

Latrobe CBS-600 VIM-VAR Carburizing Bearing and Gear Steel

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

Material Notes:

CBS-600 VIM-VAR is a carburizing bearing and gear steel designed for service temperatures up to 600°F. Double vacuum melting is employed to provide optimum tensile properties as well as describe impact and fracture toughness characteristics. 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-CBS-600-VIM-VAR-Carburizing-Bearing-and-Gear-Steel.php

Physical Properties	Metric	English	Comments
Density	7.81 g/cc	0.282 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	37	37	Core at 700°F, 1000hr
	38	38	Core at 300°F, 100hr
	58	58	Case at 600°F, 1000hr
	62	62	Case at 300°F, 1000hr
Tensile Strength, Ultimate	1403 MPa	203500 psi	371°C Test Temp; 843°C Hardening Temp
	1422 MPa	206200 psi	371°C Test Temp; 927°C Hardening Temp
	1520 MPa	220000 psi	24°C Test Temp
Tensile Strength, Yield	1250 MPa	181000 psi	24°C Test Temp; 927°C Hardening Temp
	@Strain 0.200 %	@Strain 0.200 %	
	1265 MPa	183500 psi	24°C Test Temp; 843°C Hardening Temp
	@Strain 0.200 %	@Strain 0.200 %	
	965 MPa	140000 psi	843°C Hardening Temp
	@Strain 0.200 %, Temperature 371 °C	@Strain 0.200 %, Temperature 700 °F	
	1020 MPa	148000 psi	927°C Hardening Temp
	@Strain 0.200 %, Temperature 371 °C	@Strain 0.200 %, Temperature 700 °F	
Elongation at Break	11.4 %	11.4 %	24°C Test Temp; 843°C Hardening Temp
	12.5 %	12.5 %	24°C Test Temp; 927°C Hardening Temp

Mechanical Properties	Metric	English	Comments
	@Temperature 371 Â°C	@Temperature 700 Â°F	843Â°C Hardening Temp
	18.2 %	18.2 %	927Â°C Hardening Temp
	@Temperature 371 Â°C	@Temperature 700 Â°F	
Reduction of Area	43.5 %	43.5 %	after 843Â°C Hardening Temp
	54.9 %	54.9 %	after 927Â°C Hardening Temp
	53.6 %	53.6 %	
	@Temperature 371 Â°C	@Temperature 700 Â°F	
Modulus of Elasticity	210 GPa	30500 ksi	
	172 GPa	24900 ksi	
	@Temperature 550.0 Â°C	@Temperature 1022 Â°F	
Poissons Ratio	0.292	0.292	
	@Temperature 20.0 Â°C	@Temperature 68.0 Â°F	
	0.309	0.309	
	@Temperature 550.0 Â°C	@Temperature 1022 Â°F	
Shear Modulus	64.1 GPa	9300 ksi	
	@Temperature 538 Â°C	@Temperature 1000 Â°F	
	81.70 GPa	11850 ksi	
	@Temperature 20.0 Â°C	@Temperature 68.0 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear	12.7 Âµm/m-Â°C	7.06 Âµin/in-Â°F	0.20%C
	@Temperature 21.0 - 204 Â°C	@Temperature 69.8 - 399 Â°F	
	12.8 Âµm/m-Â°C	7.11 Âµin/in-Â°F	0.20%C
	@Temperature 21.0 - 427 Â°C	@Temperature 69.8 - 801 Â°F	
Specific Heat Capacity	0.494 J/g-Â°C	0.118 BTU/lb-Â°F	
	@Temperature 20.0 Â°C	@Temperature 68.0 Â°F	

Thermal Properties	0.695 J/g-Â°C Metric	0.165 BTU/lb-Â°F English	Comments
	@Temperature 550.0 Â°C	@Temperature 1022 Â°F	
Thermal Conductivity	33.9 W/m-K @Temperature 550.0 Â°C	235 BTU-in/hr-ftÂ²-Â°F @Temperature 1022 Â°F	
	48.6 W/m-K @Temperature 20.0 Â°C	337 BTU-in/hr-ftÂ²-Â°F @Temperature 68.0 Â°F	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	0.060 %	0.060 %	
Carbon, C	0.19 %	0.19 %	
Chromium, Cr	1.45 %	1.45 %	
Iron, Fe	95.6 %	95.6 %	
Manganese, Mn	0.60 %	0.60 %	
Molybdenum, Mo	1.0 %	1.0 %	
Silicon, Si	1.1 %	1.1 %	

Chemical Properties	Metric	English	Comments
Critical Temperature	729 Â°C	1340 Â°F	Case Ac1
	729 Â°C	1340 Â°F	Core Ac1
	802 Â°C	1480 Â°F	Case Ac3
	885 Â°C	1630 Â°F	Core Ac3

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China