Latrobe LSS™ MGR™ Tool Steel (ASTM A8)

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

Material Notes:

TLS MGR tool steel is an air-hardening tool steel that is characterized by a combination of very good toughness, intermediate wear resistance, and excellent dimensional stability in heat treatment. MGR tool steel is an excellent steel for punches and dies that operate in the 55 to 60 Rockwell C hardness range. The combination of toughness and wear resistance make MGR tool steel an excellent choice for applications which require higher toughness than that of the high-carbon, high-chromium steels such as D2, and better wear resistance than that of shock-resisting steels such as S7. For hot work tooling applications, MGR tool steel provides better resistance to erosion, wear and wash-out than the typical chromium-molybdenum hot work steels such as H11 and H13. However, it is not recommended for hot applications where thermal fatigue (heat checking) is the primary failure mode. Typical applications for MGR tool steel include punches, drift pins, pneumatic tools, chuck jaws, hammers, hot rolls, and hot and coldTimken 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-MGR-Tool-Steel-ASTM-A8.php

Physical Properties	Metric	English	Comments
Specific Gravity	7.78 g/cc	7.78 g/cc	
Density	7.78 g/cc	0.281 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	60	60	Air Cooled from 954°C, 30 minutes
	61.5	61.5	Air Cooled from 1038°C, 30 minutes
	62	62	Air Cooled from 996°C, 30 minutes
Modulus of Elasticity	207 GPa	30000 ksi	
Machinability	75 - 80 %	75 - 80 %	1% Carbon Steel
Charpy Impact	6.10 J	4.50 ft-lb	V-Notch; Air Cooled from 996°C; 205°C Temper Temperature
	8.81 J	6.50 ft-lb	V-Notch; Air Cooled from 996°C; 330°C Temper Temperature
	11.5 J	8.50 ft-lb	V-Notch; Air Cooled from 996°C; 550°C Temper Temperature

Thermal Properties	Metric	English	Comments
CTE, linear	12.0 µm/m-°C @Temperature 38.0 - 427 °C	6.67 µin/in-°F @Temperature 100 - 801 °F	

Thermal Properties	Metric	English	Comments
	12.7 µm/m-°C	7.06 µin/in-°F	
	@Temperature 38.0 - 649 °C	@Temperature 100 - 1200 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.55 %	0.55 %	
Chromium, Cr	5.0 %	5.0 %	
Iron, Fe	90.7 %	90.7 %	
Manganese, Mn	0.30 %	0.30 %	
Molybdenum, Mo	1.25 %	1.25 %	
Silicon, Si	0.95 %	0.95 %	
Tungsten, W	1.25 %	1.25 %	

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