

Haynes 625 alloy, cold rolled and 1050Â°C mill-annealed sheet

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

Cb and Ta content 3.7% combined. Excellent strength up to 816Â°C, good oxidation resistance and aqueous corrosion, excellent forming and welding characteristics. Applications include a variety of high-temperature aerospace, chemical process industry and power industry uses. Widely used in sea water and power plant scrubber applications. Data provided by the manufacturer, Haynes International, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Haynes-625-alloy-cold-rolled-and-1050C-mill-annealed-sheet.php

Physical Properties	Metric	English	Comments
Density	8.44 g/cc	0.305 lb/inÂ³	at RT

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	905 MPa	131000 psi	
	95.0 MPa	13800 psi	
	@Temperature 1095 Â°C	@Temperature 2003 Â°F	
	165 MPa	23900 psi	
	@Temperature 980 Â°C	@Temperature 1800 Â°F	
	345 MPa	50000 psi	
	@Temperature 870 Â°C	@Temperature 1600 Â°F	
	600 MPa	87000 psi	
@Temperature 760 Â°C	@Temperature 1400 Â°F		
760 MPa	110000 psi		
@Temperature 650 Â°C	@Temperature 1200 Â°F		
770 MPa	112000 psi		
@Temperature 540 Â°C	@Temperature 1000 Â°F		
Tensile Strength, Yield	490 MPa	71100 psi	
	@Strain 0.200 %	@Strain 0.200 %	
	39.0 MPa	5660 psi	
	@Strain 0.200 %, Temperature 1095 Â°C	@Strain 0.200 %, Temperature 2003 Â°F	

Mechanical Properties	Metric	English	Comments
	@Strain 0.200 %, Temperature 980 Å°C	@Strain 0.200 %, Temperature 1800 Å°F	
	205 MPa	29700 psi	
	@Strain 0.200 %, Temperature 870 Å°C	@Strain 0.200 %, Temperature 1600 Å°F	
	345 MPa	50000 psi	
	@Strain 0.200 %, Temperature 760 Å°C	@Strain 0.200 %, Temperature 1400 Å°F	
	370 MPa	53700 psi	
	@Strain 0.200 %, Temperature 540 Å°C	@Strain 0.200 %, Temperature 1000 Å°F	
	370 MPa	53700 psi	
	@Strain 0.200 %, Temperature 650 Å°C	@Strain 0.200 %, Temperature 1200 Å°F	
Elongation at Break	48.5 %	48.5 %	in 50.8 mm
	43.8 %	43.8 %	in 50.8 mm
	@Temperature 980 Å°C	@Temperature 1800 Å°F	
	44.7 %	44.7 %	in 50.8 mm
	@Temperature 1095 Å°C	@Temperature 2003 Å°F	
	45.9 %	45.9 %	in 50.8 mm
	@Temperature 870 Å°C	@Temperature 1600 Å°F	
	53.1 %	53.1 %	in 50.8 mm
	@Temperature 760 Å°C	@Temperature 1400 Å°F	
	54 %	54 %	in 50.8 mm
	@Temperature 540 Å°C	@Temperature 1000 Å°F	
	55.6 %	55.6 %	in 50.8 mm
	@Temperature 650 Å°C	@Temperature 1200 Å°F	
Modulus of Elasticity	208 GPa	30200 ksi	RT
	126 GPa	18300 ksi	

Mechanical Properties	@Temperature 1000 Metric °C	@Temperature 1830 English °F	Comments
	142 GPa @Temperature 900 °C	20600 ksi @Temperature 1650 °F	
	153 GPa @Temperature 800 °C	22200 ksi @Temperature 1470 °F	
	163 GPa @Temperature 700 °C	23600 ksi @Temperature 1290 °F	
	171 GPa @Temperature 600 °C	24800 ksi @Temperature 1110 °F	
	179 GPa @Temperature 500 °C	26000 ksi @Temperature 932 °F	
	186 GPa @Temperature 400 °C	27000 ksi @Temperature 752 °F	
	192 GPa @Temperature 300 °C	27800 ksi @Temperature 572 °F	
	199 GPa @Temperature 200 °C	28900 ksi @Temperature 392 °F	
	201 GPa @Temperature 100 °C	29200 ksi @Temperature 212 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	12.8 µm/m-°C @Temperature 25.0 - 100 °C	7.11 µin/in-°F @Temperature 77.0 - 212 °F	
	13.1 µm/m-°C @Temperature 25.0 - 200 °C	7.28 µin/in-°F @Temperature 77.0 - 392 °F	
	13.4 µm/m-°C @Temperature 25.0 - 300 °C	7.44 µin/in-°F @Temperature 77.0 - 572 °F	
	13.8 µm/m-°C	7.67 µin/in-°F	

Thermal Properties	Metric	English	Comments
	@ Temperature 25.0 - 400 Â°C	@ Temperature 77.0 - 752 Â°F	
	14.2 Âµm/m-Â°C	7.89 Âµin/in-Â°F	
	@ Temperature 25.0 - 500 Â°C	@ Temperature 77.0 - 932 Â°F	
	14.8 Âµm/m-Â°C	8.22 Âµin/in-Â°F	
	@ Temperature 25.0 - 600 Â°C	@ Temperature 77.0 - 1110 Â°F	
	15.4 Âµm/m-Â°C	8.56 Âµin/in-Â°F	
	@ Temperature 25.0 - 700 Â°C	@ Temperature 77.0 - 1290 Â°F	
	16.0 Âµm/m-Â°C	8.89 Âµin/in-Â°F	
	@ Temperature 25.0 - 800 Â°C	@ Temperature 77.0 - 1470 Â°F	
	16.7 Âµm/m-Â°C	9.28 Âµin/in-Â°F	
	@ Temperature 25.0 - 900 Â°C	@ Temperature 77.0 - 1650 Â°F	
	17.4 Âµm/m-Â°C	9.67 Âµin/in-Â°F	
	@ Temperature 25.0 - 1000 Â°C	@ Temperature 77.0 - 1830 Â°F	
Specific Heat Capacity	0.410 J/g-Â°C	0.0980 BTU/lb-Â°F	RT
	0.428 J/g-Â°C	0.102 BTU/lb-Â°F	
	@ Temperature 100 Â°C	@ Temperature 212 Â°F	
	0.455 J/g-Â°C	0.109 BTU/lb-Â°F	
	@ Temperature 200 Â°C	@ Temperature 392 Â°F	
	0.477 J/g-Â°C	0.114 BTU/lb-Â°F	
	@ Temperature 300 Â°C	@ Temperature 572 Â°F	
	0.503 J/g-Â°C	0.120 BTU/lb-Â°F	
	@ Temperature 400 Â°C	@ Temperature 752 Â°F	
	0.527 J/g-Â°C	0.126 BTU/lb-Â°F	
	@ Temperature 500 Â°C	@ Temperature 932 Â°F	
	0.552 J/g-Â°C	0.132 BTU/lb-Â°F	
	@ Temperature 600 Â°C	@ Temperature 1110 Â°F	
	0.576 J/g-Â°C	0.138 BTU/lb-Â°F	

Thermal Properties	Metric	English	Comments
	@Temperature 700 Å°C	@Temperature 1290 Å°F	
	0.600 J/g-Å°C	0.143 BTU/lb-Å°F	
	@Temperature 800 Å°C	@Temperature 1470 Å°F	
	0.625 J/g-Å°C	0.149 BTU/lb-Å°F	
	@Temperature 900 Å°C	@Temperature 1650 Å°F	
	0.648 J/g-Å°C	0.155 BTU/lb-Å°F	
	@Temperature 1000 Å°C	@Temperature 1830 Å°F	
Thermal Conductivity	9.80 W/m-K	68.0 BTU-in/hr-ftÅ²-Å°F	RT
	10.9 W/m-K	75.6 BTU-in/hr-ftÅ²-Å°F	
	@Temperature 100 Å°C	@Temperature 212 Å°F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.000129 ohm-cm	0.000129 ohm-cm	RT
	0.000132 ohm-cm	0.000132 ohm-cm	
	@Temperature 100 Å°C	@Temperature 212 Å°F	
	0.000134 ohm-cm	0.000134 ohm-cm	
	@Temperature 200 Å°C	@Temperature 392 Å°F	
	0.000135 ohm-cm	0.000135 ohm-cm	
	@Temperature 300 Å°C	@Temperature 572 Å°F	
	0.000135 ohm-cm	0.000135 ohm-cm	
	@Temperature 1000 Å°C	@Temperature 1830 Å°F	
	0.000136 ohm-cm	0.000136 ohm-cm	
	@Temperature 900 Å°C	@Temperature 1650 Å°F	
	0.000136 ohm-cm	0.000136 ohm-cm	
	@Temperature 400 Å°C	@Temperature 752 Å°F	
	0.000137 ohm-cm	0.000137 ohm-cm	
	@Temperature 500 Å°C	@Temperature 932 Å°F	

Electrical Properties	0.000137 ohm-cm Metric	0.000137 ohm-cm English	Comments
	@Temperature 800 Å°C	@Temperature 1470 Å°F	
	0.000138 ohm-cm	0.000138 ohm-cm	
	@Temperature 600 Å°C	@Temperature 1110 Å°F	
	0.000138 ohm-cm	0.000138 ohm-cm	
	@Temperature 700 Å°C	@Temperature 1290 Å°F	

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