

Latrobe CBS-50 NiL VIM-VAR High Performance Carburizing Bearing and Gear Steel

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

Material Notes:

CBS-50 NiL VIM-VAR is a carburizing bearing and gear steel designed for service temperatures up to 600°F. The chemistry is engineered such that when suitably carburized and heat treated the case will have a microstructure of fine tempered martensite with an even distribution of fine carbides. The primary advantage of CBS-50 NiL VIM-VAR steel over conventional through hardening M50 is the relatively high fracture toughness properties of the core. Because the alloy can be carburized, surface stresses can be controlled to provide excellent rolling contact fatigue characteristics. Information provided by Latrobe.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Latrobe-CBS-50-NiL-VIM-VAR-High-Performance-Carburizing-Bearing-and-Gear-Steel.php

Physical Properties	Metric	English	Comments
Density	7.86 g/cc	0.284 lb/in ³	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	203 GPa	29500 ksi	
Charpy Impact	30.0 - 50.0 J	22.1 - 36.9 ft-lb	
	@Temperature -17.8 °C	@Temperature 0.000 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	11.2 µm/m-°C	6.22 µin/in-°F	
	@Temperature 21.0 - 204 °C	@Temperature 69.8 - 399 °F	
Transformation Temperature	12.0 µm/m-°C	6.67 µin/in-°F	
	@Temperature 21.0 - 427 °C	@Temperature 69.8 - 801 °F	
Transformation Temperature	215 °C	419 °F	Martensitic Finish
	332 °C	630 °F	Martensitic Start

Component Elements Properties	Metric	English	Comments
Carbon, C	0.13 %	0.13 %	
Chromium, Cr	4.2 %	4.2 %	
Iron, Fe	86.37 %	86.37 %	

Manganese Mn Component Elements Properties	0.25 % Metric	0.25 % English	Comments
Molybdenum, Mo	4.25 %	4.25 %	
Nickel, Ni	3.4 %	3.4 %	
Silicon, Si	0.20 %	0.20 %	
Vanadium, V	1.2 %	1.2 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	738 Â°C	1360 Â°F	Core Ac1
	960 Â°C	1760 Â°F	Core Ac3

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