

Superior Die Set FORTAL[®] HP Aluminum Alloy

Category : Metal , Nonferrous Metal , Aluminum Alloy

Material Notes:

Description: FORTAL is a high strength, lightweight, easy to machine alloy, originally developed to be used in the aerospace industry. It can be found whenever a structure is highly solicited and doesn't require a very high ratio of resistance/mass. FORTAL offers machinability, high resistance to corrosion, and leads to increased productivity. FORTAL's modulus of elasticity is one third that of steel, and can absorb three times as much shock and vibration in its elastic phase. FORTAL is solution heat-treated, stabilized, artificially aged and stress relieved by stretching. Application: FORTAL is an ideal material for all types of products and tooling since it is stronger than 1020 steels. Information provided by Superior Die Set.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Superior-Die-Set-FORTAL-HP-Aluminum-Alloy.php

Physical Properties	Metric	English	Comments
Density	2.77 g/cc	0.100 lb/in ³	
Thickness	102000 - 202000 microns	4020 - 7950 mil	intermediate sizes also available

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	145	145	
	150	150	
Tensile Strength, Ultimate	510 MPa	74000 psi	
Tensile Strength, Yield	440 MPa	63800 psi	
Modulus of Elasticity	71.0 GPa	10300 ksi	
Shear Strength	331 MPa	48000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	23.00 $\mu\text{m/m-}^\circ\text{C}$	12.78 $\mu\text{in/in-}^\circ\text{F}$	
	@Temperature 20.0 - 100 $^\circ\text{C}$	@Temperature 68.0 - 212 $^\circ\text{F}$	
Specific Heat Capacity	0.958 J/g- $^\circ\text{C}$	0.229 BTU/lb- $^\circ\text{F}$	
Thermal Conductivity	160 W/m-K	1110 BTU-in/hr-ft ² - $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	90.07 %	90.07 %	

Component Elements Properties	Metric	English	Comments
Copper, Cu	1.6 %	1.6 %	
Magnesium, Mg	2.5 %	2.5 %	
Zinc, Zn	5.6 %	5.6 %	

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