

Latrobe LSS 420 Supreme Plastic Mold Steel (AISI 420)

Category : Metal , Ferrous Metal , Stainless Steel , Tool Steel , Mold Steel

Material Notes:

TLS 420 Supreme is a specially-refined, mold-quality stainless steel that is engineered to provide supreme polishability, good corrosion resistance, and good wear resistance. TLS 420 supreme is manufactured using special melting and remelting techniques. These special melting practices along with proprietary forging practices result in the highest levels of microcleanliness and a homogeneous microstructure. TLS 420 Supreme is the material of choice for the manufacture of plastic molding tools that require the highest lens-quality polished finishes. Typical applications include molds for compact disks (CDs), medical laboratory equipment, optical lenses, and other components, which require critical surface finishes. 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-420-Supreme-Plastic-Mold-Steel-AISI-420.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	52	52	Air Cooled from 982 ^o C, 30 minutes
	55.5	55.5	Air Cooled from 1010 ^o C, 30 minutes
	56.5	56.5	Air Cooled from 1038 ^o C, 30 minutes
Modulus of Elasticity	200 GPa	29000 ksi	
Machinability	55 - 60 %	55 - 60 %	1 % Carbon Steel
Izod Impact Unnotched	13.6 J	10.0 ft-lb	Air Cooled from 1010 ^o C; 393 ^o C Temper Temperature
	20.3 J	15.0 ft-lb	Air Cooled from 1010 ^o C; 593 ^o C Temper Temperature

Thermal Properties	Metric	English	Comments
CTE, linear	10.2 $\mu\text{m/m-}^{\circ}\text{C}$	5.67 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 20.0 - 100 $^{\circ}\text{C}$	@Temperature 68.0 - 212 $^{\circ}\text{F}$	
	11.7 $\mu\text{m/m-}^{\circ}\text{C}$	6.50 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 20.0 - 538 $^{\circ}\text{C}$	@Temperature 68.0 - 1000 $^{\circ}\text{F}$	
	22.84 W/m-K	158.5 BTU-in/hr-ft ² -	

Thermal Properties	Metric	English	Comments
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	23.93 W/m-K	166.1 BTU-in/hr-ft²-°F	
	@Temperature 199 °C	@Temperature 390 °F	
	24.95 W/m-K	173.2 BTU-in/hr-ft²-°F	
	@Temperature 399 °C	@Temperature 750 °F	

Component Elements Properties	Metric	English	Comments
Chromium, Cr	13.6 %	13.6 %	
Iron, Fe	84.87 %	84.87 %	
Manganese, Mn	0.45 %	0.45 %	
Other	0.38 %	0.38 %	
Silicon, Si	0.40 %	0.40 %	
Vanadium, V	0.30 %	0.30 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	802 °C	1480 °F	Ac1
	863 °C	1590 °F	Ac3

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