

Bohler-Uddeholm BÖHLER K294 MICROCLEAR AISI A11 Powder Metal Tool Steel

Category : Metal , Ferrous Metal , Tool Steel , Cold Work Steel

Material Notes:

Properties: Powder-metallurgical produced cold work tool steel with extremely high wear resistance, good toughness and high compressive strength. The latest generation of powder metal technology enables Bohler to manufacture a cleaner and finer powder than any other producer in the world today. The result is a significant increase in toughness and a more uniform carbide distribution. Applications: Punches and dies for blanking, piercing, cold heading and cold extrusions. Cold forming rolls. Knives for slitting, pelletizing and woodworking. Screws, nozzles and barrel liners for plastics compounding and injection moulding. Powder metal compaction tooling.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Bohler-Uddeholm-BHLER-K294-MICROCLEAR-AISI-A11-Powder-Metal-Tool-Steel.php

Physical Properties	Metric	English	Comments
Density	7.418 g/cc	0.2680 lb/in ³	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	221 GPa	32100 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	10.7 $\mu\text{m}/\text{m}\cdot\text{C}$	5.94 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 20.0 - 93.0 $^{\circ}\text{C}$	@Temperature 68.0 - 199 $^{\circ}\text{F}$	
	11.1 $\mu\text{m}/\text{m}\cdot\text{C}$	6.17 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 20.0 - 260 $^{\circ}\text{C}$	@Temperature 68.0 - 500 $^{\circ}\text{F}$	
	11.8 $\mu\text{m}/\text{m}\cdot\text{C}$	6.56 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 20.0 - 427 $^{\circ}\text{C}$	@Temperature 68.0 - 801 $^{\circ}\text{F}$	
	12.3 $\mu\text{m}/\text{m}\cdot\text{C}$	6.83 $\mu\text{in}/\text{in}\cdot\text{F}$	
	@Temperature 20.0 - 593 $^{\circ}\text{C}$	@Temperature 68.0 - 1100 $^{\circ}\text{F}$	
Specific Heat Capacity	0.460 J/g- $^{\circ}\text{C}$	0.110 BTU/lb- $^{\circ}\text{F}$	
Thermal Conductivity	20.39 W/m-K	141.5 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
	21.54 W/m-K	149.5 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
	@Temperature 100 $^{\circ}\text{C}$	@Temperature 212 $^{\circ}\text{F}$	

Thermal Properties	Metric	English	Comments
	@Temperature 300 °C	@Temperature 572 °F	
	26.3 W/m-K	183 BTU-in/hr-ft ² -°F	
	@Temperature 500 °C	@Temperature 932 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	2.45 %	2.45 %	
Chromium, Cr	5.2 %	5.2 %	
Iron, Fe	79.95 %	79.95 %	As Balance
Manganese, Mn	0.50 %	0.50 %	
Molybdenum, Mo	1.3 %	1.3 %	
Silicon, Si	0.90 %	0.90 %	
Vanadium, V	9.7 %	9.7 %	

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