



SEM cross-section photomicrograph of HA 2375 Cr_3C_2 25% NiCr, -45 + 15 μm

Typical Application/Components:

- Coating bearings, seals, orifices, and valve seals
- Fuel rod mandrels
- Hot crushing rolls
- Forging tools
- Turbine exhaust struts
- Hot forming dies
- Turbine air seal rings

HAI provides a variety of Chrome Carbides that are made by Spray Dry/Sintered, Agglomerated Sintered, Mechanically Alloyed, and Blended processes. Chromium carbide is a ceramic compound, grey in appearance and exists in several different chemical compositions; Cr_3C_2 , Cr_7C_3 , and Cr_{23}C_6 . The hardest and most commonly used composition for this purpose is Cr_3C_2 . Combining Cr_3C_2 with metal and metal alloys

makes chrome carbide a very useful coating material. HAI Chrome Carbides are extremely hard and corrosion resistant. Our chrome carbides are refractory compounds, which means that they retain their strength at high temperatures as well. When chromium carbide coatings are integrated onto the surface of a part it improves the wear-resistance and corrosion-resistance of the part, and maintains these properties at elevated temperatures.

Markets:

- Turbomachinery
- Petrochemical
- Alternative to hard chrome plating

HA#	Material Composition	Size	Metco#	Praxair#
HA 2373	Cr_3C_2 20% NiCr Agglomerated, Sintered	-45 + 5 μm (-325 mesh + 5 μm)	Diamalloy 3007 Woka 7102	
HA 2135	Cr_3C_2 25% NiCr Densified, Spherical	-53/D (-270/D mesh)		
HA 2375-1	Cr_3C_2 25% NiCr Spray-Dried, Sintered, Spherical	-38 + 15 μm (- mesh + 15 μm)	Woka 7305	1375VF
HA 2106	Cr_3C_2 25% NiCr Mechanically Blended	-45 + 5 μm (-325 mesh + 5 μm)	81VF-NS, Diamalloy 3004	CRC106
HA 2375	Cr_3C_2 25% NiCr Spray-Dried, Sintered, Spherical	-45 + 15 μm (-325 mesh + 15 μm)	Woka 7302	1375VM
HA 2376	Cr_3C_2 25% NiCr Densified, Spherical	-53 + 20 μm (-270 mesh + 20 μm)		1376T
HA 2106-2	Cr_3C_2 25% NiCr Mechanically Blended	-106 + 45 μm (-140 + 325 mesh)	81-NS	CRC108
HA 2107	Cr_3C_2 99.0%+ Sintered, Irregular	-45 + 5 μm (-325 mesh + 5 μm)	704-NS	CRC105
HA 2107-1	Cr_3C_2 99.0%+ Sintered, Irregular	-106 + 45 μm (-140 + 325 mesh)	70C-NS	CRC107

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