

Latrobe 14-4CrMo Stainless Tool Steel

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

Material Notes:

14-4CrMo is a wear resistant, martensitic stainless tool steel that exhibits better corrosion resistance than Type 440C stainless steel. The molybdenum in the steel provides superior corrosion resistance compared to some higher-chromium stainless steels. The combination of the high carbon and molybdenum contents results in the formation of hard, wear-resistant molybdenum carbides in the microstructure of the steel. These molybdenum carbides provide superior wear resistance and edge retention for cutting tools and knives. Typical applications include knife blades, bearings, valve components, and bushings. 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-14-4CrMo-Stainless-Tool-Steel.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.78 g/cc	7.78 g/cc	
Density	7.78 g/cc	0.281 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	60	60	Oil Quenched from 1010 ^o C, 45 minutes
	60.5	60.5	Oil Quenched from 1010 ^o C with cryogenic treatment at -73 ^o C, 45 minutes
	62.5	62.5	Oil Quenched from 1080 ^o C, 45 minutes
	63.3	63.3	Oil Quenched from 1038 ^o C, 45 minutes
	63.5	63.5	Oil Quenched from 1038 ^o C with cryogenic treatment at -73 ^o C, 45 minutes
	65	65	Oil Quenched from 1080 ^o C with cryogenic treatment at -73 ^o C, 45 minutes
Modulus of Elasticity	207 GPa	30000 ksi	
Machinability	60 - 65 %	60 - 65 %	1 % Carbon Steel

Thermal Properties	Metric	English	Comments
CTE, linear	10.3 Âµm/m-Â°C	5.72 Âµin/in-Â°F	
	@Temperature 20.0 - 100 Â°C	@Temperature 68.0 - 212 Â°F	

Thermal Properties	10.8 Åum/m-Å°C Metric	6.00 Åuin/in-Å°F English	Comments
	@Temperature 20.0 - 316 Å°C	@Temperature 68.0 - 601 Å°F	
Thermal Conductivity	24.2 W/m-K	168 BTU-in/hr-ftÅ²-Å°F	
	@Temperature 392 Å°C	@Temperature 738 Å°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.05 %	1.05 %	
Chromium, Cr	14 %	14 %	
Iron, Fe	80.15 %	80.15 %	
Manganese, Mn	0.50 %	0.50 %	
Molybdenum, Mo	4.0 %	4.0 %	
Silicon, Si	0.30 %	0.30 %	

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