

AK Steel 410S Ferritic Stainless steel

Category : Metal , Ferrous Metal , Ferritic , Stainless Steel , T 400 Series Stainless Steel

Material Notes:

AK Steel 410S Stainless Steel is a non-hardening modification of Type 410. A small titanium addition minimizes austenite formation at high temperatures, thereby restricting the alloy's ability to harden. The result is a soft, ductile condition when the material is rapidly cooled from above the critical temperature. This non-hardening characteristic also retards formation of hardening cracks when the steel is welded. The alloy is completely ferritic in the annealed condition. AK Steel 410S is particularly useful for annealing boxes, quenching racks, oxidation-resistant partitions and other high temperature units. AK Steel 410S is Ferro-magnetic. Information provided by AK Steel

Order this product through the following link:

http://www.lookpolymers.com/polymer_AK-Steel-410S-Ferritic-Stainless-steel.php

Physical Properties	Metric	English	Comments
Density	7.73 g/cc	0.279 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	75	75	Annealed
Tensile Strength, Ultimate	448 MPa	65000 psi	Annealed
Tensile Strength, Yield	276 MPa @Strain 0.200 %	40000 psi @Strain 0.200 %	Annealed
Elongation at Break	25 %	25 %	in 2 inches, Annealed
Modulus of Elasticity	200 GPa	29000 ksi	
Izod Impact	42.0 J	31.0 ft-lb	V-Notch (Annealed)

Thermal Properties	Metric	English	Comments
CTE, linear	10.8 $\mu\text{m}/\text{m}\cdot\text{C}$	6.00 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
	13.5 $\mu\text{m}/\text{m}\cdot\text{C}$	7.50 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature <=649 °C	@Temperature <=1200 °F	
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	
	@Temperature 0.000 - 100 °C	@Temperature 32.0 - 212 °F	
Thermal Conductivity	26.9 W/m-K	187 BTU-in/hr-ft ² -°F	
	@Temperature 100 °C	@Temperature 212 °F	

Thermal Properties	Metric 1532 °C	English 2790 °F	Comments
Solidus	1482 °C	2700 °F	
Liquidus	1532 °C	2790 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.080 %	<= 0.080 %	
Chromium, Cr	11.5 - 14.5 %	11.5 - 14.5 %	
Iron, Fe	>= 83.15 %	>= 83.15 %	As Remainder
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	
Titanium, Ti	<= 0.20 %	<= 0.20 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000600 ohm-cm	0.0000600 ohm-cm	

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