

Haynes® Alloy 214

UNS N07214
W.Nr 2.4646

Applicable Specifications

Wire & Bar PS-6104, PWA 1130

Description: Haynes® Alloy 214 is a nickel-chromium-aluminum-iron alloy with excellent high temperature corrosion and oxidation resistance at and above 955°C (1750°F). Haynes® Alloy 214 is sold in the solution heat treated condition and is best suited for high temperature, low stress environments. At temperatures above 1750°F, an Al₂O₃ type oxide scale develops, providing excellent resistance to carburization, nitriding and corrosion in chlorine-bearing oxidizing environments. H214 exhibits good forming and welding characteristics, provided that extended time at intermediate age-hardening temperatures is avoided.

Applications include: High temperature mesh/fixtures, refractory anchors, static oxidation-limited parts, high temperature chlorine-contaminated applications

Industries supplied include: Aerospace, Automotive, Industrial Heating, Medical Waste Disposal, and Land-Based Gas Turbines.

Nominal Composition

| | C | Mn | Si | S | Cr | Co | Mo | W | Ti | Al | B | Fe | Y | Ni |
|-----|------|------|------|-------|------|------|------|------|------|------|-------|------|------|--------|
| min | | | | | 15.0 | | | | | 4.00 | | 2.00 | .002 | 75 Bal |
| max | 0.15 | 1.00 | 0.50 | 0.015 | 17.0 | 2.00 | 1.00 | 1.00 | 0.50 | 5.00 | 0.015 | 6.00 | .040 | |

Physical Properties

| | At 70°F | At 20°C |
|---------------------------|----------------------------------|--------------------------|
| Density | 0.291 lb/in ³ | 08.05 g/cm ³ |
| Modulus of Elasticity (E) | 31.6 x 10 ³ ksi | 218 GPa |
| Coefficient of Expansion | 11.1 µin/in-°F (70-2000°F) | 20.2 µm/m-°C (25-1100°C) |
| Electrical Resistivity | 53.5 µohm-in | 135.9 µohm-cm |
| Thermal Conductivity | 83 Btu-in/ft ² -hr-°F | 12.0 W/m-°C |

Typical Mechanical Properties

| Condition | Heat Treatment | Tensile Strength | Suggested Operating Conditions |
|-----------|---------------------------|----------------------------|-------------------------------------|
| Annealed | 1950-2050°F (1066-1121°C) | 130-150 ksi (895-1035 MPa) | -330°F to 2400°F (-200°C to 1315°C) |
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