**This page is mainly introduced the Inconel X750 Datasheet, including 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.**

# Datasheet for Steel 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 |

| C | Si | Mn | P | S | Cr | Ni | Mo | V | Ta |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| W | N | Cu | Co | Pb | B | Nb | Al | Ti | Other |
| | | | | | | | | | |

Inconel X750, Nickel Alloy, Corrosion and Heat-Resistant, Sheet, Strip, and Plate 72Ni - 15.5Cr - 0.95Cb(Nb) - 2.5Ti - 0.70Al - 7.0Fe Annealed

## 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: