

Inconel X-750

Materials Data Sheet

Description

X-750 is a Nickel-Chromium alloy made precipitation hardenable by additions of Al and Ti, having creep-rupture strength at high temperatures to about 700°C (1290°F). It is widely used for high temperature conditions but is not as strong as Nimonic 90.

Uses: Inconel X-750 is used to fabricate flat springs and sheet metal stampings that are used in very high temperature applications such as jet engine parts, nuclear power plant applications, heat-treating fixtures, forming tools, and extrusion dies.

Chemical Composition

Element	%
C	0.08
Mn	1.00
Si	0.50
S	0.01
Cr	17.00
Ni	70.00
Nb/Cb	1.20
Ti	2.75
Al	1.00
Fe	9.00
Co	1.00
Ta	0.05
Cu	0.50

Density	8.28g/cm ³	0.299 lb/in ³
Melting Point	1430°C	2600°F
Coefficient of Expansion	12.6 µm/m °C (20 - 100°C)	7.0 x 10 ⁻⁶ in/in °F (70 - 212°F)
Modulus of Rigidity	75.8 kN/mm ²	10994 ksi
Modulus of Elasticity	218.0 kN/mm ²	31619 ksi

Heat Treatment

Condition	Type	Temperature	
		°C	°F
Spring Temper	Age Harden	650	1200

Properties

Condition	Approximate Tensile Strength		Approximate Operating Temperature	
	N/mm ²	ksi	°C	°F
Spring Temper and Aged	1350-1750	196-254	-200 to +370	-330 to +700

*Information compiled using Alloy Wire International as source.

The information and data in this product data sheet are accurate to the best of our knowledge and belief, but are intended for general information only.