Kinetics MIM 4605 Low Alloy Steel (Quenched + Tempered)

Category : Metal , Ferrous Metal , Alloy Steel , Low Alloy Steel

Material Notes:

Low alloy steel, carbon, nickel, molybdenum. A multi-purpose, economical material that offers various strength, hardness, and wear resistance properties depending if it is heat treated and the heat treat process used. Magnetic. Can be plated or coated for corrosion resistance. Used by a very wide range of industries including, automotive, consumer product, firearms, power hand tools, structural, and applications where good strength, hardness and wear resistance is required.The as-sintered condition offers better elongation, but with lower hardness and strength. An austemper heat treat imparts some spring characteristics to the material, while increasing hardness, wear resistance, and impact strength over that of an as-sintered part. Case hardening offers very good surface hardness and wear resistance with improved impact strength over that of a quench & tempered or austempered part. A quench & temper heat treat is a typical and economical process that offers various strength and wear resistance properties depending upon the final hardness.Property values reported are typical for Kinetics' MIM products at a hardness of 47 HRC. Higher hardness and strength can be obtained routinely by varying quench and temper conditions.Metal Injection Molding General Notes: Fine metal powders (generally

Order this product through the following link:
http://www.lookpolymers.com/polymer_Kinetics-MIM-4605-Low-Alloy-Steel-Quenched-Tempered.php

Physical Properties	Metric	English	Comments
Density	7.60 g/cc	0.275 lb/inÂ³	Sintered

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	47	47	
Tensile Strength, Ultimate	1480 MPa	215000 psi	
Tensile Strength, Yield	1310 MPa	190000 psi	
Elongation at Break	2.0 %	2.0 %	in 1 inch
Reduction of Area	6.0 %	6.0 %	
Charpy Impact, Unnotched	39.3 J	29.0 ft-lb	1/2 size bar

Component Elements Properties	Metric	English	Comments
Carbon, C	0.40 - 0.60 %	0.40 - 0.60 %	
Iron, Fe	95.4 - 97.9 %	95.4 - 97.9 %	by difference
Molybdenum, Mo	0.20 - 0.50 %	0.20 - 0.50 %	
Nickel, Ni	1.5 - 2.5 %	1.5 - 2.5 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	

Descriptive Properties	Value	Comments
Surface Finish	40 Ra	

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