

Kinetics MIM F1537 (ASTM F1537) HIP and Heat Treat

Category : Metal , Nonferrous Metal , Cobalt Alloy , Superalloy , Cobalt Base

Material Notes:

Most commonly used within the medical market on applications requiring these characteristics: Bio-compatibility Corrosion resistance

High strength Nonmagnetic Wear resistance. Information provided by Kinetics, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Kinetics-MIM-F1537-ASTM-F1537-HIP-and-Heat-Treat.php

Physical Properties	Metric	English	Comments
Density	8.25 g/cc	0.298 lb/in ³	Sintered (HIP)

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	32	32	
Tensile Strength, Ultimate	896 MPa	130000 psi	Annealed
	1000 MPa	145000 psi	Hot-Worked
	1100 MPa	160000 psi	Typical
Tensile Strength, Yield	517 MPa	75000 psi	Annealed
	586 MPa	85000 psi	Typical
	696 MPa	101000 psi	Hot-Worked
Elongation at Break	12 %	12 %	in 1 inch Hot-Worked
	20 %	20 %	in 1 inch Annealed
	27 %	27 %	in 1 inch Typical
Reduction of Area	23 %	23 %	
Charpy Impact, Unnotched	108 J	80.0 ft-lb	1/2 size bar

Component Elements Properties	Metric	English	Comments
Carbon, C	0.10 - 0.35 %	0.10 - 0.35 %	
Chromium, Cr	26 - 30 %	26 - 30 %	
Cobalt, Co	58.40 - 68.9 %	58.40 - 68.9 %	
Iron, Fe	<= 0.75 %	<= 0.75 %	by difference
Manganese, Mn	<= 1.0 %	<= 1.0 %	

Molybdenum, Mo	5.0 - 7.0 %	5.0 - 7.0 %	
Component Elements Properties	Metric	English	Comments
Nickel, Ni	<= 1.0 %	<= 1.0 %	
Nitrogen, N	<= 0.25 %	<= 0.25 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	

Descriptive Properties	Value	Comments
Surface Finish	40 Ra	

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