

Haynes Hastelloy® alloy 188 12.7 mm plate weldments

Category : Metal , Nonferrous Metal , Nickel Alloy , Superalloy

Material Notes:

Solid solution-strengthened developed as a filler metal for welding of dissimilar alloys. Applications include excellent dissimilar welding characteristics in the gas turbine, aerospace, and chemical process industries. Data provided by the manufacturer, Haynes International, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Haynes-Hastelloy-alloy-188-127-mm-plate-weldments.php

Physical Properties	Metric	English	Comments
Density	9.00 g/cc	0.325 lb/in ³	at RT

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	885 MPa	128000 psi	
	400 MPa @Temperature 870 Â°C	58000 psi @Temperature 1600 Â°F	
Tensile Strength, Yield	505 MPa	73200 psi	
	350 MPa @Temperature 870 Â°C	50800 psi @Temperature 1600 Â°F	
Elongation at Break	20 %	20 %	Failures in weld.
	36 % @Temperature 870 Â°C	36 % @Temperature 1600 Â°F	Failures in weld.
Reduction of Area	30 %	30 %	Failures in weld.
	60 % @Temperature 870 Â°C	60 % @Temperature 1600 Â°F	Failures in weld.

Thermal Properties	Metric	English	Comments
CTE, linear	13.2 Âµm/m-Â°C	7.33 Âµin/in-Â°F	
	@Temperature 20.0 - 500 Â°C	@Temperature 68.0 - 932 Â°F	
	13.2 Âµm/m-Â°C	7.33 Âµin/in-Â°F	
	@Temperature 20.0 - 600 Â°C	@Temperature 68.0 - 1110 Â°F	

Thermal Properties	Metric	English	Comments
	12.5 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 - 700 $\text{Å}^\circ\text{C}$	7.50 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 - 1290 $\text{Å}^\circ\text{F}$	
	14.2 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 - 800 $\text{Å}^\circ\text{C}$	7.89 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 - 1470 $\text{Å}^\circ\text{F}$	
	14.8 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 - 900 $\text{Å}^\circ\text{C}$	8.22 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 - 1650 $\text{Å}^\circ\text{F}$	
	15.3 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 - 1000 $\text{Å}^\circ\text{C}$	8.50 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 - 1830 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	$\leq 0.12\%$	$\leq 0.12\%$	
Chromium, Cr	5.0 %	5.0 %	
Cobalt, Co	2.5 %	2.5 %	
Iron, Fe	6.0 %	6.0 %	
Manganese, Mn	$\leq 1.0\%$	$\leq 1.0\%$	
Molybdenum, Mo	24 %	24 %	
Nickel, Ni	63 %	63 %	
Silicon, Si	$\leq 1.0\%$	$\leq 1.0\%$	
Vanadium, V	$\leq 0.60\%$	$\leq 0.60\%$	

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