

Latrobe Dynavanâ, ¢ ASTM T15 Super High Speed Steel

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

Material Notes:

DYNAVAN (T15) is a super high speed steel designed for extra-high wear resistance and superior hot hardness. These properties result from the high carbon and vanadium contents which produce numerous, very-hard vanadium carbides and from the cobalt, which resists softening at elevated temperature. The large vanadium carbides, which impart the high wear resistance, take the steel difficult to machine and difficult to grind after heat treatment. Applications for this steel should be confined to heavy-duty work and to tools where low grindability will not be a disadvantage, such as single point or inserted blade cutting tools. 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-Dynavan-ASTM-T15-Super-High-Speed-Steel.php

Physical Properties	Metric	English	Comments
Specific Gravity	8.19 g/cc	8.19 g/cc	
Density	8.19 g/cc	0.296 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	64.5	64.5	Oil Quenched from 1260°C
	65.5	65.5	Oil Quenched from 1121°C
	67	67	Oil Quenched from 1204°C
Modulus of Elasticity	207 GPa	30000 ksi	
Machinability	40 - 45 %	40 - 45 %	1% Carbon Steel
Izod Impact Unnotched	14.9 J	11.0 ft-lb	Oil Quenched at 1238°C; 510°C Temper Temperature
	17.6 J	13.0 ft-lb	Oil Quenched at 1238°C; 482°C Temper Temperature
	20.3 J	15.0 ft-lb	Oil Quenched at 1238°C; 622°C Temper Temperature

Thermal Properties	Metric	English	Comments
	10.6 µm/m-°C	5.89 µin/in-°F	
CTE, linear	@Temperature 21.0 - 204 °C	@Temperature 69.8 - 399 °F	
	12.11 Âμm/m-°C	6.728 µin/in-°F	
	@Temperature 21.0 - 649 °C	@Temperature 69.8 - 1200 °F	



Component Elements Properties	Metric	English	Comments
Carbon, C	1.57 %	1.57 %	
Chromium, Cr	4.0 %	4.0 %	
Cobalt, Co	5.0 %	5.0 %	
Iron, Fe	70.88 %	70.88 %	
Manganese, Mn	0.30 %	0.30 %	
Molybdenum, Mo	0.50 %	0.50 %	
Silicon, Si	0.50 %	0.50 %	
Tungsten, W	12.25 %	12.25 %	
Vanadium, V	5.0 %	5.0 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	766 °C	1410 °F	Ar3
	785 °C	1450 °F	Ar1
	827 °C	1520 °F	Ac1
	854 °C	1570 °F	Ac3

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