

Latrobe DuraTech[®] 20CV Powder Metal Stainless Tool Steel

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

Material Notes:

DuraTech 20CV is a highly wear resistant, powder metallurgy stainless tool steel. The steel contains a large volume of extremely hard vanadium carbides, which provide excellent wear resistance. DuraTech 20CV contains the highest amount of chromium of any high-vanadium stainless steel currently available. The chromium-rich matrix provides outstanding corrosion resistance. DuraTech 20CV is a versatile stainless tool steel with a unique combination of high wear resistance, high corrosion resistance, good impact toughness, and excellent polishability. This combination of properties is the result of the fine grain size, small carbides, and superior cleanliness of the powder metallurgy (PM) microstructure. DuraTech 20CV excels in applications, which require a combination of high wear resistance. The unique combinations of properties makes DuraTech 20CV an excellent steel for plastic injection feed screws, barrel liners, screw tips, and mold cavities, especially for plastic resins which contain abrasive fill. 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-20CV-Powder-Metal-Stainless-Tool-Steel.php

Physical Properties	Metric	English	Comments
Density	7.61 g/cc	0.275 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	54	54	Oil Quenched from 1071 [°] C; 540 [°] C Temper Temperature
	59	59	Oil Quenched from 1071 [°] C; 410 [°] C Temper Temperature
	60	60	Oil Quenched from 1071 [°] C; As Quenched
Modulus of Elasticity	214 GPa	31000 ksi	
Machinability	35 - 40 %	35 - 40 %	1% Carbon Steel

Thermal Properties	Metric	English	Comments
CTE, linear	10.9 $\mu\text{m/m-}^{\circ}\text{C}$	6.06 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 20.0 - 100 $^{\circ}\text{C}$	@Temperature 68.0 - 212 $^{\circ}\text{F}$	
	12.3 $\mu\text{m/m-}^{\circ}\text{C}$	6.83 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 20.0 - 500 $^{\circ}\text{C}$	@Temperature 68.0 - 932 $^{\circ}\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.9 %	1.9 %	

Component Elements Properties	Metric	English	Comments
Iron, Fe	71.9 %	71.9 %	
Manganese, Mn	0.30 %	0.30 %	
Molybdenum, Mo	1.0 %	1.0 %	
Silicon, Si	0.30 %	0.30 %	
Tungsten, W	0.60 %	0.60 %	
Vanadium, V	4.0 %	4.0 %	

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