

HA 7109

95 Ni / 5 Al

Product Code: 257109
Technical Data Sheet

Revision: # 002
 Dated: 09/29/08

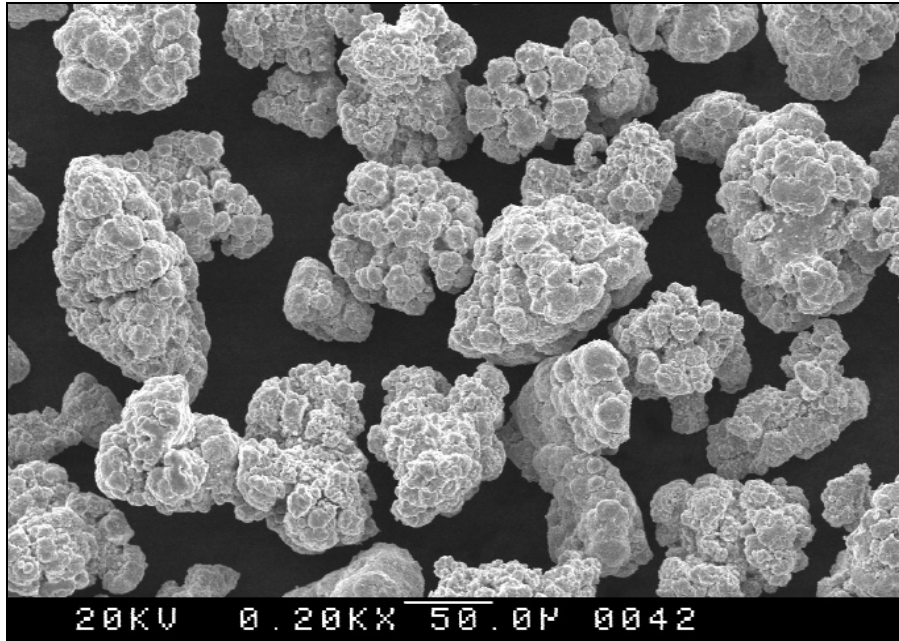


Figure 1: Typical Powder Morphology (SEM 200X)

1. PHYSICAL PROPERTIES

HA 7109 is a Nickel Aluminum Composite Powder designed for use as a bonding coat. It produces self-bonding coatings of high structural integrity, which are dense and resistant to oxidation. This powder can also be used for dimensional restoration with good machinability.

Molecular Formula	95 Ni / 5 AL
Melting Point [°C]	Approx. 660
Hall Flow [s/50g] ASTM B213	15 - 30
Apparent Density [g/cm³] ASTM B212	2.8 – 4.0

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2. CHEMICAL PROPERTIES

2.1. Typical Chemical Analysis

<u>Element</u>	<u>Weight Percent</u>
Nickel	Balance
Aluminum	4.70 – 5.20
Carbon	0.01 – 0.03
All Others	<0.20

3. POWDER MORPHOLOGY AND PARTICLE SIZE DISTRIBUTION

3.1. Powder Morphology

3.1.1. Powder has spherical shape as produced by agglomeration 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 -170 mesh +325 mesh

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

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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	22.16		D ₁₀	45 - 60 μm
5.00	55.32			
10.00	61.10			
16.00	64.82		D ₅₀	65 - 80 μm
50.00	78.19			
84.00	94.00			
90.00	99.79		D ₉₀	85 - 100 μm
95.00	108.30			
99.99	174.80			

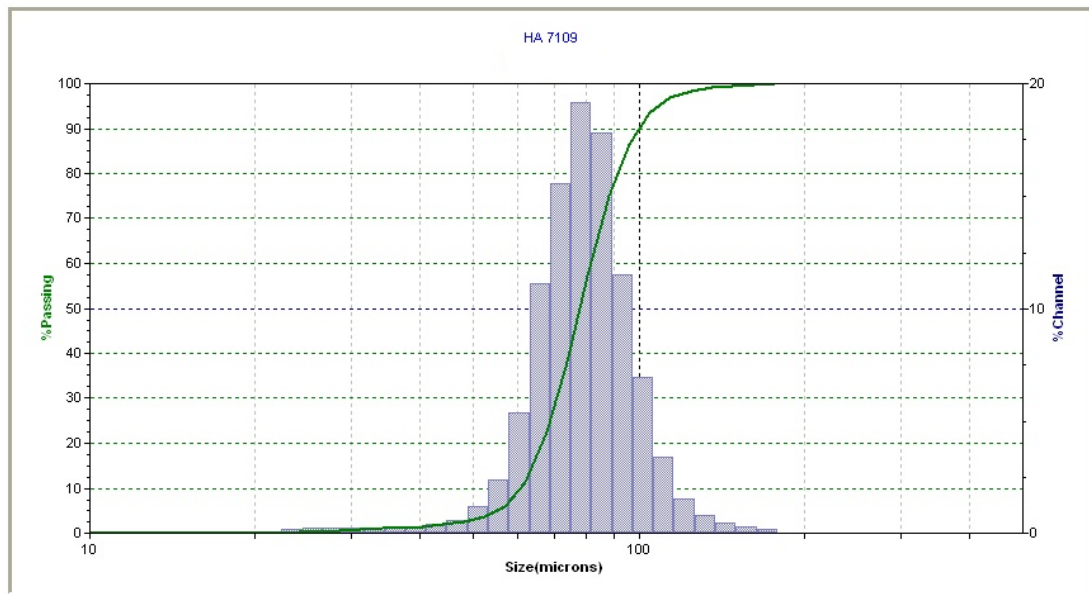


Figure 2: Typical Microtrac Particle Size Distribution