

Latrobe LSS,ç H14 Tool Steel (ASTM H14)

Category : Metal , Ferrous Metal , Alloy Steel , Tool Steel , Air-Hardening Steel

Material Notes:

TLS H14 tool steel is a 5%-chromium hot work steel to which tungsten has been added for improved high-temperature properties and heat resistance. It is a deep-hardening, airhardening steel that exhibits minimal size change during hardening. TLS H14 hot work tool steel is particularly suited for long-run die casting dies, brass forging dies, various extrusion tools, hot piercing tools, and hot mandrels. 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-H14-Tool-Steel-ASTM-H14.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.89 g/cc	7.89 g/cc	
Density	7.89 g/cc	0.285 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	52	52	Air Cooled from 982 ^o C, 30 minutes
	55	55	Air Cooled from 1010 ^o C, 30 minutes
	56	56	Air Cooled from 1038 ^o C, 30 minutes
Modulus of Elasticity	207 GPa	30000 ksi	
Machinability	70 - 75 %	70 - 75 %	1% Carbon Steel
Charpy Impact	12.9 J	9.50 ft-lb	V-Notch; Air Cooled from 1010 ^o C; 490 ^o C Temper Temperature
	16.3 J	12.0 ft-lb	V-Notch; Air Cooled from 1010 ^o C; 370 ^o C Temper Temperature
	17.6 J	13.0 ft-lb	V-Notch; Air Cooled from 1010 ^o C; 650 ^o C Temper Temperature

Thermal Properties	Metric	English	Comments
CTE, linear	10.9 $\mu\text{m/m-}^{\circ}\text{C}$	6.06 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 21.0 - 93.0 $^{\circ}\text{C}$	@Temperature 69.8 - 199 $^{\circ}\text{F}$	
	13.5 $\mu\text{m/m-}^{\circ}\text{C}$	7.50 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 21.0 - 788 $^{\circ}\text{C}$	@Temperature 69.8 - 1450 $^{\circ}\text{F}$	
Thermal Conductivity	17.6 W/m-K	122 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
	@Temperature 27.0	@Temperature 80.6 $^{\circ}\text{F}$	

Thermal Properties	Metric	English	Comments
	25.9 W/m-K	180 BTU-in/hr-ft ² -°F	
	@Temperature 760 °C	@Temperature 1400 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.40 %	0.40 %	
Chromium, Cr	5.25 %	5.25 %	
Iron, Fe	87 %	87 %	
Manganese, Mn	0.25 %	0.25 %	
Molybdenum, Mo	1.35 %	1.35 %	
Silicon, Si	1.0 %	1.0 %	
Tungsten, W	4.75 %	4.75 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	843 °C	1550 °F	Ac1

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