Haynes 556Â® alloy, cold rolled, solution annealed sheet, 0.8-2.8 mm thick

Category : Metal , Superalloy , Iron Base

Material Notes:

Effective resistance to sulfidizing, carburizing, and chlorine-bearing environments at high temperature; good oxidation resistance, fabricability, and excellent high-temperature strength; resists corrosion by molten chloride salts and is resistant to corrosion from molten zinc. Excellent forming and welding characteristics. Applications include tubing and structural members in municipal and industrial waste incinerators, rotary calciners and kilns for minerals processing, and non-rotating components in land-based gas turbines burning low-grade fuels; carbon regenerators, and in processes involving high-sulfur petroleum feedstocks; widely used for hot-dip galvanizing fixtures, spinners, and baskets, high speed furnace fans, air preheaters of diesel engines, the inner covers of coil annealing furnaces, and various high temperature applications in the aerospace industry.Data provided by the manufacturer, Haynes International, Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Haynes-556-alloy-cold-rolled-solution-annealed-sheet-08-28-mm-thick.php

Physical Properties	Metric	English	Comments
Density	8.23 g/cc	0.297 lb/inÂ³	at RT

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	815 MPa	118000 psi	
	100 MPa @Temperature 1095 Â°C	14500 psi @Temperature 2003 Â°F	
	195 MPa @Temperature 980 Â°C	28300 psi @Temperature 1800 Â°F	
	330 MPa @Temperature 870 Â°C	47900 psi @Temperature 1600 Â°F	
	470 MPa @Temperature 760 Â°C	68200 psi @Temperature 1400 Â°F	
	590 MPa @Temperature 650 Â°C	85600 psi @Temperature 1200 Â°F	
	645 MPa @Temperature 540 Â°C	93500 psi @Temperature 1000 Â°F	
	410 MPa	59500 psi	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield @Strain 0.200 %	@Strain 0.200 %	@Strain 0.200 %	
	55.0 MPa @Strain 0.200 %, Temperature 1095 Â°C	7980 psi @Strain 0.200 %, Temperature 2003 Â°F	
	105 MPa @Strain 0.200 %, Temperature 980 Â°C	15200 psi @Strain 0.200 %, Temperature 1800 Â°F	
	195 MPa @Strain 0.200 %, Temperature 870 Â°C	28300 psi @Strain 0.200 %, Temperature 1600 Â°F	
	220 MPa @Strain 0.200 %, Temperature 760 Â°C	31900 psi @Strain 0.200 %, Temperature 1400 Â°F	
	225 MPa @Strain 0.200 %, Temperature 650 Â°C	32600 psi @Strain 0.200 %, Temperature 1200 Â°F	
	240 MPa @Strain 0.200 %, Temperature 540 Â°C	34800 psi @Strain 0.200 %, Temperature 1000 Â°F	
Elongation at Break	47.7 %	47.7 %	in 50.8 mm
	49.1 % @Temperature 760 Â°C	49.1 % @Temperature 1400 Â°F	in 50.8 mm
	52.4 % @Temperature 650 Â°C	52.4 % @Temperature 1200 Â°F	in 50.8 mm
	52.6 % @Temperature 870 Â°C	52.6 % @Temperature 1600 Â°F	in 50.8 mm
	54.4 % @Temperature 540 Â°C	54.4 % @Temperature 1000 Â°F	in 50.8 mm
	55.4 % @Temperature 1095 Â°C	55.4 % @Temperature 2003 Â°F	in 50.8 mm
	63.3 %	63.3 % @Temperature 1800	in 50.8 mm

Mechanical Properties	Metric	English	Comments
	@Temperature 980 Â°C	Â°F	
Modulus of Elasticity	205 GPa	29700 ksi	RT
	138 GPa @Temperature 1000 Â°C	20000 ksi @Temperature 1830 Â°F	
	143 GPa @Temperature 900 Â°C	20700 ksi @Temperature 1650 Â°F	
	148 GPa @Temperature 800 Â°C	21500 ksi @Temperature 1470 Â°F	
	155 GPa @Temperature 700 Â°C	22500 ksi @Temperature 1290 Â°F	
	164 GPa @Temperature 600 Â°C	23800 ksi @Temperature 1110 Â°F	
	172 GPa @Temperature 500 Â°C	24900 ksi @Temperature 932 Â°F	
	179 GPa @Temperature 400 Â°C	26000 ksi @Temperature 752 Â°F	
	187 GPa @Temperature 300 Â°C	27100 ksi @Temperature 572 Â°F	
	195 GPa @Temperature 200 Â°C	28300 ksi @Temperature 392 Â°F	
	200 GPa @Temperature 100 Â°C	29000 ksi @Temperature 212 Â°F	
Charpy Impact	240 J	177 ft-lb	Samples did not break. Average of 4 or more tests.

Thermal Properties	Metric	English	Comments
CTE, linear	14.7 Âµm/m-Â°C @Temperature 25.0 - 100 Â°C	8.17 Âµin/in-Â°F @Temperature 77.0 - 212 Â°F	
	14.9 Âµm/m-Â°C	8.28 Âµin/in-Â°F	

Thermal Properties	Metric	English	Comments
	@Temperature 25.0 - 200 Â°C	@Temperature 77.0 - 392 Â°F	
	15.1 Âµm/m-Â°C @Temperature 25.0 - 300 Â°C	8.39 Âµin/in-Â°F @Temperature 77.0 - 572 Â°F	
	15.4 Âµm/m-Â°C @Temperature 25.0 - 400 Â°C	8.56 Âµin/in-Â°F @Temperature 77.0 - 752 Â°F	
	15.7 Âµm/m-Â°C @Temperature 25.0 - 500 Â°C	8.72 Âµin/in-Â°F @Temperature 77.0 - 932 Â°F	
	16.1 Âµm/m-Â°C @Temperature 25.0 - 600 Â°C	8.94 Âµin/in-Â°F @Temperature 77.0 - 1110 Â°F	
	16.4 Âµm/m-Â°C @Temperature 25.0 - 700 Â°C	9.11 Âµin/in-Â°F @Temperature 77.0 - 1290 Â°F	
	16.7 Âµm/m-Â°C @Temperature 25.0 - 800 Â°C	9.28 Âµin/in-Â°F @Temperature 77.0 - 1470 Â°F	
	17.0 Âµm/m-Â°C @Temperature 25.0 - 900 Â°C	9.44 Âµin/in-Â°F @Temperature 77.0 - 1650 Â°F	
	17.1 Âµm/m-Â°C @Temperature 25.0 - 1000 Â°C	9.50 Âµin/in-Â°F @Temperature 77.0 - 1830 Â°F	
Specific Heat Capacity	0.464 J/g-Â°C	0.111 BTU/lb-Â°F	RT
	0.475 J/g-Â°C @Temperature 100 Â°C	0.114 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	
	0.508 J/g-Â°C @Temperature 300 Â°C	0.121 BTU/lb-Â°F @Temperature 572 Â°F	
	0.523 J/g-Â°C @Temperature 400 Â°C	0.125 BTU/lb-Â°F @Temperature 752 Â°F	

Thermal Properties	Metric	English	Comments
	0.538 J/g-Â°C	0.129 BTU/lb-Â°F	
	@Temperature 500 Â°C	@Temperature 932 Â°F	
	0.552 J/g-Â°C @Temperature 600 Â°C	0.132 BTU/lb-Â°F @Temperature 1110 Â°F	
	0.561 J/g-Â°C @Temperature 700 Â°C	0.134 BTU/lb-Â°F @Temperature 1290 Â°F	
	0.570 J/g-Â°C @Temperature 800 Â°C	0.136 BTU/lb-Â°F @Temperature 1470 Â°F	
	0.595 J/g-Â°C @Temperature 900 Â°C	0.142 BTU/lb-Â°F @Temperature 1650 Â°F	
	0.618 J/g-Â°C @Temperature 1000 Â°C	0.148 BTU/lb-Â°F @Temperature 1830 Â°F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000952 ohm-cm	0.0000952 ohm-cm	RT
	0.0000986 ohm-cm @Temperature 100 Â°C	0.0000986 ohm-cm @Temperature 212 Â°F	
	0.0001026 ohm-cm @Temperature 200 Â°C	0.0001026 ohm-cm @Temperature 392 Â°F	
	0.0001065 ohm-cm @Temperature 300 Â°C	0.0001065 ohm-cm @Temperature 572 Â°F	
	0.0001095 ohm-cm @Temperature 400 Â°C	0.0001095 ohm-cm @Temperature 752 Â°F	
	0.0001125 ohm-cm @Temperature 500 Â°C	0.0001125 ohm-cm @Temperature 932 Â°F	
	0.0001151 ohm-cm @Temperature 600 Â°C	0.0001151 ohm-cm @Temperature 1110 Â°F	
	0.0001172 ohm-cm @Temperature 700 Â°C	0.0001172 ohm-cm @Temperature 1290	

Electrical Properties	Metric	English	Comments
	0.000119 ohm-cm @Temperature 800 Â°C	0.000119 ohm-cm @Temperature 1470 Â°F	
	0.0001207 ohm-cm @Temperature 900 Â°C	0.0001207 ohm-cm @Temperature 1650 Â°F	
	0.0001223 ohm-cm @Temperature 1000 Â°C	0.0001223 ohm-cm @Temperature 1830 Â°F	
	0.0001237 ohm-cm @Temperature 1100 Â°C	0.0001237 ohm-cm @Temperature 2010 Â°F	

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