

Inconel X-750

UNS N07750

W.Nr. 2.4669

Nickel

Chromium

<https://www.arialloy.com/inconel-x750/>

Chemical Composition

S%	Si%	C%	Mn%	Al%	Ti%
≤ 0.010	≤ 0.50	≤ 0.08	≤ 1.00	0.40 ~ 1.00	2.25 ~ 2.75
Cu%	Co%	Nb% + Ta%	Fe%	Cr%	Ni%
≤ 0.50	≤ 1.00	0.70 ~ 1.20	5.0 ~ 9.0	14.0 ~ 17.0	≥ 70

Mechanical Properties

Product	Condition	T.S.	Y.S.	EL	RA	Hardness
		MPa, min	MPa, min	%, min	%, min	HB
Bar & Rod	Type 1: solution at 2100°F (1149°C) + stabilize + precipitation harden	965	620	8	...	≥ 262
	≤ 63.5mm Type 2: solution at 1800°F (982°C) + precipitation harden	1170	790	18	18	302 ~ 363
	63.5 ~ 101.6mm Type 2: solution at 1800°F (982°C) + precipitation harden	1170	790	15	15	302 ~ 363
	Type 3: solution anneal at 2000°F (1093°C) + precipitation harden	1103 ~ 1276	689 ~ 896	20	20	267 ~ 363
Wire	≤ 0.64mm Cold-drawn	≤ 1034	...	...	...	...
	0.64 ~ 12.7mm Cold-drawn	896 ~ 1138	...	...	...	...
	≤ 0.64mm Precipitation hardened	1069	...	...	...	...
	0.64 ~ 12.7mm Precipitation hardened	1138	...	...	...	...
Spring Wire	≤ 6.35mm Cold-drawn	1310	...	...	...	...
	6.35 ~ 15.88mm Cold-drawn	1103	...	...	...	...
	0.30 ~ 6.35mm Precipitation hardened	1517	...	...	...	...
	6.35 ~ 10.62mm Precipitation hardened	1379	...	...	...	...

Product	Condition	T.S.	Y.S.	EL	RA	Hardness
		MPa, min	MPa, min	%, min	%, min	HR
Spring Wire	10.62 ~ 15.88mm Precipitation hardened	1241	...	...	...	...
	0.30 ~ 6.35mm Solution + Precipitation hardened	1034	...	...	...	...
	6.35 ~ 15.88mm Solution + Precipitation hardened	1000	...	...	...	...
Sheet	0.25 ~ 0.61mm Solution Treated	931	517	30	...	...
	0.61 ~ 4.75mm Solution Treated	931	517	35	...	...
	0.25 ~ 4.75mm Solution + Precipitation hardened	1172	793	18	...	...
Plate	4.75 ~ 101.6mm Solution + Precipitation hardened	1103	724	18	...	...
	≤ 0.25mm Solution Treated	965	...	...	...	...
Strip	0.25 ~ 4.75mm Solution Treated	931	...	18	...	...
	≤ 0.25mm Solution + Precipitation hardened	1069	...	...	...	...
	0.25 ~ 4.75mm Solution + Precipitation hardened	1103	...	12	...	...

• Physical Properties •

Density		Melting Range		Curie Temperature	
lb/in ³	g/cm ³	°F	°C	Hot-rolled, °F	Heat-treated, °F
0.299	8.28	2540 ~ 2600	1393 ~ 1427	-225	-193

• Main Standards •

Rod, Bar & Forging Stock	Plate, Sheet & Strip	Wire
ASTM B 637 ASME SB 637 SAE AMS 5667 ~ SAE AMS 5671 SAE AMS 5747	SAE AMS 5542 SAE AMS 5598	SAE AMS 5698 SAE AMS 5699