Corrosion-resistant alloy

Alloy X-750

Description

Alloy X-750 is a precipitation-hardened nickel-chromium superalloy. It is suitable for springs and fasteners under long-term high-temperature preload.

Grade: UNS N07750, Inconel X-750, W.Nr.2.4669, NiCr73Fe15Nb2.5Ti2.5

Chemical Composition (wt%)

C	Cr	Ni	Co	Al	Ti	Fe	Nb	Si	Mn	S	Cu
≤0.08	14.00-17.00	≥70.00	≤1.00	0.40-1.00	2.25-2.75	5.00-9.00	0.70-1.20	≤0.50	≤1.00	≤0.010	≤0.50

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Technical standards

Technical Standards	Product Form
ASTM B637	Bars, Forgings and Forging Stock
AMS 5542	Sheet, Plate and Strip

Physical Properties

Thermal conductivity

θ/℃	W/(m·℃)
50 ℃	14.7
100℃	15.9
300℃	20.1
500℃	25.1
900℃	37.3

Coefficient of thermal expansion

θ/℃	α
20-200	13.1
20-300	13.5
20-400	14.1
20-500	14.4
20-600	15
20-700	15.6
20-800	16.2

Modulus of Elasticity

θ/℃	E/GPa
20℃	213.7
200℃	205.9
300℃	200.1
400℃	194.2
500℃	186.3
600℃	178.5
700℃	169.7
800℃	160.8

Disclaimer

Data is typical for reference only.