

Crucible Compaction Metals CPM® VIM CRU® 20®

Category : Metal , Ferrous Metal , Tool Steel

Material Notes:

CPM® VIM CRU® 20® is a vacuum induction melted, cobalt-free super high speed steel manufactured by the Crucible Particle Metallurgy (CPM®) process. VIM CRU processing is designed to meet the cleanliness and property requirements needed for critical bearing applications. Advantages: High Attainable Hardness Excellent Hot Hardness Fine Carbide Size Uniform Carbide Distribution Excellent Wear Resistance Information provided by Crucible Compaction Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Crucible-Compaction-Metals-CPM-VIM-CRU-20.php

Physical Properties	Metric	English	Comments
Density	8.172 g/cc	0.2952 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	262 - 285	262 - 285	Annealed
Hardness, Rockwell C	52	52	650°C Tempering Temperature; 1150°C Hardening Temperature for 10 minutes
	54	54	650°C Tempering Temperature; 1175°C Hardening Temperature for 5 minutes
	57	57	650°C Tempering Temperature; 1205°C Hardening Temperature for 3 minutes
	61.5	61.5	595°C Tempering Temperature; 1150°C Hardening Temperature for 10 minutes
	63	63	595°C Tempering Temperature; 1175°C Hardening Temperature for 5 minutes
	63	63	As-Quenched; 1205°C Hardening Temperature for 3 minutes
	65	65	As-Quenched; 1175°C Hardening Temperature for 5 minutes
Modulus of Elasticity	65	65	595°C Tempering Temperature; 1205°C Hardening Temperature for 3 minutes
	66	66	As-Quenched; 1150°C Hardening Temperature for 10 minutes
	234 GPa	34000 ksi	
Flexural Strength	3957 MPa	573900 psi	1150°C Hardening Temperature, 550°C Tempering Temperature; 65.6

Mechanical Properties	Metric	English	Rockwell Hardness C Comments
	4005 MPa	580900 psi	1190°C Hardening Temperature, 550°C Tempering Temperature; 67 Rockwell Hardness C
Machinability	35 %	35 %	Based on W1 tool steel = 100%
Charpy Impact	16.3 J	12.0 ft-lb	1190°C Hardening Temperature, 550°C Tempering Temperature; 67 Rockwell Hardness C
	17.6 J	13.0 ft-lb	1150°C Hardening Temperature, 550°C Tempering Temperature; 65.6 Rockwell Hardness C

Thermal Properties	Metric	English	Comments
CTE, linear	11.2 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	6.22 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 38.0 - 260 °C	@Temperature 100 - 500 °F	
	12.4 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	6.89 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 38.0 - 540 °C	@Temperature 100 - 1000 °F	
Shrinkage	0.220 %	0.220 %	During hardening; 1190°C Hardening Temperature, 550°C Tempering Temperature, 67.5 Rockwell C Hardness

Component Elements Properties	Metric	English	Comments
Carbon, C	1.35 %	1.35 %	
Chromium, Cr	3.75 %	3.75 %	
Iron, Fe	75.5 %	75.5 %	As Balance
Manganese, Mn	0.35 %	0.35 %	
Molybdenum, Mo	10.5 %	10.5 %	
Silicon, Si	0.25 %	0.25 %	
Sulfur, S	<= 0.035 %	<= 0.035 %	
Tungsten, W	6.25 %	6.25 %	
Vanadium, V	2.0 %	2.0 %	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215, Fengxian District, Shanghai City, China