Haynes 25 alloy, vacuum investment castings, solution treated

Category : Metal , Nonferrous Metal , Cobalt Alloy , Superalloy

Material Notes:

Excellent high-temperature strength with good resistance to oxidizing environments up to 980Â°C for prolonged exposures and excellent resistance to sulfidation and excellent resistance to metal galling. Applications in the aerospace industry, including parts in military and commercial gas turbine engines.Data provided by the manufacturer, Haynes International, Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Haynes-25-alloy-vacuum-investment-castings-solution-treated.php

Physical Properties	Metric	English	Comments
Density	9.13 g/cc	0.330 lb/inÂ³	at RT

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	675 MPa	97900 psi	
	195 MPa @Temperature 980 Â°C	28300 psi @Temperature 1800 Â°F	
	295 MPa @Temperature 870 Â°C	42800 psi @Temperature 1600 Â°F	
	315 MPa @Temperature 760 Â°C	45700 psi @Temperature 1400 Â°F	
	510 MPa @Temperature 650 Â°C	74000 psi @Temperature 1200 Â°F	
	560 MPa @Temperature 425 Â°C	81200 psi @Temperature 797 Â°F	
Tensile Strength, Yield	415 MPa @Strain 0.200 %	60200 psi @Strain 0.200 %	
	160 MPa @Strain 0.200 %, Temperature 980 Â°C	23200 psi @Strain 0.200 %, Temperature 1800 Â°F	
	165 MPa @Strain 0.200 %, Temperature 870 Â°C	23900 psi @Strain 0.200 %, Temperature 1600 Â°F	

Mechanical Properties	Metric	English	Comments
	170 MPa @Strain 0.200 %, Temperature 760 Â°C	24700 psi @Strain 0.200 %, Temperature 1400 Â°F	
	185 MPa @Strain 0.200 %, Temperature 650 Â°C	26800 psi @Strain 0.200 %, Temperature 1200 Â°F	
	205 MPa @Strain 0.200 %, Temperature 425 Â°C	29700 psi @Strain 0.200 %, Temperature 797 Â°F	
Elongation at Break	25 %	25 %	in 5D
	24 % @Temperature 760 Â°C	24 % @Temperature 1400 Â°F	in 5D
	25 % @Temperature 870 Â°C	25 % @Temperature 1600 Â°F	in 5D
	25 % @Temperature 980 Â°C	25 % @Temperature 1800 Â°F	in 5D
	30 % @Temperature 650 Â°C	30 % @Temperature 1200 Â°F	in 5D
	42 % @Temperature 425 Â°C	42 % @Temperature 797 Â°F	in 5D
Reduction of Area	33 %	33 %	
	29 % @Temperature 760 Â°C	29 % @Temperature 1400 Â°F	
	31 % @Temperature 870 Â°C	31 % @Temperature 1600 Â°F	
	34 % @Temperature 980 Â°C	34 % @Temperature 1800 Â°F	
	34 % @Temperature 650 Â°C	34 % @Temperature 1200 Â°F	

Mechanical Properties	Metric	English	Comments
	@Temperature 425 Â°C	@Temperature 797 Â°F	
Modulus of Elasticity	225 GPa	32600 ksi	RT
	146 GPa @Temperature 1000 Â°C	21200 ksi @Temperature 1830 Â°F	
	154 GPa @Temperature 900 Â°C	22300 ksi @Temperature 1650 Â°F	
	163 GPa @Temperature 800 Â°C	23600 ksi @Temperature 1470 Â°F	
	174 GPa @Temperature 700 Â°C	25200 ksi @Temperature 1290 Â°F	
	181 GPa @Temperature 600 Â°C	26300 ksi @Temperature 1110 Â°F	
	188 GPa @Temperature 500 Â°C	27300 ksi @Temperature 932 Â°F	
	197 GPa @Temperature 400 Â°C	28600 ksi @Temperature 752 Â°F	
	204 GPa @Temperature 300 Â°C	29600 ksi @Temperature 572 Â°F	
	214 GPa @Temperature 200 Â°C	31000 ksi @Temperature 392 Â°F	
	222 GPa @Temperature 100 Â°C	32200 ksi @Temperature 212 Â°F	
Charpy Impact	262 J	193 ft-lb	
	144 J @Temperature 980 Â°C	106 ft-lb @Temperature 1800 Â°F	
	148 J @Temperature -196	109 ft-lb @Temperature -321	

Mechanical Properties	Â°C Metric	Â°F English	Comments
	163 J @Temperature 870 Â°C	120 ft-lb @Temperature 1600 Â°F	
	182 J @Temperature -138 Â°C	134 ft-lb @Temperature -216 Â°F	
	194 J @Temperature 760 Â°C	143 ft-lb @Temperature 1400 Â°F	
	212 J @Temperature -78.0 Â°C	156 ft-lb @Temperature -108 Â°F	
	230 J @Temperature 650 Â°C	170 ft-lb @Temperature 1200 Â°F	
	243 J @Temperature -29.0 Â°C	179 ft-lb @Temperature -20.2 Â°F	
	273 J @Temperature 540 Â°C	201 ft-lb @Temperature 1000 Â°F	
	297 J @Temperature 260 Â°C	219 ft-lb @Temperature 500 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear	12.3 Âµm/m-Â°C @Temperature 25.0 - 100 Â°C	6.83 Âµin/in-Â°F @Temperature 77.0 - 212 Â°F	
	12.9 Âµm/m-Â°C @Temperature 25.0 - 200 Â°C	7.17 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	
	14.3 Âµm/m-Â°C @Temperature 25.0 - 500 Â°C	7.94 Âµin/in-Â°F @Temperature 77.0 - 932 Â°F	

Thermal Properties	Metric	English	Comments
	14.5 Âµm/m-Â°C	8.06 Âµin/in-Â°F	
	@Temperature 25.0 - 400 Â°C	@Temperature 77.0 - 752 Â°F	
	14.6 Âµm/m-Â°C	8.11 Âµin/in-Â°F	
	@Temperature 25.0 - 600 Â°C	@Temperature 77.0 - 1110 Â°F	
	15.1 Âµm/m-Â°C	8.39 Âµin/in-Â°F	
	@Temperature 25.0 - 700 Â°C	@Temperature 77.0 - 1290 Â°F	
	15.8 Âµm/m-Â°C	8.78 Âµin/in-Â°F	
	@Temperature 25.0 - 800 Â°C	@Temperature 77.0 - 1470 Â°F	
	16.5 Âµm/m-Â°C	9.17 Âµin/in-Â°F	
	@Temperature 25.0 - 900 Â°C	@Temperature 77.0 - 1650 Â°F	
	17.0 Âµm/m-Â°C	9.44 Âµin/in-Â°F	
	@Temperature 25.0 - 1000 Â°C	@Temperature 77.0 - 1830 Â°F	
Thermal Conductivity	9.40 W/m-K	65.2 BTU-in/hr-ftÂ²-Â°F	RT
	10.9 W/m-K	75.6 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 100 Â°C	@Temperature 212 Â°F	
	12.9 W/m-K	89.5 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 200 Â°C	@Temperature 392 Â°F	
	14.8 W/m-K	103 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 300 Â°C	@Temperature 572 Â°F	
	16.8 W/m-K	117 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 400 Â°C	@Temperature 752 Â°F	
	18.7 W/m-K	130 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 500 Â°C	@Temperature 932 Â°F	
	20.7 W/m-K	144 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 600 Â°C	@Temperature 1110 Â°F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000886 ohm-cm	0.0000886 ohm-cm	RT
	0.0000950 ohm-cm @Temperature 1000 Â°C	0.0000950 ohm-cm @Temperature 1830 Â°F	
	0.0001011 ohm-cm @Temperature 900 Â°C	0.0001011 ohm-cm @Temperature 1650 Â°F	
	0.0001066 ohm-cm @Temperature 700 Â°C	0.0001066 ohm-cm @Temperature 1290 Â°F	
	0.0001078 ohm-cm @Temperature 800 Â°C	0.0001078 ohm-cm @Temperature 1470 Â°F	

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