

Crucible Steel CPM® Rex® 45® (HS) High Speed Steel

Category : Metal , Ferrous Metal , Carbon Steel , High Carbon Steel , Tool Steel

Material Notes:

CPM Rex 45 is an 8% cobalt modification of M3 high speed steel made by the CPM (Crucible Particle Metallurgy) Process. It has red hardness comparable to that of M42 but offers abrasion resistance even better than that of M3. With its excellent red hardness, good wear resistance and good toughness, CPM Rex 45 is suitable for difficult machining applications or high cutting speed applications. The CPM process results in a homogeneous microstructure with a finer, more uniform carbide distribution imparting superior dimensional stability, grindability and toughness when compared to steels produced by conventional processes. The CPM process also allows the design of more highly alloyed grades which cannot be produced by conventional steelmaking. Information provided by Crucible Specialty Metals.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Crucible-Steel-CPM-Rex-45-HS-High-Speed-Steel.php

Physical Properties	Metric	English	Comments
Density	8.05 g/cc	0.291 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	255 - 285	255 - 285	Annealed
Hardness, Rockwell C	65	65	Hardening Temperature- 1165°C; Tempering Temperature- 560°C
	67	67	Hardening Temperature- 1190°C; Tempering Temperature- 550°C
Modulus of Elasticity	214 GPa	31000 ksi	
Flexural Strength	4709 MPa	683000 psi	Hardening Temperature- 1165°C, Tempering Temperature- 560°C
	4826 MPa	700000 psi	Hardening Temperature- 1190°C, Tempering Temperature- 550°C
Charpy Impact	20.0 J	14.8 ft-lb	Hardening Temperature- 1190°C; Tempering Temperature- 550°C
	27.0 J	19.9 ft-lb	Hardening Temperature- 1165°C; Tempering Temperature- 560°C

Thermal Properties	Metric	English	Comments
CTE, linear	11.5 µm/m-°C	6.39 µin/in-°F	
	@Temperature 20.0 - 595 °C	@Temperature 68.0 - 1100 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.3 %	1.3 %	

Chromium, Cr Component Elements Properties	4.05 % Metric	4.05 % English	Comments
Cobalt, Co	8.0 %	8.0 %	
Iron, Fe	72.13 %	72.13 %	As Remainder
Molybdenum, Mo	5.0 %	5.0 %	
Sulfur, S	0.060 - 0.22 %	0.060 - 0.22 %	
Tungsten, W	6.25 %	6.25 %	
Vanadium, V	3.05 %	3.05 %	

Descriptive Properties	Value	Comments
Grindability; Metal Removed/Wheel Worn	4	

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