

AK Steel 15-5 PH® Precipitation Hardening Stainless Steel, Condition H 1150

Category : Metal , Ferrous Metal , Martensitic , Stainless Steel , Precipitation Hardening Stainless

Material Notes:

AK Steel 15-5 PH® provides high strength, good corrosion resistance, good mechanical properties at temperatures up to 600°F (316°C), and good toughness in both base metal and welds. Short-time, low-temperature heat treatments minimize distortion and scaling. AK Steel 15-5 PH® is the ferrite-free version of AK Steel 17-4 PH® Stainless Steel. Both alloys are widely used in the aerospace, chemical, petrochemical, food processing, paper and general metalworking industries. The material supplied from the mill is in Condition A. After fabrication eight standard heat treatments have been developed to provide a wide range of properties. Information provided by AK Steel

Order this product through the following link:

http://www.lookpolymers.com/polymer_AK-Steel-15-5-PH-Precipitation-Hardening-Stainless-Steel-Condition-H-1150.php

Physical Properties	Metric	English	Comments
Density	7.82 g/cc	0.283 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	36	36	Longitudinal
	36	36	Transverse
Tensile Strength, Ultimate	1035 MPa	150100 psi	Longitudinal
	1050 MPa	152000 psi	Transverse
Tensile Strength, Yield	967 MPa @Strain 0.200 %	140000 psi @Strain 0.200 %	Longitudinal
	1009 MPa @Strain 0.200 %	146300 psi @Strain 0.200 %	Transverse
Elongation at Break	13.1 %	13.1 %	in 2 inches, Transverse
	14.6 %	14.6 %	in 2 inches, Longitudinal

Thermal Properties	Metric	English	Comments
CTE, linear	11.9 µm/m-°C @Temperature 21.0 - 93.0 °C	6.61 µin/in-°F @Temperature 69.8 - 199 °F	
	13.0 µm/m-°C @Temperature <=427 °C	7.22 µin/in-°F @Temperature <=801 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.070 %	<= 0.070 %	
Chromium, Cr	14 - 15.5 %	14 - 15.5 %	
Copper, Cu	2.5 - 4.5 %	2.5 - 4.5 %	
Iron, Fe	71.91 - 79.85 %	71.91 - 79.85 %	As Remainder
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Nb + Ta	0.15 - 0.45 %	0.15 - 0.45 %	
Nickel, Ni	3.5 - 5.5 %	3.5 - 5.5 %	
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	

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