

AK Steel 17-4 PH® Precipitation Hardening Stainless Steel, Condition H 900

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-H-900.php

Physical Properties	Metric	English	Comments
Density	7.80 g/cc	0.282 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	45	45	
Tensile Strength, Ultimate	1448 MPa	210000 psi	
Tensile Strength, Yield	1379 MPa @Strain 0.200 %	200000 psi @Strain 0.200 %	
Elongation at Break	7.0 %	7.0 %	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	
	11.7 µm/m-°C	6.50 µin/in-°F	
	@Temperature <=427 °C	@Temperature <=801 °F	
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	
Thermal Conductivity	17.9 W/m-K	124 BTU-in/hr-ft ² -°F	
	@Temperature 149 °C	@Temperature 300 °F	
	22.6 W/m-K	157 BTU-in/hr-ft ² -°F	
	@Temperature 482 °C	@Temperature 900 °F	

Component Elements Properties	Metric	English	Comments
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Component Elements Properties	Metric	English	Comments
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
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	0.0000770 ohm-cm	0.0000770 ohm-cm	

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