Latrobe DuraTech™ 30 Powder Metal High Speed Steel (ASTM M3-2)

Category : Metal , Ferrous Metal , Alloy Steel , Carbon Steel , High Carbon Steel , Tool Steel

Material Notes:

DuraTech 30 super high speed steel is based upon the chemical composition of ASTM M3-2 high speed steel, but with the addition of over 8% cobalt. DuraTech 30 can be heat treated to 68 HRC. The high cobalt content enhances the attainable hardness and enables the steel to maintain high hardness at elevated service temperatures. Vanadium carbides provide the high wear resistance, and the fine grain size, small carbides, and superior cleanliness of the powder metallurgy (PM) microstructure maximize the toughness of the steel. DuraTech 30 offers improved cutting tool life compared to the M-series high speed steels, and improved toughness compared to all of the other super high speed steels, such as M42, M48, and T15. Typical applications include form tools, end mills, broaches, milling cutters, hobs, shaper cutters, taps, and any special cutting tool where high hot hardness is required.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-DuraTech-30-Powder-Metal-High-Speed-Steel-ASTM-M3-2.php

Physical Properties	Metric	English	Comments
Specific Gravity	8.05 g/cc	8.05 g/cc	
Density	8.05 g/cc	0.291 lb/in³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	65.5	65.5	Oil Quenched from 1204°C, 5 minutes
	66	66	Oil Quenched from 1149°C, 10 minutes
	67	67	Oil Quenched from 1190°C, 5 minutes
Modulus of Elasticity	214 GPa	31000 ksi	
Machinability	30 - 35 %	30 - 35 %	1% Carbon Steel

Thermal Properties	Metric	English	Comments
CTE, linear	11.3 µm/m-°C @Temperature 20.0 - 399 °C	6.28 µin/in-°F @Temperature 68.0 - 750 °F	
	11.5 µm/m-°C @Temperature 20.0 - 538 °C	6.39 µin/in-°F @Temperature 68.0 - 1000 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.3 %	1.3 %	

Component Elements Properties	Metric	English	Comments
Cobalt, Co	8.25 %	8.25 %	
Iron, Fe	71.2 %	71.2 %	
Manganese, Mn	0.30 %	0.30 %	
Molybdenum, Mo	5.0 %	5.0 %	
Silicon, Si	0.50 %	0.50 %	
Tungsten, W	6.25 %	6.25 %	
Vanadium, V	3.1 %	3.1 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	816 °C	1500 °F	Ac1

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