

Bohler-Uddeholm POLMAX® 420 Modified - Stainless Mold Steel

Category : Metal , Ferrous Metal , Stainless Steel

Material Notes:

Polmax is an excellent choice for extreme surface finish requirements. This high performance grade achieves surface finishes that go well beyond conventional tool steels. Polmax is specifically engineered for cavities, cores and inserts, and a broad range of product applications that demand superior surface finish. Examples include optical, ultra clean medical applications and CD/DVD applications. POLMAX® is characterized by: Excellent polishability Good corrosion resistance Good wear resistance Good machinability Good stability in hardening

Order this product through the following link:

http://www.lookpolymers.com/polymer_Bohler-Uddeholm-POLMAX-420-Modified-Stainless-Mold-Steel.php

Physical Properties	Metric	English	Comments
Density	7.81 g/cc	0.282 lb/in ³	hardened to 52 HRC
	7.67 g/cc	0.277 lb/in ³	hardened to 52 HRC
	@Temperature 399 °C	@Temperature 750 °F	
	7.75 g/cc	0.280 lb/in ³	hardened to 52 HRC
	@Temperature 199 °C	@Temperature 390 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	200	200	Soft annealed (Delivery condition)
Hardness, Rockwell C	30 - 58	30 - 58	tempering temp 200 - 1200°F
Tensile Strength, Ultimate	2070 MPa	300000 psi	hardened to 52 HRC
Tensile Strength, Yield	1610 MPa	234000 psi	hardened to 52 HRC
	@Strain 0.200 %	@Strain 0.200 %	
Modulus of Elasticity	200 GPa	29000 ksi	(hardened to 52 HRC)
	180 GPa	26100 ksi	hardened to 52 HRC
	@Temperature 399 °C	@Temperature 750 °F	
	190 GPa	27600 ksi	hardened to 52 HRC
	@Temperature 199 °C	@Temperature 390 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 µm/m-°C	6.10 µin/in-°F	hardened to 52 HRC
	@Temperature 199 °C	@Temperature 390 °F	
	11.5 µm/m-°C	6.40 µin/in-°F	hardened to 52 HRC

Thermal Properties	@Temperature 399 °C Metric	@Temperature 750 °F English	Comments
Specific Heat Capacity	0.460 J/g-°C @Temperature 20.0 °C	0.110 BTU/lb-°F @Temperature 68.0 °F	hardened to 52 HRC
Thermal Conductivity	16.0 W/m-K @Temperature 20.0 °C	111 BTU-in/hr-ft ² -°F @Temperature 68.0 °F	hardened to 52 HRC
	20.0 W/m-K @Temperature 199 °C	139 BTU-in/hr-ft ² -°F @Temperature 390 °F	hardened to 52 HRC
	24.0 W/m-K @Temperature 399 °C	167 BTU-in/hr-ft ² -°F @Temperature 750 °F	hardened to 52 HRC

Component Elements Properties	Metric	English	Comments
Carbon, C	0.38 %	0.38 %	
Chromium, Cr	13.6 %	13.6 %	
Iron, Fe	84.3 %	84.3 %	as balance
Manganese, Mn	0.50 %	0.50 %	
Silicon, Si	0.90 %	0.90 %	
Vanadium, V	0.30 %	0.30 %	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China