

AK Steel 17-4 PH® Precipitation Hardening Stainless Steel, Condition A

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

Material Notes:

AK Steel 17-4 PH® provides an outstanding combination of 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. This alloy is 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-17-4-PH-Precipitation-Hardening-Stainless-Steel-Condition-A.php

Physical Properties	Metric	English	Comments
Density	7.78 g/cc	0.281 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	35	35	
Tensile Strength, Ultimate	1103 MPa	160000 psi	
Tensile Strength, Yield	1000 MPa @Strain 0.200 %	145000 psi @Strain 0.200 %	
Elongation at Break	5.0 %	5.0 %	in 2 inches

Thermal Properties	Metric	English	Comments
CTE, linear	10.8 µm/m-°C	6.00 µin/in-°F	
	@Temperature 21.0 - 93.0 °C	@Temperature 69.8 - 199 °F	
Specific Heat Capacity	11.3 µm/m-°C	6.28 µin/in-°F	
	@Temperature <=427 °C	@Temperature <=801 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.070 %	<= 0.070 %	
Chromium, Cr	15 - 17.5 %	15 - 17.5 %	
Copper, Cu	3.0 - 5.0 %	3.0 - 5.0 %	
Iron, Fe	69.91 - 78.85 %	69.91 - 78.85 %	As Remainder

Component Elements Properties	Metric	English	Comments
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Nb + Ta	0.15 - 0.45 %	0.15 - 0.45 %	
Nickel, Ni	3.0 - 5.0 %	3.0 - 5.0 %	
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000980 ohm-cm	0.0000980 ohm-cm	

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