

TUNGSTEN CARBIDE POWDERS

HA Name	Powder Type	Product ID	Particle Size	Specifications	Typical Properties
HA8109	WC 9Co Agglomerated and Sintered	328109	-38 + 10 µm (-400 mesh + 10 µm)	Standard Grade	Densified structure with fine carbide dispersions promotes finer microstructure, better DE and denser, smoother coatings. Excellent flowability. Resistant to erosion and abrasion, recommended for use in water based solution. The CoCr matrix provides higher abrasion and corrosion resistance than WC-Co. Excellent wear properties at low temperatures.
HA8350-1	WC 10Co 4Cr Agglomerated and Sintered, Spherical	328350-1	-38 + 10 µm (-400 mesh + 10 µm)	Standard Grade	
HA8350	WC 10Co 4Cr Agglomerated and Sintered, Spherical	328350	-53 + 15 µm (-270 mesh + 15 µm)	BMS 10-67, Type XVII	
HA8436	WC 10Co 4Cr Sintered, Irregular	328113	-45 + 5 µm (-325 mesh + 5 µm)	Standard Grade	
HA8436-1	WC 10Co 4Cr Sintered, Irregular	328436	-45 + 15 µm (-325 mesh + 15 µm)	Standard Grade	
HA8120	WC 10Co 4Cr Densified, Spherical	328120	-45 µm /D (-325 mesh)/D	Standard Grade	
HA8320	WC 11Co 5C Sintered, Crushed	328320	-45 + 5 µm (-325 mesh + 5 µm)	Standard Grade	
HA8106	WC 12Co Cast/Crushed Irregular	328106	-45 + 5 µm (-325 mesh + 5 µm)	PWA 1379-2 BMS 10-67-1 AMS 7879	Resistant to abrasion, erosion and certain levels of hammer wear loading. Good fretting resistance. Coatings are hard and dense, with high bond strength. Provides a gripping surface as-sprayed. Finish to low RMS for sliding wear. Finish by grinding.
HA8114-1	WC 12Co Sintered, Crushed Irregular	328114	-45 + 10 µm (-325 mesh + 10 µm)	AMS 7880 GE B50TF27 CL A/B PM 819-25	
HA8114-2	WC 12Co Sintered, Crushed Irregular	328489	-45 + 15 µm (-325 mesh + 15 µm)	Standard Grade	
HA8104	WC 12Co Cast/Crushed	328104	-75 + 45 µm (-200 + 325 mesh)	PWA 1302 EMS 57745	
HA8342	WC 12Co Agglomerated, Sintered, Spherical	328342	-45 + 15 µm (-325 mesh + 15 µm)	Standard Grade	
HA8342-2	WC 12Co Agglomerated, Sintered, Spherical	328342-1	-38 + 10 µm (-400 mesh + 10 µm)	EMS 57736	
HA8342-3	WC 12Co Spherical, Densified	328616	-53 + 11 µm (-270 mesh + 11µm)	Standard Grade	
HA8343	WC 17Co Sintered, Irregular, Spherical	328343	-45 + 15 µm (-325 mesh + 15µm)	PWA 36331-1	Hard, tough coatings. Used to protect against sliding wear, hammer wear, abrasion and fretting. Increased cobalt offers toughness, anti-fretting and resistance impact. Good finish as-sprayed and/or lapping.
HA8128	WC 17 Co Agglomerated, Sintered, Spherical	328343-1	-45 + 15 µm (-325 mesh + 15µm)	Standard Grade	
HA8343-2	WC 17 Co Agglomerated, Sintered, Spherical	328343-2	-38 + 10 µm (-400 mesh + 10 µm)	Standard Grade	
HA8310	WC 10Ni Agglomerated, Sintered, Spherical	328624	-45 + 15 µm (-325 mesh + 15 µm)	Standard Grade	The nickel matrix provides better corrosion resistance than cobalt. Excellent low temperature wear properties. Superior deposition.
HA8310-1	WC 10Ni Agglomerated, Sintered, Spherical	328624-1	-38 + 10 µm (-400 mesh + 10 µm)	Standard Grade	
HA8496	WC 20Cr 6Ni Sintered, Irregular	328496	-45 + 15 µm (-325 mesh + 15 µm)	Standard Grade	Hard, dense coating with good bond strength. Excellent oxidation and corrosion resistance.
HA8356	WC 21Cr 6Ni 5C Agglomerated, Sintered, Spherical	328356	-45 + 15 µm (-325 mesh + 15 µm)	Standard Grade	
HA8334	WC 12Co + 50 Ni SF Blended	328334	-53 + 15 µm (-270 mesh + 15 µm)	Standard Grade	Densified structure with fine carbide dispersion properties. Excellent flowability. Excellent choice for chemical service. Produces thin, hard dense, smooth coatings. Wear and corrosion resistant.

CHROMIUM CARBIDE POWDERS

HA Name	Powder Type	Product ID	Particle Size	Specifications	Typical Properties
HA2373	Cr ₃ C ₂ 20% NiCr Densified, Spherical	312373	-45 + 5 μm (-325 mesh + 5 μm)	PWA 36332	Good abrasion, particle erosion, cavitation, and fretting resistance. Good sliding and corrosion resistance properties and good hot gas corrosion resistance, particularly in sulphurous gases.
HA2135	Cr ₃ C ₂ 25% NiCr Densified, Spherical	312135	-53/D (-270/D mesh)	Standard Grade	
HA2375-1	Cr ₃ C ₂ 25% NiCr Densified, Spherical	312375-1	-38 + 15 μm (- mesh + 15 μm)	Standard Grade	
HA2106	Cr ₃ C ₂ 25% NiCr Mechanically Blended	312106	-45 + 5 μm (-325 mesh + 5 μm)	GE B50TF137 CL A MSRR 9507/17 EMS 52432 II AMS 7875	
HA2375	Cr ₃ C ₂ 25% NiCr Spray-Dried, Sintered, Spherical	312375	-45 + 15 μm (-325 mesh + 15 μm)	Standard Grade	
HA2376	Cr ₃ C ₂ 25% NiCr Agglomerated, Sintered, Spherical	312376	-53 + 20 μm (-270 mesh + 20 μm)	Standard Grade	
HA2106-2	Cr ₃ C ₂ 25% NiCr Mechanically Blended	312380	-106 + 45 μm (-140 + 325 mesh)	EMS 52432 GE B50TF137 CL B MSRR 9507/2 PWA 1307	High volume of big carbide crystallites. Good homogeneity with low stress.
HA2410-1	Cr ₃ C ₂ 30% NiCr Reacted	312410-1	-45 + 10 μm (-325 mesh + 10 μm)	Standard Grade	
HA2410	Cr ₃ C ₂ 30% NiCr Reacted	312410	-53 + 15 μm (-270 mesh + 15 μm)	Standard Grade	
HA2410-2	Cr ₃ C ₂ 30% NiCr Reacted	312410-2	-106 + 45 μm (-140 + 325 mesh)	Standard Grade	Moderate dispersion of carbide of average size. Good ductility combined with wear resistance.
HA2425	Cr ₃ C ₂ 40% NiCr Reacted	312425	-45 + 10 μm (-325 mesh + 10 μm)	Standard Grade	
HA2425-1	Cr ₃ C ₂ 40% NiCr Reacted	312425-1	-53 + 15 μm (-270 mesh + 15 μm)	Standard Grade	
HA2425-2	Cr ₃ C ₂ 40% NiCr Reacted	312425-2	-106 + 45 μm (-140 + 325 mesh)	Standard Grade	Low concentration of carbide which appear small. Good ductility, toughness and corrosion resistance.
HA2415	Cr ₃ C ₂ 65% NiCr Reacted	312415	-45 + 10 μm (-325 mesh + 10 μm)	Standard Grade	
HA2415-1	Cr ₃ C ₂ 65% NiCr Reacted	312415-1	-53 + 15 μm (-270 mesh + 15 μm)	Standard Grade	
HA2415-2	Cr ₃ C ₂ 65% NiCr Reacted	312415-2	-106 + 45 μm (-140 + 325 mesh)	Standard Grade	Hard and wear resistant. Usually blended with metal for spraying.
HA2107	Cr ₃ C ₂ 99.0%+ Sintered, Irregular	312105	-45 + 5 μm (-325 mesh + 5 μm)	PWA 1306	
HA2107-1	Cr ₃ C ₂ 99.0%+ Sintered, Irregular	312107	-106 + 45 μm (-140 + 325 mesh)	PWA 1304	