Haynes 214Â® alloy, cold rolled annealed sheet 2.0-3.2 mm thick

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

Intended principally for use at temperatures of 955Â°C and above, exhibits resistance to oxidation that exceeds virtually all conventional heat-resistant wrought alloys. Applications include mesh belts, trays, and fixtures for firing of pottery and fine china, and the heat treatment of electronic devices and technical grade ceramics. Used for foil construction honeycomb seals, combustor splash plates, and other static oxidation-limited parts, catalytic converter internals, burner cup material in auxiliary heaters for military vehicles, refractory anchors, furnace flame hoods, and rotary calciners for processing chloride compounds, and as hospital waste incinerator internals.Data provided by the manufacturer, Haynes International, Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Haynes-214-alloy-cold-rolled-annealed-sheet-20-32-mm-thick.php

Physical Properties	Metric	English	Comments
Density	8.05 g/cc	0.291 lb/inÂ³	at RT

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	995 MPa	144000 psi	
	30.0 MPa @Temperature 1205 Â°C	4350 psi @Temperature 2201 Â°F	
	32.0 MPa @Temperature 1150 Â°C	4640 psi @Temperature 2100 Â°F	
	58.0 MPa @Temperature 1095 Â°C	8410 psi @Temperature 2003 Â°F	
	105 MPa @Temperature 980 Â°C	15200 psi @Temperature 1800 Â°F	
	400 MPa @Temperature 870 Â°C	58000 psi @Temperature 1600 Â°F	
	705 MPa @Temperature 760 Â°C	102000 psi @Temperature 1400 Â°F	
	815 MPa	118000 psi @Temperature 1200	

Mechanical Properties	Metric	English	Comments
	@Temperature 650 Â°C	Â°F	
	865 MPa @Temperature 540 Â°C	125000 psi @Temperature 1000 Â°F	
Tensile Strength, Yield	605 MPa @Strain 0.200 %	87700 psi @Strain 0.200 %	
	9.00 MPa @Strain 0.200 %, Temperature 1205 Â°C	1310 psi @Strain 0.200 %, Temperature 2201 Â°F	
	12.0 MPa @Strain 0.200 %, Temperature 1150 Â°C	1740 psi @Strain 0.200 %, Temperature 2100 Â°F	
	27.0 MPa @Strain 0.200 %, Temperature 1095 Â°C	3920 psi @Strain 0.200 %, Temperature 2003 Â°F	
	54.0 MPa @Strain 0.200 %, Temperature 980 Â°C	7830 psi @Strain 0.200 %, Temperature 1800 Â°F	
	310 MPa @Strain 0.200 %, Temperature 870 Â°C	45000 psi @Strain 0.200 %, Temperature 1600 Â°F	
	545 MPa @Strain 0.200 %, Temperature 540 Â°C	79000 psi @Strain 0.200 %, Temperature 1000 Â°F	
	565 MPa @Strain 0.200 %, Temperature 650 Â°C	81900 psi @Strain 0.200 %, Temperature 1200 Â°F	
	645 MPa @Strain 0.200 %, Temperature 760 Â°C	93500 psi @Strain 0.200 %, Temperature 1400 Â°F	
Elongation at Break	36.8 %	36.8 %	in 50.8 mm
	15.4 % @Temperature 870 Â°C	15.4 % @Temperature 1600 Â°F	in 50.8 mm
	16.3 % @Temperature 760 Â°C	16.3 % @Temperature 1400 Â°F	in 50.8 mm

Mechanical Properties	Metric	English	Comments
	25.5 % @Temperature 650 Â°C	25.5 % @Temperature 1200 Â°F	in 50.8 mm
	40.4 % @Temperature 540 Â°C	40.4 % @Temperature 1000 Â°F	in 50.8 mm
	61 % @Temperature 1095 Â°C	61 % @Temperature 2003 Â°F	in 50.8 mm
	61.3 % @Temperature 980 Â°C	61.3 % @Temperature 1800 Â°F	in 50.8 mm
	74.8 % @Temperature 1205 Â°C	74.8 % @Temperature 2201 Â°F	in 50.8 mm
	89.2 % @Temperature 1150 Â°C	89.2 % @Temperature 2100 Â°F	in 50.8 mm
Modulus of Elasticity	218 GPa	31600 ksi	RT
	137 GPa @Temperature 1000 Â°C	19900 ksi @Temperature 1830 Â°F	
	151 GPa @Temperature 900 Â°C	21900 ksi @Temperature 1650 Â°F	
	162 GPa @Temperature 800 Â°C	23500 ksi @Temperature 1470 Â°F	
	170 GPa @Temperature 700 Â°C	24700 ksi @Temperature 1290 Â°F	
	177 GPa @Temperature 600 Â°C	25700 ksi @Temperature 1110 Â°F	
	184 GPa @Temperature 500 Â°C	26700 ksi @Temperature 932 Â°F	
	190 GPa	27600 ksi	

Mechanical Properties	Metric	English	Comments
	@Temperature 400 Â°C	@Temperature 752 Â°F	
	199 GPa @Temperature 300 Â°C	28900 ksi @Temperature 572 Â°F	
	204 GPa @Temperature 200 Â°C	29600 ksi @Temperature 392 Â°F	
	210 GPa @Temperature 100 Â°C	30500 ksi @Temperature 212 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear	13.3 Âµm/m-Â°C @Temperature 25.0 - 200 Â°C	7.39 Âµin/in-Â°F @Temperature 77.0 - 392 Â°F	
	13.6 Âµm/m-Â°C @Temperature 25.0 - 300 Â°C	7.56 Âµin/in-Â°F @Temperature 77.0 - 572 Â°F	
	14.1 Âµm/m-Â°C @Temperature 25.0 - 400 Â°C	7.83 Âµin/in-Â°F @Temperature 77.0 - 752 Â°F	
	14.6 Âµm/m-Â°C @Temperature 25.0 - 500 Â°C	8.11 Âµin/in-Â°F @Temperature 77.0 - 932 Â°F	
	15.2 Âµm/m-Â°C @Temperature 25.0 - 600 Â°C	8.44 Âµin/in-Â°F @Temperature 77.0 - 1110 Â°F	
	15.8 Âµm/m-Â°C @Temperature 25.0 - 700 Â°C	8.78 Âµin/in-Â°F @Temperature 77.0 - 1290 Â°F	
	16.6 Âµm/m-Â°C @Temperature 25.0 - 800 Â°C	9.22 Âµin/in-Â°F @Temperature 77.0 - 1470 Â°F	
	17.6 Âµm/m-Â°C @Temperature 25.0 - 900 Â°C	9.78 Âµin/in-Â°F @Temperature 77.0 - 1650 Â°F	
	18.6 Âµm/m-Â°C @Temperature 25.0 - 1000 Â°C	10.3 Âµin/in-Â°F @Temperature 77.0 - 1830 Â°F	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	0.452 J/g-Â°C	0.108 BTU/lb-Â°F	RT
	0.470 J/g-Â°C @Temperature 100 Â°C	0.112 BTU/lb-Â°F @Temperature 212 Â°F	
	0.493 J/g-Â°C @Temperature 200 Â°C	0.118 BTU/lb-Â°F @Temperature 392 Â°F	
	0.515 J/g-Â°C @Temperature 300 Â°C	0.123 BTU/lb-Â°F @Temperature 572 Â°F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0001359 ohm-cm	0.0001359 ohm-cm	RT
	0.0001209 ohm-cm @Temperature 1050 Â°C	0.0001209 ohm-cm @Temperature 1920 Â°F	
	0.000121 ohm-cm @Temperature 1100 Â°C	0.000121 ohm-cm @Temperature 2010 Â°F	
	0.0001216 ohm-cm @Temperature 1000 Â°C	0.0001216 ohm-cm @Temperature 1830 Â°F	
	0.0001219 ohm-cm @Temperature 1150 Â°C	0.0001219 ohm-cm @Temperature 2100 Â°F	
	0.0001229 ohm-cm @Temperature 1200 Â°C	0.0001229 ohm-cm @Temperature 2190 Â°F	
	0.0001249 ohm-cm @Temperature 900 Â°C	0.0001249 ohm-cm @Temperature 1650 Â°F	
	0.0001292 ohm-cm @Temperature 800 Â°C	0.0001292 ohm-cm @Temperature 1470 Â°F	
	0.0001337 ohm-cm @Temperature 700 Â°C	0.0001337 ohm-cm @Temperature 1290 Â°F	
	0.0001368 ohm-cm @Temperature 600 Â°C	0.0001368 ohm-cm @Temperature 1110	

Electrical Properties	Metric	English	Comments
	0.0001369 ohm-cm @Temperature 100 Â°C	0.0001369 ohm-cm @Temperature 212 Â°F	
	0.0001369 ohm-cm @Temperature 200 Â°C	0.0001369 ohm-cm @Temperature 392 Â°F	
	0.0001369 ohm-cm @Temperature 300 Â°C	0.0001369 ohm-cm @Temperature 572 Â°F	
	0.0001369 ohm-cm @Temperature 300 Â°C	0.0001369 ohm-cm @Temperature 572 Â°F	
	0.0001377 ohm-cm @Temperature 400 Â°C	0.0001377 ohm-cm @Temperature 752 Â°F	
	0.0001379 ohm-cm @Temperature 500 Â°C	0.0001379 ohm-cm @Temperature 932 Â°F	

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