Schmolz + Bickenbach Cryodur® 2363 (A-2) Cold Work Die Steel

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

Material Notes:

Description: Cryodur® 2363 is a cold-work steel developed for an excellent combination of wear resistance and toughness and Supplied in the annealed conditionCharacteristics: Good wear resistance; Good toughness; High compressive strength; and Good stability after heat treatmentApplications: Forming Rolls, Cold stamping tools, Inserts for processing abrasive plastics, Coining die, Guide rails, and Trim dieStress Relieving (Heat Treatment): 1200°F-1290°F; Cooling: Hold time 2 hours. slowly cool to 930°F, then air coolHardening (Heat Treatment): 1700°F-1780°F Hold at temperature for 30 minutes; Cooling: Furnace quench to 350°F, air cool to 120°F, immediately temper; Hardness:

Order this product through the following link:
http://www.lookpolymers.com/polymer_Schmolz-Bickenbach-Cryodur-2363-A-2-Cold-Work-Die-Steel.php

Physical Properties	Metric	English	Comments
Density	7.72 g/cc	0.279 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	52 @Treatment Temp. 600.0 °C, Time 7200 sec	52 @Treatment Temp. 1112 °F, Time 2.00 hour	
	57 @Treatment Temp. 400 °C, Time 7200 sec	57 @Treatment Temp. 752 °F, Time 2.00 hour	
	59 @Treatment Temp. 300 °C, Time 7200 sec	59 @Treatment Temp. 572 °F, Time 2.00 hour	
	59 @Treatment Temp. 500 °C, Time 7200 sec	59 @Treatment Temp. 932 °F, Time 2.00 hour	
	62 @Treatment Temp. 200 °C, Time 7200 sec	62 @Treatment Temp. 392 °F, Time 2.00 hour	
	63 @Treatment Temp. 100 °C, Time 7200 sec	63 @Treatment Temp. 212 °F, Time 2.00 hour	

Mechanical Properties	Metric	English	Comments
Compressive Strength	1790 MPa	260000 psi	55 HRC
	2140 MPa	310000 psi	60 HRC
	2210 MPa	320000 psi	62 HRC

Thermal Properties	Metric	English	Comments
CTE, linear	11.7 µm/m-°C @Temperature 21.1 - 204 °C	6.50 µin/in-°F @Temperature 70.0 - 400 °F	
Thermal Conductivity	15.9 W/m-K @Temperature 20.0 °C	110 BTU-in/hr-ft²-°F @Temperature 68.0 °F	
	26.7 W/m-K @Temperature 343 °C	185 BTU-in/hr-ft²-°F @Temperature 650 °F	
	29.1 W/m-K @Temperature 704 °C	202 BTU-in/hr-ft²-°F @Temperature 1300 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.0 %	1.0 %	
Chromium, Cr	5.0 %	5.0 %	
Iron, Fe	92.05 %	92.05 %	
Manganese, Mn	0.50 %	0.50 %	
Molybdenum, Mo	0.95 %	0.95 %	
Silicon, Si	0.30 %	0.30 %	
Vanadium, V	0.20 %	0.20 %	

Processing Properties	Metric	English	Comments
Annealing Temperature	801.7 - 849 °C	1475 - 1560 °F	Soft; Cooling: Furnace 20°F/hour to 1200°F/ Then air cool; < 231 HB

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