

Bohler-Uddeholm BÖHLER S390 MICROCLEAN® High Speed Steel

Category : Metal , Ferrous Metal , Tool Steel

Material Notes:

Description: High speed steel produced by powder-metallurgy methods with highest red hardness, compressive strength and wear resistance. The PM technology imparts to the material also excellent toughness and machinability properties, e.g.. high satisfactory grindability. **Applications:** Heavy-duty machining tools-Not only for the machining of steels but also for nonferrous metals such as nickel-base and titanium alloy shaper cutters, shobsmilling cutters, broaching tools of all type, stapst, twist drills, chasing tools, reamers, bimetal strips for saw blades. Tools used under extreme compressive stresses-e.g... precision blanking tools for high-strength materials (shaping punches and dies)

Order this product through the following link:

http://www.lookpolymers.com/polymer_Bohler-Uddeholm-BHLER-S390-MICROCLEAN-High-Speed-Steel.php

Physical Properties	Metric	English	Comments
Density	8.10 g/cc	0.293 lb/in ³	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	231 GPa	33500 ksi	
Flexural Strength	3800 MPa	551000 psi	HRC 68.5
	4500 MPa	653000 psi	HRC 67.5
	4800 MPa	696000 psi	HRC 66

Thermal Properties	Metric	English	Comments
CTE, linear	10.0 µm/m-°C	5.56 µin/in-°F	
	@Temperature 100 °C	@Temperature 212 °F	
	10.5 µm/m-°C	5.83 µin/in-°F	
	@Temperature 200 °C	@Temperature 392 °F	
	10.8 µm/m-°C	6.00 µin/in-°F	
	@Temperature 300 °C	@Temperature 572 °F	
	11.2 µm/m-°C	6.22 µin/in-°F	
	@Temperature 400 °C	@Temperature 752 °F	
	11.3 µm/m-°C	6.28 µin/in-°F	
	@Temperature 500 °C	@Temperature 932 °F	
	11.4 µm/m-°C	6.33 µin/in-°F	
	@Temperature 600 °C	@Temperature 1110 °F	

Thermal Properties	Metric 11.8 μm/m-°C	English 6.54 μm/in-°F	Comments
	@Temperature 700 °C	@Temperature 1290 °F	
Specific Heat Capacity	0.418 J/g-°C	0.100 BTU/lb-°F	
Thermal Conductivity	17.0 W/m-K	118 BTU-in/hr-ft ² -°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.64 %	1.64 %	
Chromium, Cr	4.8 %	4.8 %	
Cobalt, Co	8.0 %	8.0 %	
Iron, Fe	67.46 %	67.46 %	As remainder
Manganese, Mn	0.30 %	0.30 %	
Molybdenum, Mo	2.0 %	2.0 %	
Silicon, Si	0.60 %	0.60 %	
Tungsten, W	10.4 %	10.4 %	
Vanadium, V	4.8 %	4.8 %	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000610 ohm-cm	0.0000610 ohm-cm	

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