

## Crucible Steel REX® M7N High Speed Steel, AISI M7

Category : Metal , Ferrous Metal , Tool Steel

### Material Notes:

REX M7 is molybdenum type high speed steel designed with higher carbon and vanadium to provide higher hardness after heat treatment and improved wear resistance compared to M1 steel. Information provided by Crucible Industries

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Crucible-Steel-REX-M7N-High-Speed-Steel-AISI-M7.php](http://www.lookpolymers.com/polymer_Crucible-Steel-REX-M7N-High-Speed-Steel-AISI-M7.php)

Physical Properties	Metric	English	Comments
Density	7.94 g/cc	0.287 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	229 - 248	229 - 248	
Hardness, Rockwell C	57	57	oil quenched from 2200°F then tempered
	@Tempering Temp. 621 °C	@Tempering Temp. 1150 °F	
	60	60	
	@Tempering Temp. 607.2 °C	@Tempering Temp. 1125 °F	
	62	62	
	@Tempering Temp. 593 °C	@Tempering Temp. 1100 °F	
	64	64	
	@Tempering Temp. 579.4 °C	@Tempering Temp. 1075 °F	
65.2	@Tempering Temp. 566 °C	@Tempering Temp. 1050 °F	oil quenched from 2200°F then tempered
	66	66	
@Tempering Temp. 538 °C	@Tempering Temp. 1000 °F	oil quenched from 2200°F then tempered	
66	66		
@Tempering Temp. 551.7 °C	@Tempering Temp. 1025 °F	oil quenched from 2200°F then tempered	
Modulus of Elasticity	207 GPa	30000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	9.61 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	5.34 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 37.8 - 260 $^\circ\text{C}$	@Temperature 100 - 500 $^\circ\text{F}$	
	11.4 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	6.35 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 37.8 - 427 $^\circ\text{C}$	@Temperature 100 - 800 $^\circ\text{F}$	
	12.3 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	6.81 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 37.8 - 538 $^\circ\text{C}$	@Temperature 100 - 1000 $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.0 %	1.0 %	
Chromium, Cr	3.75 %	3.75 %	
Iron, Fe	82 %	82 %	as balance
Manganese, Mn	0.30 %	0.30 %	
Molybdenum, Mo	8.75 %	8.75 %	
Silicon, Si	0.40 %	0.40 %	
Tungsten, W	1.75 %	1.75 %	
Vanadium, V	2.0 %	2.0 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	832 $^\circ\text{C}$	1530 $^\circ\text{F}$	

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