

HA 7260

Ni 50Cr

Product Code: 257260
Technical Data Sheet

Revision: # 002
 Dated: 01/01/09



Fig. 1

PHYSICAL PROPERTIES

HA 7260 is a Gas Atomized Nickel Chrome Alloy Powder. In applications where fuel ashes and/or deposits are encountered, higher chromium content alloys are more suitable. The nickel chrome system shows that chromium is quite soluble in nickel up to 47%. Oxidation resistance can be attributed to the formation of a highly adherent protective scale; typically a mixture of oxides of NiO and Cr₂O₃; further these combine to form nickel chromite NiCr₂O₄. **HA 7260** coatings as sprayed have a typical hardness range of 40 – 50 R_C. Wear mechanisms are quite complex, but high hardness and good corrosion resistance contribute to good wear resistance.

Molecular Formula	Ni 50Cr
Melting Point [°C]	Approx. 1,550
Hall Flow [s/50g] ASTM B213	15 - 20
Apparent Density [g/cm³] ASTM B212	4.1 – 4.3

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CHEMICAL PROPERTIES

Element	C	Si	Mn	P	S	Cr	Ni	Al	N	Fe
% max	0.10	1.00	0.20	0.007	0.008	50.00	55.00	0.00	0.24	3.00
% min	0.01	0.60	0.00	0.005	0.004	42.00	48.00	0.00	0.15	2.50

POWDER MORPHOLOGY AND PARTICLE SIZE DISTRIBUTION

1. Powder Morphology

1.1 Powder has a spherical shape as produced by the gas atomization process

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

2. Particle Size Distribution

2.1 Table 1, shows the typical powder size range measured with Tyler according to ASTM B214.

2.2 Table 2, shows the required and typical particle size distribution measured with Microtrac according to ASTM B822.

Table 1: Cumulative Volume Percentage

Mesh Size	Particle Size	Maximum Percentage	Minimum Percentage
+170	+88 μm	2	
-200	-74 μm	99	97
-230	-63 μm	97	70
-325	-45 μm	70	55
-550	-22 μm	2	

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Table 2: Typical Microtrac Analysis

Percentile	Particle Size		Mean	Required Particle Size
10 %	27.63 μm		D ₁₀	25 - 35 μm
20 %	31.67 μm			
30 %	34.74 μm			
40 %	37.55 μm		D ₅₀	35 - 45 μm
50 %	40.30 μm			
60 %	43.25 μm			
60 %	46.68 μm		D ₉₀	60 - 70 μm
70 %	51.03 μm			
80 %	58.01 μm			
90 %	64.73 μm			