This page is mainly introduced the Inconel X750 chemical information,mechanical properties, physical properties, mechanical properties, heat treatment, and Micro structure, etc. It also contains the use of Inconel X750,such as it is commonly used in bars, sheet,plates, steel coils, steel pipes,forged and other materials application.

Data Table for Grades Superalloys Inconel X750

Inconel X750 Standard Number:		
ITEM	Standard Number	Descriptions
1	SAE AMS 5542N (2007)	Nickel Alloy, Corrosion and Heat-Resistant, Sheet, Strip, and Plate 72Ni - 15.5Cr - 0.95Cb(Nb) - 2.5Ti - 0.70Al - 7.0Fe Annealed
2	SAE AMS 5582F (2012)	Nickel Alloy, Corrosion and Heat-Resistant, Seamless Tubing 72Ni - 15.5Cr - 0.95Cb - 2.5Ti - 0.70Al - 7.0Fe Solution Heat Treated, Precipitation Hardenable to 155 ksi (1069 MPa) Tensile Strength
3	SAE AMS 5598E (2007)	Nickel Alloy, Corrosion and Heat-Resistant, Sheet, Strip, and Plate 72Ni - 15.5Cr - 0.95 (Cb (Nb) + Ta) - 2.5Ti - 0.70Al - 7.0Fe Consumable Electrode, Remelted or Vacuum Induction Melted, Solution Heat Treated, Precipitation-Hardenable
4	SAE AMS 5667N (2015)	Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 72Ni - 15.5Cr - 0.95Cb - 2.5Ti - 0.70Al - 7.0Fe Equalized, Precipitation Hardenable
5	SAE AMS 5668J (2007)	Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 72Ni - 15.5Cr - 7.0Fe - 2.5Ti - 1.0Cb (Nb) - 0.70Al 2100°F (1149°C) Solution and Precipitation Heat Treated
6	SAE AMS 5669B (1965)	Alloy Bars, Corrosion and Heat Resistant Nickel Base - 15.5Cr - 0.95 (Cb + Ta) - 2.5Ti - 0.70Al - 7.0Fe Consumable Electrode or Vacuum Induction Melted
7	SAE AMS 5670F (2005)	Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 72Ni - 15.5Cr - 0.95Cb(Nb) - 2.5Ti - 0.70Al - 7.0Fe 1800°F (982°C) Solution Heat Treated, Precipitation-Hardenable
8	SAE AMS 5671G (2007)	Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 72Ni - 15.5Cr - 0.95Cb - 2.5Ti - 0.70Al - 7.0Fe Consumable Electrode or Vacuum Induction Melted 1800°F (982°C) Solution Heat Treated, Precipitation Hardenable
9	SAE AMS 5698G (2007)	Nickel Alloy, Corrosion and Heat-Resistant, Wire 72Ni - 15.5Cr - 0.95Cb - 2.5Ti - 0.70Al - 7.0Fe No. 1 Temper, Precipitation Hardenable
10	SAE AMS 5699G (2007)	Nickel Alloy, Corrosion and Heat-Resistant, Wire 72Ni - 15.5Cr - 0.95Cb - 2.5Ti - 0.70Al - 7.0Fe Spring Temper, Precipitation Hardenable
11	SAE AMS 5747D (2006)	Nickel Alloy, Corrosion and Heat-Resistant, Bars, Forgings, and Rings 72Ni - 15.5Cr - 0.95Cb(Nb) - 2.5Ti - 0.70Al - 7.0Fe Solution Heat Treated, Precipitation Hardenable
12	SAE AMS 5779E (2003)	Alloy Welding Electrodes, Covered, Corrosion and Heat-Resistant 75Ni - 15Cr - 1.5 (Cb+Ta) - 1.9Ti - 0.55Al - 5.5Fe
13	SAE AMS 5583E (2013)	Nickel Alloy, Corrosion and Heat-Resistant, Seamless Tubing 72Ni - 15.5Cr - 0.95Cb - 2.5Ti - 0.70Al - 7.0Fe Vacuum Melted Solution Heat Treated, Precipitation Hardenable to 170 ksi (1172 MPa) Tensile Strength
14	SAE J 467b (1968)	Special Purpose Alloys ("Superalloys")
15	SAE J 470 (1976)	Wrought nickel and nickel-related alloys

Inconel X750 Chemical composition(mass fraction)(wt.%)

Chemical	Min.(%)	Max.(%)
C		0.08
Mn		1.0
Si		0.5
S		0.01
P		0.015
Cu		0.5
Fe	5.0	9.0
Co		1.0
Nb	0.70	1.20
Cr	14.0	17.0
Ni	70	
Al	0.40	1.00
Ti	2.25	2.75

Inconel X750 Physical Properties		
Tensile strength	115-234	σb/MPa
Yield Strength	23	σ 0.2 ≥/MPa
Elongation	65	δ5≥ (%)
ψ	-	ψ≥ (%)
Akv	-	Akv≥/J
HBS	123-321	-
HRC	30	-

Inconel X750 Mechanical Properties		
Tensile strength	231-231	σb/MPa
Yield Strength	154	σ 0.2 ≥/MPa
Elongation	56	δ5≥(%)
ψ	-	ψ≥(%)
Akv	-	Akv≥/J
HBS	235-268	-
HRC	30	-

Inconel X750 Heat Treatment Regime

Annealing	Quenching	Tempering	Normalizing	Q & T

√	√	√	√	√

Inconel X750 Range of products				
Product type	Products	Dimension	Processes	Deliver Status
Plates / Sheets	Plates / Sheets	0.08-200mm(T)*W*L	Forging, hot rolling and cold rolling	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Steel Bar	Round Bar, Flat Bar, Square Bar	Φ8-1200mm*L	Forging, hot rolling and cold rolling, Cast	Black, Rough Turning, Shot Blasting,
Coil / Strip	Steel Coil /Steel Strip	0.03-16.0x1200mm	Cold-Rolled & Hot-Rolled	Annealed, Solution and Aging, Q+T, ACID-WASHED, Shot Blasting
Pipes / Tubes	Seamless Pipes/Tubes, Welded Pipes/Tubes	OD:6-219mm x WT:0.5-20.0mm	Hot extrusion, Cold Drawn, Welded	Annealed, Solution and Aging, Q+T, ACID-WASHED

We can produce Superalloys the specifications follows:

Note:
(1) listed in the table apex diameter (d), to steel thickness (a) multiples said.
(2) in the ASTM A6 standard specified scope can meet any additional conditions.
(3) from the standard for 50 mm (2 in).
Mechanical properties
Mechanische Eigenschaften
Caracteristiques mecaniques
ReH Minimum yield strength / Mindestwert der oberen Streckgrenze / Limite d’elasticite minimale
Rm Tensile strength / Zugfestigkeit / Resistance a la traction
A Minimum elongation / Mindestwert der Bruchdehnung / Allongement minimal
J Notch impact test / Kerbschlagbiegeversuch / Essai de flexion par choc

Round bar:
Diameter : 1mm-2000mm
Square bar:
Size: 50mm * 50mm-600mm *600mm
Plate steel/flat bar:
Size: Thickness: 0.1mm-800mm Width: 10mm to 1500mm
Tube/pipe:
Size: OD: 6-219mm WT: 1-35 mm.
Cold-rolled sheet: Thickness: 2-5mm Width:1000mm Length: 2000mm
Hot-rolled sheet: Thickness:6-80mm Width: 210-610mm
Length: We can supply any length based on the customer's requirement.
Forging/hot rolling/ extrusion of steel.
Forging: Shafts with flanks/pipes/tubes/slugs/donuts/cubes/other shapes
Finished goods condition: hot forging/hot rolling + annealing/normalizing + tempering/quenching + tempering/any conditions based on the customer's requirement
Surface conditions: scaled (hot working finish)/ground/rough machining/fine machining/based on the customer's requirement
Furnaces for metallurgical processing: electrode arc + LF/VD/VOD/ESR/Vacuum consumable electrode.

Ultrasonic inspection: 100% ultrasonic inspection for any inperfections or based on the customer's requirement.
UTS according to SEP 1921 C/c,D/d,E/e;A388 or GB/T 6402
Excellent service for all kinds of industries, with advantages of technologies, equipment and price.
We serve you with our honesty, integrity, and professionality.