

Technical datasheet

Alloy A-286 / W-Nr. 1.4980

Also known as Grade 660, Alloy A-286 is an age-hardenable iron-nickel-chromium alloy with good mechanical properties and oxidation resistance at elevated temperatures used for turbine components and high strength fastener applications

Available products

Product form Bar	Size range from 12.7 mm diameter	Size range to 127 mm diameter
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Chemical composition (%)

Ni 24.0-27.0	Cr 13.5-16.0	Mo 1.0-1.5	Ti 1.90-2.35	Mn 2.0 max	Si 1.0 max	Al 0.35 max	Fe Balance	C 0.08 max
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Major specifications

AMS 5525, 5858, 5726, 5731, 5732, 5734, 5737, 5804, 5853	ASTM A453, A638 UNS S66286
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Physical properties

Density	7.92 g/cm ³	Magnetic permeability	1.007 in the aged condition
Melting range	1370-1435°C		

Mechanical properties – typical room temperature properties

Solution annealed condition		Age hardened condition	
Yield strength	275 MPa	Yield strength	690 MPa
Tensile strength	620 MPa	Tensile strength	1034 MPa
Elongation	40 %	Elongation	25 %

Key attributes

In the age-hardened condition Alloy A-286 has high room temperature strength and maintains good strength at elevated temperatures up to ~700°C. It also has excellent creep strength and these mechanical properties, combined with its oxidation resistance allows A-286 to find use in a wide range of applications where high strength, excellent creep strength and good corrosion resistance are required. Applications include turbine components and high strength, high temperature fasteners. Alloy A-286 is also used in the oil and gas industry both in high temperature applications but also cryogenic applications and where non-magnetic properties are required.

Alloy A-286 is highly fabricable and is readily formed by either hot or cold working processes. It is machinable and can be welded by conventional processes and procedures. Please contact us for further details on forming, fabrication and welding consumables.

Applications

- Aero and industrial gas turbine components
- Automotive engine fasteners
- Manifold components
- Offshore/oil and gas industry fasteners
- Cryogenic and non-magnetic applications

All information is subject to change without notice. The properties correspond to the material in the heading. They may vary for other specifications. Please contact us for more details.