

Latrobe LSS H13 PQ Hot Work Tool Steel

Category : Metal , Ferrous Metal , Alloy Steel , Tool Steel , Hot Work Steel

Material Notes:

TLS H13 PQ is Premium Quality H13 hot work steel that is designed to meet the highest quality standards in the die casting industry, and to excel in the most demanding hot work tooling applications. TLS H13 PQ is melted using an electric-arc furnace, is refined by the argon-oxygen-decarburization (AOD) process, and is further enhanced to aerospace quality levels using Vacuum-Arc or Electro-Slag Remelting. These special melting practices along with special thermo-mechanical and annealing treatments result in ultra-high microcleanliness and a homogeneous, fine-grained microstructure. 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-H13-PQ-Hot-Work-Tool-Steel.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.75 g/cc	7.75 g/cc	
Density	7.75 g/cc	0.280 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	50	50	Air Cooled from 982 ^o C, 30 minutes
	52.5	52.5	Air Cooled from 1010 ^o C, 30 minutes
	54	54	Air Cooled from 1032 ^o C, 30 minutes
Modulus of Elasticity	207 GPa	30000 ksi	
	159 GPa	23000 ksi	
	@Temperature 538 ^o C	@Temperature 1000 ^o F	
Machinability	186 GPa	27000 ksi	
	@Temperature 204 ^o C	@Temperature 400 ^o F	
Charpy Impact	65 - 70 %	65 - 70 %	1% Carbon Steel
	13.6 J	10.0 ft-lb	V-Notch; Air Cooled from 1024 ^o C; 535 ^o C Temper Temperature
	32.5 J	24.0 ft-lb	V-Notch; Air Cooled from 1024 ^o C; 640 ^o C Temper Temperature
	35.3 J	26.0 ft-lb	V-Notch; Air Cooled from 1024 ^o C; 260 ^o C Temper Temperature

Thermal Properties	Metric	English	Comments
	11.3 ^o m/m- ^o C	6.28 ^o in/in- ^o F	

Thermal Properties	Metric	English	Comments
	@ Temperature 21.0 - 204 Â°C	@ Temperature 69.8 - 399 Â°F	
	13.5 Âµm/m-Â°C	7.50 Âµin/in-Â°F	
	@Temperature 21.0 - 538 Â°C	@Temperature 69.8 - 1000 Â°F	
Thermal Conductivity	17.6 W/m-K	122 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 27.0 Â°C	@Temperature 80.6 Â°F	
	23.4 W/m-K	162 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 204 Â°C	@Temperature 399 Â°F	
	26.8 W/m-K	186 BTU-in/hr-ftÂ²-Â°F	
	@Temperature 649 Â°C	@Temperature 1200 Â°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.40 %	0.40 %	
Chromium, Cr	5.25 %	5.25 %	
Iron, Fe	90.599 %	90.599 %	
Manganese, Mn	0.40 %	0.40 %	
Molybdenum, Mo	1.35 %	1.35 %	
Silicon, Si	1.0 %	1.0 %	
Sulfur, S	0.0010 %	0.0010 %	
Vanadium, V	1.0 %	1.0 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	802 Â°C	1480 Â°F	Ar1
	826 Â°C	1520 Â°F	Ar3
	840 Â°C	1540 Â°F	Ac1
	890 Â°C	1630 Â°F	Ac3

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