

Carpenter Micro-Melt® HS-76 Alloy (AISI M48)

Category : Metal , Ferrous Metal , Tool Steel

Material Notes:

Micro-Melt® HS-76 alloy is a super high speed steel possessing abrasion resistance equal to T15 and superior red hardness to T15 and M42. It is heat treatable to HRC 70 and is a good candidate for special purpose cutting tools where the ASTM M40 series high speed steels are inadequate. The advantages of Micro-Melt premium powder high speed steels include ease of grinding, response to heat treatment, more uniform structure, greater wear resistance and improved toughness. In addition, Carpenter's unique hot rolling and rotary forging capabilities impart minimal distortion characteristics to these alloys. Applications: Milling cutters, End mills, Cutting tool inserts, Extrusion die inserts, Lathe tools, Form tools, Broaches, Reamers, Cut-off tools. Information provided by Carpenter Technology Corporation. Micro-Melt® is a registered trademark of Carpenter Technology Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Carpenter-Micro-Melt-HS-76-Alloy-AISI-M48.php

Physical Properties	Metric	English	Comments
Specific Gravity	8.26 g/cc	8.26 g/cc	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	57 - 59	57 - 59	Tempered at 1200°F
	64 - 66	64 - 66	As quenched
Modulus of Elasticity	214 GPa	31000 ksi	

Thermal Properties	Metric	English	Comments
Transformation Temperature	99.0 °C	210 °F	M _S
	835 °C	1540 °F	A _{c1}

Component Elements Properties	Metric	English	Comments
Carbon, C	1.55 %	1.55 %	
Chromium, Cr	4.0 %	4.0 %	
Cobalt, Co	9.0 %	9.0 %	
Iron, Fe	66.44 - 66.5 %	66.44 - 66.5 %	As Balance
Manganese, Mn	0.20 %	0.20 %	
Molybdenum, Mo	5.25 %	5.25 %	
Phosphorous, P	<= 0.030 %	<= 0.030 %	

Component Elements Properties	Metric	English	Comments
Sulfur, S	<= 0.030 %	<= 0.030 %	
Tungsten, W	10 %	10 %	
Vanadium, V	3.1 %	3.1 %	

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