

Carpenter Micro-Melt® HS-30 Alloy

Category : Metal , Ferrous Metal , Tool Steel

Material Notes:

Micro-Melt® HS-30 alloy is an 8% cobalt, high hardenability tungsten-molybdenum alloyed high-speed steel exhibiting excellent hot hardness combined with good wear resistance and toughness. 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, gear cutting tools, lathe tools, punches and dies, form tools, broaches, reamers, cut-off tools, drills, taps. 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-30-Alloy.php

Physical Properties	Metric	English	Comments
Specific Gravity	8.23 g/cc	8.23 g/cc	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	58 - 60	58 - 60	Tempered at 1150°F
	64 - 66	64 - 66	As quenched
Modulus of Elasticity	207 GPa	30000 ksi	
Poissons Ratio	0.25	0.25	Calculated
Shear Modulus	82.8 GPa	12000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	11.88 µm/m-°C	6.600 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
Specific Heat Capacity	13.5 µm/m-°C	7.50 µin/in-°F	
	@Temperature 20.0 - 649 °C	@Temperature 68.0 - 1200 °F	
Transformation Temperature	216 °C	421 °F	M_S
	835 °C	1540 °F	Ac₁

Component Elements Properties	Metric	English	Comments
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Component Elements Properties	Metric	English	Comments
Chromium, Cr	4.2 %	4.2 %	
Cobalt, Co	8.5 %	8.5 %	
Iron, Fe	70.77 - 70.83 %	70.77 - 70.83 %	As Balance
Manganese, Mn	0.30 %	0.30 %	
Molybdenum, Mo	5.0 %	5.0 %	
Phosphorous, P	<= 0.030 %	<= 0.030 %	
Silicon, Si	0.55 %	0.55 %	
Sulfur, S	<= 0.030 %	<= 0.030 %	
Tungsten, W	6.25 %	6.25 %	
Vanadium, V	3.1 %	3.1 %	

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