



Hastelloy® X Bar UNS N06002

AMS 5754

Nominal Composition

Nickel 50% Chromium 21% Iron 18%
Molybdenum 9%

Description

Hastelloy X is a high temperature and corrosion resistant nickel-base solid solution strengthened alloy. This alloy has outstanding resistance to oxidation at high temperatures and possesses exceptional strength at elevated temperatures. Hastelloy X exhibits good formability, weldability, and machinability.

Properties

Non-magnetic. Hastelloy X has high strength up to 1500°F (816°C) and good oxidation resistance up to 2200°F (1204°C). This alloy is especially resistant to carburization and nitriding, conditions which cause failure in some high temperature alloys. Hastelloy X is used extensively in high temperature jet engine and chemical processing applications and is highly resistant to stress corrosion cracking in petrochemical applications. AMS 5754 does not specify yield or tensile strength requirements, but it does require a hardness maximum and stress rupture minimums.

Hardness

Hardness of Aerodyne stock is typically 200 BHN and 241 BHN maximum by specification. The material is usually used in the solution treated (annealed) condition. Grain structure is austenitic at both cryogenic and elevated temperatures.

Machinability

RATING: 27% of B-1112

TYPICAL STOCK REMOVAL RATE: 45 surface feet/minute with high speed tools. 125 surface feet/minute with carbide.

COMMENTS:

Care must be taken to ensure a rigid machine setup and sharp tools, so that work hardening and surface glazing do not occur.

Density: 0.297 lbs/in³, 8.22 g/cm³

Standard Inventory Specifications

- AMS 5754
- GE B50A463
- Line marked over 0.5 inches in diameter
- Predominantly produced by AOD-ESR melt method. Hot worked, solution treated (annealed), then centerless ground or rough turned.
- Lengths: 10-12 feet

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