

Bohler-Uddeholm BÖHLER M303 EXTRA Plastic Mold Steel

Category : Metal , Ferrous Metal , Tool Steel , Mold Steel

Material Notes:

BOHLER M303 EXTRA is a stainless martensitic chromium steel, offering excellent toughness, corrosion and wear resistance. It is characterized by improved machinability and polishability. BOHLER M303 EXTRA was developed for improved homogeneity over DIN 1.2316 by reducing delta ferrite in the matrix, ensuring excellent usage properties. Applications: Molds for chemically aggressive plastics, Molds for household appliances, Vinyl Extrusion tools, Molds for fittings

Order this product through the following link:

http://www.lookpolymers.com/polymer_Bohler-Uddeholm-BHLER-M303-EXTRA-Plastic-Mold-Steel.php

Physical Properties	Metric	English	Comments
Density	7.70 g/cc	0.278 lb/in ³	
	7.60 g/cc	0.275 lb/in ³	
	@Temperature 400 °C	@Temperature 752 °F	
	7.60 g/cc	0.275 lb/in ³	
	@Temperature 500 °C	@Temperature 932 °F	
	7.60 g/cc	0.275 lb/in ³	
	@Temperature 600 °C	@Temperature 1110 °F	
	7.70 g/cc	0.278 lb/in ³	
@Temperature 100 °C	@Temperature 212 °F		
7.70 g/cc	0.278 lb/in ³		
@Temperature 200 °C	@Temperature 392 °F		
7.70 g/cc	0.278 lb/in ³		
@Temperature 300 °C	@Temperature 572 °F		

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	290 - 330	290 - 330	as supplied; hardened and tempered
Hardness, Rockwell C	53	53	hardening at 1020°C; without tempering
Modulus of Elasticity	168 GPa	24400 ksi	
	@Temperature 600 °C	@Temperature 1110 °F	
	181 GPa	26300 ksi	
	@Temperature 500 °C	@Temperature 932 °F	
	191 GPa	27700 ksi	

Mechanical Properties	Metric @ Temperature 400 °C	English @ Temperature 752 °F	Comments
	200 GPa	29000 ksi	
	@Temperature 300 °C	@Temperature 572 °F	
	207 GPa	30000 ksi	
	@Temperature 200 °C	@Temperature 392 °F	
	214 GPa	31000 ksi	
	@Temperature 100 °C	@Temperature 212 °F	
	218 GPa	31600 ksi	
	@Temperature 20.0 °C	@Temperature 68.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	10.5 µm/m-°C	5.83 µin/in-°F	
	@Temperature 20.0 - 100 °C	@Temperature 68.0 - 212 °F	
	10.8 µm/m-°C	6.00 µin/in-°F	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	11.1 µm/m-°C	6.17 µin/in-°F	
	@Temperature 20.0 - 300 °C	@Temperature 68.0 - 572 °F	
	11.4 µm/m-°C	6.33 µin/in-°F	
@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F		
	11.7 µm/m-°C	6.50 µin/in-°F	
	@Temperature 20.0 - 500 °C	@Temperature 68.0 - 932 °F	
	12.1 µm/m-°C	6.72 µin/in-°F	
	@Temperature 20.0 - 600 °C	@Temperature 68.0 - 1110 °F	
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	0.484 J/g-°C	0.116 BTU/lb-°F	
	@Temperature 100 °C	@Temperature 212 °F	
	0.529 J/g-°C	0.126 BTU/lb-°F	

Thermal Properties	@Temperature 200 °C Metric	@Temperature 392 °F English	Comments
	0.564 J/g-°C	0.135 BTU/lb-°F	
	@Temperature 300 °C	@Temperature 572 °F	
	0.615 J/g-°C	0.147 BTU/lb-°F	
	@Temperature 400 °C	@Temperature 752 °F	
	0.694 J/g-°C	0.166 BTU/lb-°F	
	@Temperature 500 °C	@Temperature 932 °F	
	0.795 J/g-°C	0.190 BTU/lb-°F	
	@Temperature 600 °C	@Temperature 1110 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.27 %	0.27 %	
Chromium, Cr	14.5 %	14.5 %	
Iron, Fe	82.4 %	82.4 %	As Balance
Manganese, Mn	0.65 %	0.65 %	
Molybdenum, Mo	1.0 %	1.0 %	
Nickel, Ni	0.85 %	0.85 %	
Silicon, Si	0.30 %	0.30 %	

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