

## Latrobe Double Six™ ASTM M2 High Speed Steel

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

### Material Notes:

DOUBLE SIX (M2) is a tungsten-molybdenum high speed steel with a well balanced composition suitable for a wide variety of applications. World wide, the M2 type is by far the most popular high speed steel having replaced T1 high speed in most applications because of its superior properties and relative economy. Typical applications for Double Six high speed steel include twist drills, taps, milling cutters, reamers, broaches, saws, and knives. Information Provided by Timken Latrobe Steel. Timken sold Latrobe in December 2006. They are now Latrobe Specialty Steels Co.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Latrobe-Double-Six-ASTM-M2-High-Speed-Steel.php](http://www.lookpolymers.com/polymer_Latrobe-Double-Six-ASTM-M2-High-Speed-Steel.php)

Physical Properties	Metric	English	Comments
Specific Gravity	8.14 g/cc	8.14 g/cc	
Density	8.14 g/cc	0.294 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	64.0	64.0	Oil Quenched from 1121°C
	64.5	64.5	Oil Quenched from 1232°C
	66	66	Oil Quenched from 1177°C
Modulus of Elasticity	207 GPa	30000 ksi	
Machinability	50 - 60 %	50 - 60 %	1% Carbon Steel
Izod Impact Unnotched	51.5 J	38.0 ft-lb	Oil Quenched at 1232°C; 482°C Temper Temperature
	55.6 J	41.0 ft-lb	Oil Quenched at 1232°C; 545°C Temper Temperature
	56.9 J	42.0 ft-lb	Oil Quenched at 1232°C; 622°C Temper Temperature
	56.9 J	42.0 ft-lb	Oil Quenched at 1177°C; 482°C Temper Temperature
	66.4 J	49.0 ft-lb	Oil Quenched at 1177°C; 622°C Temper Temperature
	96.3 J	71.0 ft-lb	Oil Quenched at 1177°C; 566°C Temper Temperature

Thermal Properties	Metric	English	Comments
CTE, linear	10.95 µm/m-°C	6.083 µin/in-°F	

Thermal Properties	@Temperature 21.0 - Metric 204 °C	@Temperature 69.8 - English 599 °F	Comments
	12.54 µm/m-°C	6.967 µin/in-°F	
	@Temperature 21.0 - 358 °C	@Temperature 69.8 - 676 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.85 %	0.85 %	
Chromium, Cr	4.15 %	4.15 %	
Iron, Fe	81.42 %	81.42 %	
Manganese, Mn	0.28 %	0.28 %	
Molybdenum, Mo	5.0 %	5.0 %	
Silicon, Si	0.30 %	0.30 %	
Tungsten, W	6.15 %	6.15 %	
Vanadium, V	1.85 %	1.85 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	749 °C	1380 °F	Ar3
	777 °C	1430 °F	Ar1
	832 °C	1530 °F	Ac1
	877 °C	1610 °F	Ac3

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