

## Incoloy® A-286 alloy

UNS S66286  
W. Nr 1.4980

### Applicable Specifications

Strip and Foil AMS 5525, AMS 5858, GE B50T12

**Description:** Incoloy® alloy A-286 is an age-hardenable Iron-Nickel-Chromium alloy with high strength and corrosion resistance at elevated temperatures. These properties are maintained up to about 1300°F (700°C). The high strength and excellent fabrication characteristics of Incoloy® alloy A-286 make the alloy useful for various components of aircraft and industrial gas turbines. In the age-hardened condition, A-286 has high strength at room temperature and good creep-rupture strength during extended high-temperature exposure.

**Applications include:** Turbine engine components, Afterburner parts, non-magnetic cryogenic equipment, springs, oil & gas manifolds

**Industries supplied include:** Power Generation, Aerospace, Chemical processing, Oil & Gas

### Nominal Composition

	C	Mn	Si	S	Mo	Cr	Ni	Fe	V	Ti	Al
min	-	-	-	-	1.0	13.5	24.0	Bal	0.1	1.90	-
max	0.08	2.0	1.0	0.030	1.5	16.0	27.0	-	0.5	2.35	0.35

### Physical Properties

	At 70°F	At 20°C
Density	0.287 lb/in <sup>3</sup>	7.94 g/cm <sup>3</sup>
Modulus of Elasticity (E)	28.8 x 10 <sup>3</sup> ksi	199 GPa
Modulus of Rigidity (G)	11.2 x 10 <sup>3</sup> ksi	77 GPa
Coefficient of Expansion	9.47 microinches/in.-°F (70-600°F)	17 μm/m-°C (20-300°C)
Electrical Resistivity	35.8 μohm-in	91 μohm-cm
Thermal Conductivity	88 Btu-in/ft <sup>2</sup> hr-°F	12.7 W/m-K

### Typical Mechanical Properties

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	1650-1800°F (900-980°C)	105 ksi max	-300 to 750°F (-184 to 400°C)
Aged	1325°F (718°C) for 16 hrs	140 ksi min	-300 to 1300°F (-184 to 700°C)

Incoloy® is a registered trademark of the Special Metals group of companies.

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