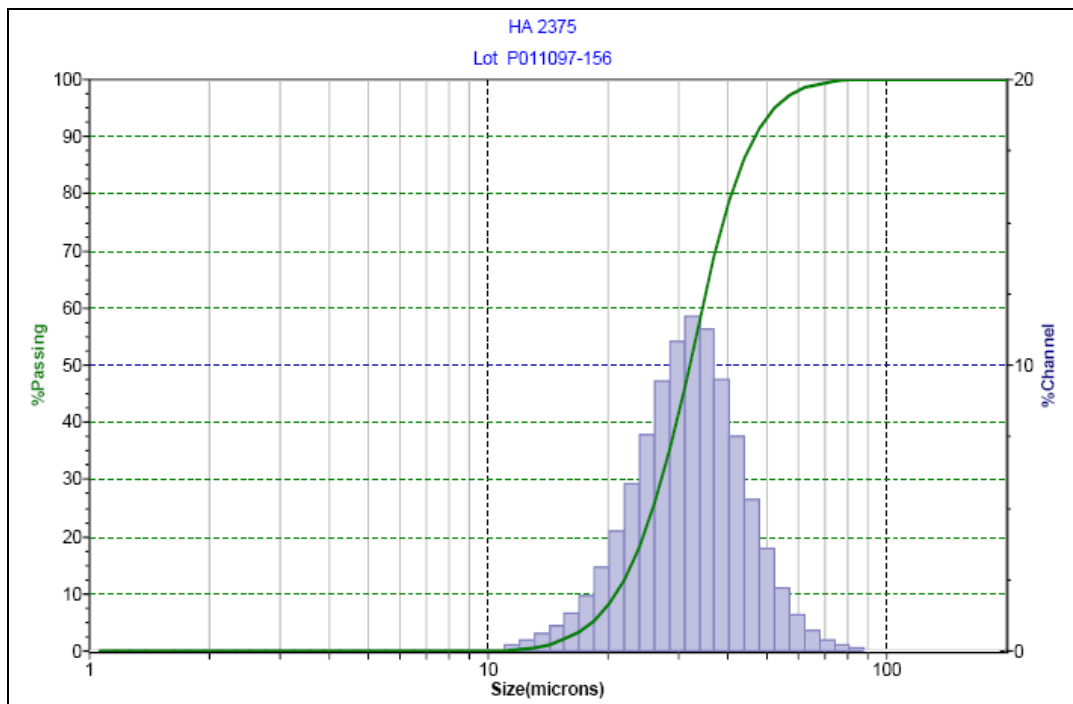


Figure 2: Typical Microtrac Particle Size Distribution