

Latrobe LSS™ 01 Tool Steel (ASTM 01)

Category : Metal , Ferrous Metal , Alloy Steel , Carbon Steel , High Carbon Steel , Tool Steel , Oil-Hardening Steel

Material Notes:

TLS 01 tool steel is the original oil-hardening, "non-shrinking" tool steel that can be hardened to the Rockwell C 65 range from a low austenitizing temperature. TLS 01 is a general-purpose tool steel which is typically used in applications where alloy steels cannot provide sufficient hardness, strength, and wear resistance. Where greater dimensional stability in heat treatment or improved wear resistance are required, tool steels with higher alloy contents, such as A2 or D2 should be considered. 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-LSS-01-Tool-Steel-ASTM-01.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.83 g/cc	7.83 g/cc	
Density	7.83 g/cc	0.283 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	62	62	Air Cooled from 774°C, 30 minutes
	64	64	Air Cooled from 871°C, 30 minutes
	65	65	Air Cooled from 802°C, 30 minutes
Modulus of Elasticity	214 GPa	31000 ksi	
Machinability	85 - 90 %	85 - 90 %	1% Carbon Steel
Izod Impact Unnotched	27.1 J	20.0 ft-lb	Oil Quenched from 816°C; 150°C Temper Temperature
	190 J	140 ft-lb	Oil Quenched from 816°C; 430°C Temper Temperature

Thermal Properties	Metric	English	Comments
CTE, linear	10.73 µm/m-°C	5.961 µin/in-°F	
	@Temperature 38.0 - 260 °C	@Temperature 100 - 500 °F	
	14.11 µm/m-°C	7.839 µin/in-°F	
	@Temperature 38.0 - 538 °C	@Temperature 100 - 1000 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.94 %	0.94 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	96.56 %	96.56 %	
Manganese, Mn	1.2 %	1.2 %	
Silicon, Si	0.30 %	0.30 %	
Tungsten, W	0.50 %	0.50 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	671 °C	1240 °F	Ar3
	703 °C	1300 °F	Ar1
	732 °C	1350 °F	Ac1
	760 °C	1400 °F	Ac3

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