

Latrobe Lescalloy® 410Cb High Strength Stainless Steel

Category : Metal , Ferrous Metal , Stainless Steel

Material Notes:

LESCALLOY 17-4 VAC-ARC steel is a precipitation hardening martensitic stainless steel. A wide range of mechanical properties is available via simple aging within a 900-1150°F (482-621°C) temperature range. Vacuum arc remelting provides low gas content, superior cleanliness and optimum transverse properties. Information Provided by Timken Latrobe Steel. Timken sold Latrobe in December 2006. They are now Latrobe Specialty Steels Co.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Latrobe-Lescalloy-410Cb-High-Strength-Stainless-Steel.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.75 g/cc	7.75 g/cc	
Density	7.75 g/cc	0.280 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	255	255	4 in. Test Specimen
	255	255	5.25 in. Test Specimen
Tensile Strength, Ultimate	848 MPa	123000 psi	5.25 in. Test Specimen
	855 MPa	124000 psi	4 in. Test Specimen
Tensile Strength, Yield	724 MPa	105000 psi	5.25 in. Test Specimen
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	731 MPa	106000 psi	4 in. Test Specimen
	@Strain 0.200 %	@Strain 0.200 %	
Reduction of Area	21 %	21 %	4 in. Test Specimen
	22 %	22 %	5.25 in. Test Specimen
Modulus of Elasticity	65 - 66 %	65 - 66 %	4 in. Test Specimen
	66 %	66 %	5.25 in. Test Specimen
Machinability	200 GPa	29000 ksi	Mild Steel
Charpy Impact	50 - 55 %	50 - 55 %	
	60.0 J	44.3 ft-lb	V-Notch; 5.25 in. Test Specimen
	98.0 J	72.3 ft-lb	V-Notch; 4 in. Test Specimen

Thermal Properties	Metric	English	Comments
CTE, linear	10.1 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	5.61 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 21.0 - 204 $\text{Å}^\circ\text{C}$	@Temperature 69.8 - 399 $\text{Å}^\circ\text{F}$	
	12.1 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	6.72 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 649 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 1200 $\text{Å}^\circ\text{F}$	
Specific Heat Capacity	0.460 J/g- $\text{Å}^\circ\text{C}$	0.110 BTU/lb- $\text{Å}^\circ\text{F}$	
	@Temperature 0.000 - 100 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 212 $\text{Å}^\circ\text{F}$	
Thermal Conductivity	25.0 W/m-K	174 BTU-in/hr-ft $\text{Å}^2\cdot\text{Å}^\circ\text{F}$	
	@Temperature 100 $\text{Å}^\circ\text{C}$	@Temperature 212 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.13 %	0.13 %	
Chromium, Cr	11.6 %	11.6 %	
Iron, Fe	86.79 %	86.79 %	
Manganese, Mn	0.50 %	0.50 %	
Nickel, Ni	0.60 %	0.60 %	
Niobium, Nb (Columbium, Cb)	0.080 %	0.080 %	
Silicon, Si	0.30 %	0.30 %	

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