

AK Steel 409 Ferritic Stainless steel

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

Material Notes:

AK Steel 409 Stainless Steels are especially useful for applications where oxidation or corrosion protection beyond the capacity of carbon steel and some coated steels is needed. Current applications include automotive and truck exhaust systems, including tubular manifolds; agricultural spreaders, gas turbine exhaust silencers, and heat exchangers. AK Steel 409 is also useful for "difficult-to-form" hardware such as fuel filters. Information provided by AK Steel

Order this product through the following link:

http://www.lookpolymers.com/polymer_AK-Steel-409-Ferritic-Stainless-steel.php

Physical Properties	Metric	English	Comments
Density	7.61 g/cc	0.275 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	66 - 72	66 - 72	Annealed Condition
	@Thickness 1.02 - 1.78 mm	@Thickness 0.0400 - 0.0700 in	
Tensile Strength, Ultimate	414 - 469 MPa	60000 - 68000 psi	Annealed Condition
	@Thickness 1.02 - 1.78 mm	@Thickness 0.0400 - 0.0700 in	
	6.20 MPa	899 psi	
	@Thickness 1.14 - 1.52 mm, Temperature 816 °C	@Thickness 0.0449 - 0.0598 in, Temperature 1500 °F	
	10.3 MPa	1490 psi	
	@Thickness 1.14 - 1.52 mm, Temperature 816 °C	@Thickness 0.0449 - 0.0598 in, Temperature 1500 °F	
	22.0 MPa	3190 psi	
	@Thickness 1.14 - 1.52 mm, Temperature 704 °C	@Thickness 0.0449 - 0.0598 in, Temperature 1300 °F	
	27.5 MPa	3990 psi	
	@Thickness 1.14 - 1.52 mm, Temperature 704 °C	@Thickness 0.0449 - 0.0598 in, Temperature 1300 °F	
Tensile Strength, Yield	241 - 283 MPa	35000 - 41000 psi	Annealed Condition
	@Strain 0.200 %, Thickness 1.02 - 1.78 mm	@Strain 0.200 %, Thickness 0.0400 - 0.0700 in	

Mechanical Properties	Metric	English	Comments
Elongation at Break	31 - 33 %	31 - 33 %	Annealed Condition (0.040 - 0.070)
Modulus of Elasticity	208 GPa	30200 ksi	
Fatigue Strength	10.0 MPa	1450 psi	
	@# of Cycles 1.00e+7 , Temperature 816 °C	@# of Cycles 1.00e+7 , Temperature 1500 °F	
	117 MPa	17000 psi	
	@# of Cycles 1.00e+7 , Temperature 593 °C	@# of Cycles 1.00e+7 , Temperature 1100 °F	
	324 MPa	47000 psi	
	@# of Cycles 1.00e+7	@# of Cycles 1.00e+7	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.020 %	<= 0.020 %	
Chromium, Cr	10.5 - 11.7 %	10.5 - 11.7 %	
Iron, Fe	>= 85.3 %	>= 85.3 %	As Remainder
Manganese, Mn	<= 0.75 %	<= 0.75 %	
Nickel, Ni	<= 0.50 %	<= 0.50 %	
Nitrogen, N	<= 0.020 %	<= 0.020 %	
Phosphorous, P	<= 0.040 %	<= 0.040 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Sulfur, S	<= 0.020 %	<= 0.020 %	
Titanium, Ti	0.15 - 0.50 %	0.15 - 0.50 %	

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

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