

## Crucible Steel CPM® 3V® Tool Steel

Category : Metal , Ferrous Metal , Tool Steel

### Material Notes:

CPM 3V is a new tool steel made by the Crucible Particle Metallurgy process, designed to provide maximum resistance to breakage and chipping in a highly wear-resistant steel. CPM 3V offers impact toughness greater than A2, D2, Cru-Wear or CPM M4, approaching the levels of S7 and other shock resistant grades, while providing excellent wear resistance, high hardness and thermal stability for coatings. Intended to be used at HRC 58-60 CPM 3V can replace high alloy tool steels in wear applications where chronic tool breakage and chipping problems are encountered. The CPM process produces very homogeneous, high quality steel characterized by superior dimensional stability, grindability, and toughness compared to steels produced by conventional processes. Information provided by Crucible Specialty Metals.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Crucible-Steel-CPM-3V-Tool-Steel.php](http://www.lookpolymers.com/polymer_Crucible-Steel-CPM-3V-Tool-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.80 g/cc	0.282 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	241	241	Annealed
Hardness, Rockwell C	58 - 60	58 - 60	
Modulus of Elasticity	207 GPa	30000 ksi	
Charpy Impact	53.0 J	39.1 ft-lb	Austenitizing Temperature- 1120°C
	95.0 J	70.1 ft-lb	Austenitizing Temperature- 1065°C
	113 J	83.3 ft-lb	Austenitizing Temperature- 1025°C

Thermal Properties	Metric	English	Comments
CTE, linear	10.6 µm/m-°C	5.89 µin/in-°F	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
Thermal Conductivity	24.2 W/m-K	168 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 200 °C	@Temperature 392 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.80 %	0.80 %	
Chromium, Cr	7.5 %	7.5 %	

Iron Fe Component Elements Properties	88.65 % Metric	88.65 % English	As Remainder Comments
Molybdenum, Mo	1.3 %	1.3 %	
Vanadium, V	2.75 %	2.75 %	

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