

Crucible Steel PM M2 Tool Steel

Category : Metal , Ferrous Metal , Tool Steel

Material Notes:

PM M2 is an improved quality tool steel compared to conventionally produced material. The powder metallurgy process results in a homogeneous microstructure exhibiting a uniform distribution of fine carbides with essentially no carbide segregation. PM M2 tools will have a finer grain size, much better toughness, and superior grindability in the heat treated condition compared to those made from conventional M2. The higher carbon content (1.00% vs. 0.85%) of PM M2 permits higher attainable hardness. It also offers improved hardenability and gives better heat treat response in larger tool sections. PM M2's other general characteristics and physical properties are similar to conventionally produced M2. Information provided by Crucible Specialty Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Crucible-Steel-PM-M2-Tool-Steel.php

Physical Properties	Metric	English	Comments
Density	8.14 g/cc	0.294 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	217 - 255	217 - 255	Annealed
Hardness, Rockwell C	63 - 65	63 - 65	
Modulus of Elasticity	207 GPa	30000 ksi	
Charpy Impact	35.0 J	25.8 ft-lb	Austenitizing Temperature- 1150°C; Tempering Temperature- 580°C
	37.0 J	27.3 ft-lb	Austenitizing Temperature- 1175°C; Tempering Temperature- 565°C
	41.0 J	30.2 ft-lb	Austenitizing Temperature- 1190°C; Tempering Temperature- 550°C

Thermal Properties	Metric	English	Comments
CTE, linear	11.5 µm/m-°C	6.39 µin/in-°F	
	@Temperature 20.0 - 260 °C	@Temperature 68.0 - 500 °F	
	12.1 µm/m-°C	6.72 µin/in-°F	
	@Temperature 20.0 - 540 °C	@Temperature 68.0 - 1000 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.0 %	1.0 %	
Chromium, Cr	4.15 %	4.15 %	

Component Elements Properties	Metric	English	Comments
Molybdenum, Mo	5.0 %	5.0 %	
Tungsten, W	6.4 %	6.4 %	
Vanadium, V	1.95 %	1.95 %	

Descriptive Properties	Value	Comments
Grindability; Metal Removed/Wheel Worn	6.5	

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