

AK Steel 441 Ferritic Stainless steel

Category : Metal , Ferrous Metal , Stainless Steel

Material Notes:

AK Steel 441 is a 17-18% by weight, chromium and columbium bearing ferritic stainless steel which provides good high-temperature strength (exceeding that of Types 409 and AK Steel 439 LT Stainless Steels) plus good corrosion resistance in many exhaust gas environments (equivalent to AK Steel 439 LT and 18 Cr-Cb Stainless Steels). Due to its finer, equiaxed grain structure, this alloy offers improved formability over standard AK Steel 18 Cr-Cb Stainless Steel. Information provided by AK Steel.

Order this product through the following link:

http://www.lookpolymers.com/polymer_AK-Steel-441-Ferritic-Stainless-steel.php

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell B	80	80	Annealed
Tensile Strength, Ultimate	489 MPa	70900 psi	Annealed
	30.3 MPa	4390 psi	
	@Temperature 871 °C	@Temperature 1600 °F	
	133 MPa	19300 psi	
	@Temperature 704 °C	@Temperature 1300 °F	
	351 MPa	50900 psi	
	@Temperature 593 °C	@Temperature 1100 °F	
	2.90 MPa	421 psi	
	@Temperature 871 °C	@Temperature 1600 °F	
Tensile Strength, Yield	14.4 MPa	2090 psi	
	@Temperature 704 °C	@Temperature 1300 °F	
	23.1 MPa	3350 psi	
	@Temperature 593 °C	@Temperature 1100 °F	
	326 MPa	47300 psi	
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	35.9 %	35.9 %	In 2", Annealed
Modulus of Rupture	0.0345 GPa	5.00 ksi	
	@Temperature 704 °C, Time 360000 sec	@Temperature 1300 °F, Time 100 hour	

Component Elements Properties	Metric	English	Comments
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Carbon, C Component Elements Properties	0.012 % Metric	0.012 % English	Comments
Chromium, Cr	18 %	18 %	
Iron, Fe	80.694 %	80.694 %	Balance
Manganese, Mn	0.30 %	0.30 %	
Niobium, Nb (Columbium, Cb)	0.45 %	0.45 %	
Phosphorous, P	0.023 %	0.023 %	
Silicon, Si	0.35 %	0.35 %	
Sulfur, S	0.0010 %	0.0010 %	
Titanium, Ti	0.17 %	0.17 %	

Descriptive Properties	Value	Comments
n Value (10% -Ult)	0.207	Annealed
Typical rm value	1.31	

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