

Latrobe LSS,ç 420 MQ Plastic Mold Steel (AISI 420)

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

Material Notes:

TLS 420 MQ is a highly-refined, Mold Quality stainless steel that is engineered to exhibit excellent polishability, good corrosion resistance, and good wear resistance. TLS 420 MQ is melted using an electric-arc furnace, is refined by the argon-oxygendecarburization (AOD) process, and is further enhanced to aerospace quality levels using Vacuum-Arc or Electro-Slag Remelting. These special melting and forging practices result in ultra-high microcleanliness and a homogeneous microstructure. TLS 420 MQ is a good choice of a material for the manufacture of plastic molds that require high hardness for good parting line retention and sealing between colored resins. It also resists attack from the corrosive vapors that are produced during molding of some plastic resins. The corrosion resistance also enhances extended tool storage in humid environments. The high cleanliness and homogeneity make TLS 420 MQ a good choice for mold cavities that require photoetching/texturizing or the highest, lens-quality polished finishes. 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-MQ-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 $\mu\text{m}/\text{m}\cdot\text{C}^{\circ}$	5.67 $\mu\text{in}/\text{in}\cdot\text{F}^{\circ}$	
	@Temperature 20.0 - 100 C°	@Temperature 68.0 - 212 F°	
	11.7 $\mu\text{m}/\text{m}\cdot\text{C}^{\circ}$	6.50 $\mu\text{in}/\text{in}\cdot\text{F}^{\circ}$	
	@Temperature 20.0 -	@Temperature 68.0 -	

Thermal Properties	538 Â°C Metric	1000 Â°F English	Comments
Thermal Conductivity	22.84 W/m-K @Temperature 20.0 Â°C	158.5 BTU-in/hr-ftÂ²- Â°F @Temperature 68.0 Â°F	
	23.93 W/m-K @Temperature 199 Â°C	166.1 BTU-in/hr-ftÂ²- Â°F @Temperature 390 Â°F	
	24.95 W/m-K @Temperature 399 Â°C	173.2 BTU-in/hr-ftÂ²- Â°F @Temperature 750 Â°F	

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

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

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