

Crucible Steel CPM® 4V® Tool Steel

Category: Metal, Ferrous Metal, Tool Steel

Material Notes:

CPM 4V is a powder metal tool steel with an outstanding combination of properties including high impact toughness and very good wear resistance. CPM 4V should be considered for service in fine blanking, powder compaction tools, for processing high-strength low-alloy (HSLA) steels, advanced high-strength steels (AHSS) and applications where a combination of strength, wear resistance and toughness is required. CPM 4V should be considered for applications where a higher attainable hardness and additional abrasion resistance is required than can be offered by CPM 3V.Information provided by Crucible Industries

Order this product through the following link:

http://www.lookpolymers.com/polymer_Crucible-Steel-CPM-4V-Tool-Steel.php

Physical Properties	Metric	English	Comments
Density	7.70 g/cc	0.278 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	>= 44	>= 44	austenitizied at 1800°F, then quenched and tempered
	@Tempering Temp. 621 °C	@Tempering Temp. 1150 °F	
	50	50	outerities of the 1000°C there
	@Tempering Temp. 621 °C	@Tempering Temp. 1150 °F	austenitizied at 1950°F, then quenched and tempered
	55	55	austenitizied at 1950°F, then
	@Tempering Temp. 593 °C	@Tempering Temp. 1100 °F	quenched and tempered
	60	60	austenitizied at 1950°F, then quenched and tempered
	@Tempering Temp. 566 °C	@Tempering Temp. 1050 °F	
	62	62	austenitizied at 1950°F, then
	@Tempering Temp. 538 °C	@Tempering Temp. 1000 °F	quenched and tempered
	<= 64	<= 64	austenitizied at 2100°F, then quenched and tempered
	@Tempering Temp. 538 °C	@Tempering Temp. 1000 °F	
Modulus of Elasticity	207 GPa	30000 ksi	
Charpy Impact	48.8 J	36.0 ft-lb	austenitized; C-notch
	@Treatment Temp. 1120 °C	@Treatment Temp. 2050 °F	



Mechanical Properties	67.8 J Metric	50.0 ft-lb English	Comments
	@Treatment Temp. 1070°C	@Treatment Temp. 1950 °F	austenitized, 5 notch
	74.6 J	55.0 ft-lb	austenitized; C-notch
	@Treatment Temp. 982 °C	@Treatment Temp. 1800 °F	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.35 %	1.35 %	
Chromium, Cr	5.0 %	5.0 %	
Iron, Fe	85.65 %	85.65 %	as balance
Manganese, Mn	0.40 %	0.40 %	
Molybdenum, Mo	2.95 %	2.95 %	
Silicon, Si	0.80 %	0.80 %	
Vanadium, V	3.85 %	3.85 %	

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