

SUPREME STEEL INDUSTRIES



Latrobe Graph-Air® Cold Work Tool Steel (ASTM A10)

Categories: [Metal](#); [Ferrous Metal](#); [Alloy Steel](#); [Carbon Steel](#); [High Carbon Steel](#); [Tool Steel](#); [Cold Work Steel](#)

Material Notes: Graph-Air tool steel is an air-hardening, graphitic tool steel with outstanding resistance to metal-to-metal sliding wear and galling. The steel contains a uniform dispersion of graphite particles which impart excellent machinability and non-seizing characteristics. The graphite particles make the steel self-lubricating in dry environments, and help to retain oil in lubricated environments. Graph-Air tool steel can be hardened to over 60 Rockwell C from a relatively low hardening temperature, which minimizes size change and distortion during heat treatment. Typical applications include thread gauges, master gages, cams, bushings, sleeves, meat granulator plates, arbors, forming rolls, shear blades, punches, dies, bar feed guides and other machine tool parts.

Information Provided by Timken Latrobe Steel.

Timken sold Latrobe in December 2006. They are now Latrobe Specialty Steels Co.

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

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Physical Properties	Metric	English	Comments
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Specific Gravity	7.68 g/cc	7.68 g/cc	
Density	7.67 g/cc	0.277 lb/in ³	

Mechanical Properties	Metric	English	Comments
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Hardness, Rockwell C	61	61	5 in thickness; Air Cooled from 816°C, 120 minutes
	62	62	3 in thickness; Air Cooled from 802°C, 60 minutes
	63	63	2 in thickness; Air Cooled from 788°C, 45 minutes
Modulus of Elasticity	207 GPa	30000 ksi	
Machinability	85 - 90 %	85 - 90 %	1% Carbon Steel
Izod Impact Unnotched	24.4 J	18.0 ft-lb	Air Cooled from 788°C; 94°C Temper Temperature
	163 J	120 ft-lb	Air Cooled from 788°C; 594°C Temper Temperature

Thermal Properties	Metric	English	Comments
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CTE, linear	13.25 µm/m-°C @Temperature 24.0 - 204 °C	7.361 µin/in-°F @Temperature 75.2 - 390 °F	
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Component Elements Properties	Metric	English	Comments
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Carbon, C	0.94 %	0.94 %	
Chromium, Cr	0.50 %	0.50 %	
Iron, Fe	96.56 %	96.56 %	
Manganese, Mn	1.2 %	1.2 %	
Silicon, Si	0.30 %	0.30 %	
Tungsten, W	0.50 %	0.50 %	

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