

Latrobe MP159® Alloy

Category : Metal , Nonferrous Metal , Cobalt Alloy , Nickel Alloy

Material Notes:

MP159 is an alloy of the Multiphase family of alloys possessing the unique combination of ultra-high strength, ductility and corrosion resistance. Through work strengthening and aging, MP159 alloy exhibits ultimate tensile strength levels in excess of 265,000 psi while maintaining reduction of area values greater than 30%. Excellent strength and ductility are also evident at elevated temperatures up to 1100 - 1200 °F. MP159 alloy is produced by vacuum induction melting followed by VAC-ARC remelting to provide optimum control of chemistry and preferred ingot solidification. 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-MP159-Alloy.php

Physical Properties	Metric	English	Comments
Density	8.33 g/cc	0.301 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	848 MPa	123000 psi	Annealed 1052°C
	1590 MPa	230000 psi	Cold Worked 48%
Tensile Strength, Yield	400 MPa	58000 psi	Annealed 1052°C
	@Strain 0.200 %	@Strain 0.200 %	
Elongation at Break	1415 MPa	205200 psi	Cold Worked 48%
	@Strain 0.200 %	@Strain 0.200 %	
Reduction of Area	12 %	12 %	Cold Worked 48%
	60 %	60 %	Annealed 1052°C
Modulus of Elasticity	46 %	46 %	Cold Worked 48%
	69 %	69 %	Annealed 1052°C
Shear Modulus	208 GPa	30200 ksi	Annealed
	@Temperature 232 °C	@Temperature 450 °F	
Shear Modulus	75.8 GPa	11000 ksi	Annealed
	@Temperature 232 °C	@Temperature 450 °F	

Thermal Properties	Metric	English	Comments
	14.3 µm/m-°C	7.94 µin/in-°F	

CTE, linear Thermal Properties	Metric @Temperature 25.0 - 100 °C	English @Temperature 77.0 - 212 °F	Comments
	14.9 $\mu\text{m}/\text{m}\cdot\text{°C}$	8.28 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 25.0 - 500 °C	@Temperature 77.0 - 932 °F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	0.20 %	0.20 %	
Chromium, Cr	19 %	19 %	
Cobalt, Co	35.7 %	35.7 %	
Iron, Fe	9.0 %	9.0 %	
Molybdenum, Mo	7.0 %	7.0 %	
Nickel, Ni	25.5 %	25.5 %	
Niobium, Nb (Columbium, Cb)	0.60 %	0.60 %	
Titanium, Ti	3.0 %	3.0 %	

Electrical Properties	Metric	English	Comments
Magnetic Permeability	1.00265	1.00265	At 77K

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China