

Crucible Steel CPM® Rex® T15(HS), AISI T15 High Speed Steel Rex® T15(HS)

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

Material Notes:

CPM Rex T15 is a super high speed steel made by the Crucible Particle Metallurgy (CPM) process. It is a tungsten type high speed containing high vanadium for excellent abrasion resistance, and cobalt for good red hardness. CPM Rex T15 is ideal for cutting difficult to machine materials where high frictional heating is encountered. 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-T15HS-AISI-T15-High-Speed-Steel-Rex-T15HS.php

Physical Properties	Metric	English	Comments
Density	8.193 g/cc	0.2960 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	245 - 275	245 - 275	Annealed
Hardness, Rockwell C	64.5	64.5	Hardening Temperature- 1175°C; Tempering Temperature- 565°C
	68	68	Hardening Temperature- 1235°C; Tempering Temperature- 540°C
Modulus of Elasticity	214 GPa	31000 ksi	
Flexural Strength	4005 MPa	580900 psi	Hardening Temperature- 1235°C, Tempering Temperature- 540°C
	5102 MPa	740000 psi	Hardening Temperature- 1175°C, Tempering Temperature- 565°C
Charpy Impact	16.0 J	11.8 ft-lb	Hardening Temperature- 1235°C; Tempering Temperature- 540°C
	29.0 J	21.4 ft-lb	Hardening Temperature- 1175°C; Tempering Temperature- 565°C

Thermal Properties	Metric	English	Comments
CTE, linear	9.90 μm/m-°C	5.50 μin/in-°F	
	@Temperature 20.0 - 260 °C	@Temperature 68.0 - 500 °F	
	12.5 μm/m-°C	6.94 μin/in-°F	
	@Temperature 20.0 - 540 °C	@Temperature 68.0 - 1000 °F	

Thermal Properties Shrinkage	-0.200 % Metric	-0.200 % English	Comments Hardening
	@Treatment Temp. 1205 °C	@Treatment Temp. 2201 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.6 %	1.6 %	
Chromium, Cr	4.0 %	4.0 %	
Cobalt, Co	5.0 %	5.0 %	
Iron, Fe	72.28 %	72.28 %	As Remainder
Sulfur, S	0.060 - 0.22 %	0.060 - 0.22 %	
Tungsten, W	12 %	12 %	
Vanadium, V	4.9 %	4.9 %	

Descriptive Properties	Value	Comments
Grindability; Metal Removed/Wheel Worn	2.2	

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