A-286 Bar (aged)

UNS S66286

AMS 5732

(Formerly AMS 5735)

Nominal Composition

Iron 50% Nickel 25% Chromium 15%
Titanium 2% Molybdenum 1.3%
Aluminum 0.2% Vanadium 0.3%

Description

A-286 alloy content is similar in chromium, nickel, and molybdenum to some of the austenitic stainless steels. Consequently, A-286 alloy possesses a level of aqueous corrosion resistance comparable to that of the austenitic stainless steels. In elevated temperature service, the level of corrosion resistance to atmospheres such as those encountered in jet engine applications is excellent to at least 1300°F (704°C). Used in many moderate temperature and stress applications in jet engines, such as low pressure turbines, compressors, shafts and afterburner parts

Properties

Non-magnetic. A-286 is an austenitic alloy in the hardened and aged condition per AMS 5732, which has moderate strength and rupture characteristics up to 1300ºF (704˚C). The alloy has good oxidation resistance for continuous service up to 1500°F (816°C) and intermittent service up to 1800°F (982°C). Can attain high strength levels when aged after cold work, and has wide application as high temperature fasteners and springs.

Hardness

The hardness of Aerodyne stock is typically 310 BHN and is supplied in the fully heat treated condition - 1800ºF (982˚C) solution anneal plus 1325ºF (718˚C) age for 16 hours. No further heat treatment is required.

Machinability

RATING: 25% of B-1112
TYPICAL STOCK REMOVAL RATE: 40 surface feet/minute with high speed tools. 135 surface feet/minute with carbide.
COMMENTS:
More difficult to machine than AMS 5731 because it is aged hardened.

Density: 0.287 lbs/in^3, 7.94 g/cm^3

Standard Inventory Specifications

- AMS 5732 (formerly AMS 5735)
- ASTM A 453 Grade 660 Class B
- ASTM B 638 Grade 660 Type 2
- Line marked over 0.5 inches in diameter
- Predominantly produced by VIM-VAR or VIM-ESR melt method. Hot rolled, 1800ºF (982˚C) solution heat treated, followed by aging at 1325ºF (718˚C), then centerless ground.
- Lengths: 10-12 feet