

## AK Steel 316 Austenitic Stainless steel

Category : Metal , Ferrous Metal , Austenitic , Stainless Steel , T 300 Series Stainless Steel

### Material Notes:

AK Steel 316 contains molybdenum. This addition increases general corrosion resistance, improves resistance to pitting from chloride ion solutions, and provides increased strength at elevated temperatures. Information provided by AK Steel

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_AK-Steel-316-Austenitic-Stainless-steel.php](http://www.lookpolymers.com/polymer_AK-Steel-316-Austenitic-Stainless-steel.php)

Physical Properties	Metric	English	Comments
Density	7.99 g/cc	0.289 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	79	79	
Tensile Strength, Ultimate	579 MPa	84000 psi	
Tensile Strength, Yield	290 MPa @Strain 0.200 %	42100 psi @Strain 0.200 %	
Elongation at Break	50 %	50 %	in 2 inches
Modulus of Elasticity	193 GPa	28000 ksi	tension
Poissons Ratio	0.25	0.25	Calculated
Shear Modulus	77.0 GPa	11200 ksi	torsion

Thermal Properties	Metric	English	Comments
CTE, linear	16.0 $\mu\text{m}/\text{m}\cdot\text{C}$	8.89 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 0.000 - 100 $^{\circ}\text{C}$	@Temperature 32.0 - 212 $^{\circ}\text{F}$	
Specific Heat Capacity	19.9 $\mu\text{m}/\text{m}\cdot\text{C}$	11.1 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature <=871 $^{\circ}\text{C}$	@Temperature <=1600 $^{\circ}\text{F}$	
Thermal Conductivity	0.500 J/g- $^{\circ}\text{C}$	0.120 BTU/lb- $^{\circ}\text{F}$	
	@Temperature 0.000 - 100 $^{\circ}\text{C}$	@Temperature 32.0 - 212 $^{\circ}\text{F}$	
Thermal Conductivity	16.2 W/m-K	112 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$	
	@Temperature 100 $^{\circ}\text{C}$	@Temperature 212 $^{\circ}\text{F}$	
	21.4 W/m-K	149 BTU-in/hr-ft <sup>2</sup> - $^{\circ}\text{F}$	

Thermal Properties	@Temperature 500 °C Metric	@Temperature 932 °F English	Comments
Melting Point	1371 - 1399 °C	2500 - 2550 °F	
Solidus	1371 °C	2500 °F	
Liquidus	1399 °C	2550 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.080 %	<= 0.080 %	
Chromium, Cr	16 - 18 %	16 - 18 %	
Iron, Fe	61.995 - 72 %	61.995 - 72 %	As Remainder
Manganese, Mn	<= 2.0 %	<= 2.0 %	
Molybdenum, Mo	2.0 - 3.0 %	2.0 - 3.0 %	
Nickel, Ni	10 - 14 %	10 - 14 %	
Nitrogen, N	<= 0.010 %	<= 0.010 %	
Phosphorous, P	<= 0.045 %	<= 0.045 %	
Silicon, Si	<= 0.75 %	<= 0.75 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000740 ohm-cm	0.0000740 ohm-cm	
Magnetic Permeability	<= 1.02	<= 1.02	H = 200 Oersted, Annealed

## Contact Songhan Plastic Technology Co.,Ltd.

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