

Schmolz + Bickenbach Cryodur® 2510 (O-1) Cold Work Die Steel

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

Material Notes:

Description: Cryodur ® 2510 is a single melt Extra Fine Structure (EFS) material; and Supplied in the soft annealed

conditionCharacteristics: Excellent dimensional stability during heat treatment; Excellent hardenability; Good toughness; and Good

compressive strengthApplications: Blanking and Stamping Dies, Piercing and Punching Dies, Trim Die, Shear Blades and Plastic

MoldHardening (Heat Treatment): 1436°F-1508°F hold at temperature for 30 minutes; Cooling: Oil or salt bath, 500-550°C; Hardness:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Schmolz-Bickenbach-Cryodur-2510-O-1-Cold-Work-Die-Steel.php

Physical Properties	Metric	English	Comments
Density	7.81 g/cc	0.282 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	53	53	
	@Treatment Temp. 400 °C, Time 7200 sec	@Treatment Temp. 752 °F, Time 2.00 hour	
	57	57	
	@Treatment Temp. 300 °C, Time 7200 sec	@Treatment Temp. 572 °F, Time 2.00 hour	
Compressive Strength	62	62	
	@Treatment Temp. 200 °C, Time 7200 sec	@Treatment Temp. 392 °F, Time 2.00 hour	
	64	64	
	@Treatment Temp. 100 °C, Time 7200 sec	@Treatment Temp. 212 °F, Time 2.00 hour	
	1340 MPa	195000 psi	55 HRC
	2140 MPa	310000 psi	60 HRC
	2210 MPa	320000 psi	62 HRC

Thermal Properties	Metric	English	Comments
CTE, linear	11.3 µm/m-°C	6.30 µin/in-°F	
	@Temperature 21.1 - 302 °C	@Temperature 70.0 - 575 °F	

Thermal Properties	Metric	English	Comments
	@Temperature 21.1 - 204 °C	@Temperature 70.0 - 400 °F	
Thermal Conductivity	30.8 W/m-K	214 BTU-in/hr-ft ² -°F	
	@Temperature 704 °C	@Temperature 1300 °F	
	32.0 W/m-K	222 BTU-in/hr-ft ² -°F	
	@Temperature 343 °C	@Temperature 650 °F	
	33.4 W/m-K	232 BTU-in/hr-ft ² -°F	
	@Temperature 10.0 °C	@Temperature 50.0 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.95 %	0.95 %	
Chromium, Cr	0.60 %	0.60 %	
Iron, Fe	96.45 %	96.45 %	
Manganese, Mn	1.1 %	1.1 %	
Silicon, Si	0.20 %	0.20 %	
Tungsten, W	0.60 %	0.60 %	
Vanadium, V	0.10 %	0.10 %	

Processing Properties	Metric	English	Comments
Annealing Temperature	740.6 - 770.0 °C	1365 - 1418 °F	Soft; Cooling: Furnace; < 230 HB

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