

Haynes Waspaloy[®],ç alloy, sheet

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

Age-hardenable superalloy with very good strength at temperatures up 980[°]C (1800[°]F), can be cold-formed in the annealed condition, may also be hot formed at 1040[°]C (1900[°]F) and above, good resistance to gas turbine combustion gas environments at temperatures up to 870[°]C (1600[°]F). Widely used as a wrought material for forged and fabricated gas turbine and aerospace components. Data provided by the manufacturer, Haynes International, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Haynes-Waspaloy-alloy-sheet.php

Physical Properties	Metric	English	Comments
Density	8.20 g/cc	0.296 lb/in ³	at RT

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	1335 MPa	193600 psi	
	83.0 MPa	12000 psi	
	@Temperature 1095 [°] C	@Temperature 2003 [°] F	
	220 MPa	31900 psi	
	@Temperature 980 [°] C	@Temperature 1800 [°] F	
Tensile Strength, Yield	545 MPa	79000 psi	
	@Temperature 870 [°] C	@Temperature 1600 [°] F	
	970 MPa	141000 psi	
	@Temperature 760 [°] C	@Temperature 1400 [°] F	
	1195 MPa	173300 psi	
	@Temperature 650 [°] C	@Temperature 1200 [°] F	
	910 MPa	132000 psi	
	@Strain 0.200 %	@Strain 0.200 %	
	41.0 MPa	5950 psi	
	@Strain 0.200 %, Temperature 1095 [°] C	@Strain 0.200 %, Temperature 2003 [°] F	
	135 MPa	19600 psi	

Mechanical Properties	Metric @Strain 0.200 %, Temperature 980 Å°C	English @Strain 0.200 %, Temperature 1800 Å°F	Comments
	415 MPa @Strain 0.200 %, Temperature 870 Å°C	60200 psi @Strain 0.200 %, Temperature 1600 Å°F	
	770 MPa @Strain 0.200 %, Temperature 650 Å°C	112000 psi @Strain 0.200 %, Temperature 1200 Å°F	
	770 MPa @Strain 0.200 %, Temperature 760 Å°C	112000 psi @Strain 0.200 %, Temperature 1400 Å°F	
Elongation at Break	26.6 %	26.6 %	in 51 mm
	12 % @Temperature 760 Å°C	12 % @Temperature 1400 Å°F	in 51 mm
	12 % @Temperature 870 Å°C	12 % @Temperature 1600 Å°F	in 51 mm
	19.4 % @Temperature 980 Å°C	19.4 % @Temperature 1800 Å°F	in 51 mm
	20.8 % @Temperature 650 Å°C	20.8 % @Temperature 1200 Å°F	in 51 mm
	36.8 % @Temperature 1095 Å°C	36.8 % @Temperature 2003 Å°F	in 51 mm
Modulus of Elasticity	146 GPa @Temperature 1000 Å°C	21200 ksi @Temperature 1830 Å°F	
	155 GPa @Temperature 900 Å°C	22500 ksi @Temperature 1650 Å°F	
	164 GPa @Temperature 800 Å°C	23800 ksi @Temperature 1470 Å°F	
	172 GPa	24900 ksi @Temperature 1290	

Mechanical Properties	@Temperature 700 Â°C Metric	Â°F English	Comments
	180 GPa	26100 ksi	
	@Temperature 600 Â°C	@Temperature 1110 Â°F	
	192 GPa	27800 ksi	
	@Temperature 400 Â°C	@Temperature 752 Â°F	
	204 GPa	29600 ksi	
	@Temperature 200 Â°C	@Temperature 392 Â°F	
	213 GPa	30900 ksi	
	@Temperature 20.0 Â°C	@Temperature 68.0 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear	13.9 Âµm/m-Â°C	7.72 Âµin/in-Â°F	
	@Temperature 20.0 - 500 Â°C	@Temperature 68.0 - 932 Â°F	
	14.3 Âµm/m-Â°C	7.94 Âµin/in-Â°F	
	@Temperature 20.0 - 600 Â°C	@Temperature 68.0 - 1110 Â°F	
	14.8 Âµm/m-Â°C	8.22 Âµin/in-Â°F	
	@Temperature 20.0 - 700 Â°C	@Temperature 68.0 - 1290 Â°F	
	15.4 Âµm/m-Â°C	8.56 Âµin/in-Â°F	
@Temperature 20.0 - 800 Â°C	@Temperature 68.0 - 1470 Â°F		
16.4 Âµm/m-Â°C	9.11 Âµin/in-Â°F		
@Temperature 20.0 - 900 Â°C	@Temperature 68.0 - 1650 Â°F		
17.8 Âµm/m-Â°C	9.89 Âµin/in-Â°F		
@Temperature 20.0 - 1000 Â°C	@Temperature 68.0 - 1830 Â°F		
Thermal Conductivity	12.6 W/m-K	87.4 BTU-in/hr-ftÂ²- Â°F	
	@Temperature 200 Â°C	@Temperature 392 Â°F	
	15.7 W/m-K	109 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 400 Â°C	@Temperature 752 Â°F	

Thermal Properties	Metric	English	Comments
	@Temperature 600 Â°C	@Temperature 1110 Â°F	
	20.9 W/m-K	145 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 700 Â°C	@Temperature 1290 Â°F	
	22.7 W/m-K	158 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 800 Â°C	@Temperature 1470 Â°F	
	24.5 W/m-K	170 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 900 Â°C	@Temperature 1650 Â°F	
Melting Point	1330 - 1360 Â°C	2430 - 2480 Â°F	
Solidus	1330 Â°C	2430 Â°F	
Liquidus	1360 Â°C	2480 Â°F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	1.5 %	1.5 %	
Boron, B	0.0060 %	0.0060 %	
Carbon, C	0.080 %	0.080 %	
Chromium, Cr	19 %	19 %	
Cobalt, Co	13.5 %	13.5 %	
Iron, Fe	<= 2.0 %	<= 2.0 %	
Manganese, Mn	<= 0.10 %	<= 0.10 %	
Molybdenum, Mo	4.3 %	4.3 %	
Nickel, Ni	56 %	56 %	As Remainder
Silicon, Si	<= 0.15 %	<= 0.15 %	
Titanium, Ti	3.0 %	3.0 %	
Zirconium, Zr	0.050 %	0.050 %	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215, Fengxian District, Shanghai City, China