

Tungsten alloy-HA170 Grade

Chinatungsten is a manufacturer and supplier of tungsten heavy alloy, Widely and extensively used in many areas. We could offer tungsten alloy products based on the HA170 Grade to our customers.

Table 2: Tungsten Heavy Alloy Grade Application Guide

Grade	Application
HA170	HA 170 is the most ductile and readily machinable grade in the tungsten heavy alloy family. Common application areas include counterbalancing and aerospace industries, crankshafts and chassis weights for auto racing, bucking bars for rivet setting, and radiation shielding.
HA175	HA175 is commonly used to produce chatter-resistant boring bars, grinding quills, and tool shanks as well as radiation shielding components.
HA180	HA180 is often applied where size is a factor in the placement of balance or ballast weights. Other applications include radiation shields and collimators of x-ray or gamma ray beams.
HA185	The densest of the the Ni-Fe binder alloys, HA185 is the preferred grade for radiation shielding in the medical imaging industry.
HA170C	Employing copper as a substitute for iron in the binder phase, HA170C is nonmagnetic and ideal for radiation shielding where the shield is in close proximity to a magnetic field.
HA180C	HA180C is a denser version of HA170C that offers somewhat greater shielding efficiency in situations where large shields in a nonmagnetic alloy are needed.

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FCC Grade	HA170	HA175	HA180	HA185	HA170C	HA180C
Matrix (wt.%)	90.0%W	92.5%W	95.0%W	97.0%W	90.0%W	95.0%W
Binder	10.0%Ni-Fe	7.5%Ni-Fe	5.0%Ni-Fe	3.0%Ni-Fe	10.0%Ni-Fe	5.0%Ni-Fe
MIL-T-21014RevD	Class 1	Class 2	Class 3	Class 4	Class 1	Class 3
SAE-AMS-T-21014	Class 1	Class 2	Class 3	Class 4	Class 1	Class 3
ASTM B777-07	Class 1	Class 2	Class 3	Class 4	Class 1	Class 3
AMS 7725C	7725C	-	-	-	-	-
Nominal Density (g/cm ³)	17.0	17.5	18.0	18.5	17.0	18.0
Nominal Density (lb/in ³)	0.614	0.632	0.650	0.668	0.614	0.650
Typical Hardness (Rc)	26	26	28	30	26	28
Ultimate Tensile Strength-Min (psi)	110,000	110,000	105,000	100,000	94,000	94,000
0.2% Offset Yield Strength-Min (psi)	75,000	75,000	75,000	75,000	75,000	75,000
Magnetic Characteristics	Slightly magnetic	Slightly magnetic	Slightly magnetic	Slightly magnetic	Nonmagnetic	Nonmagnetic

