

Kennametal Stellite Delcrome® 90

Category : Metal , Ferrous Metal , Cast Iron , Alloy Cast Iron , White Cast Iron

Material Notes:

Information provided by Deloro Stellite, Inc. Typical data, not guaranteed as a maximum or minimum. White cast iron, abrasion resistant. Carbide modifiers can provide a refined microstructure and improved corrosion resistance. Processing: Anneal: 6 hours/790°C (1450°F), furnace cool to HRC 35-45; Harden: 2 hours/1090°C (1980°F), air cooled to HRC 55-63. Can be milled and turned in the annealed condition if hardness is below HRC 40. Final grinding should be done on hardened piece to allow for distortion during heat treatment. Corrosion Resistance: Generally superior to mild steel, but worse than 410 stainless steel. Significant corrosion in weak acids and will pit in the presence of chloride. Oxidation resistance up to 980°C (1800°F). Applications: Abrasive applications below 540°C (1000°F) where corrosion is mild; pulverizer parts, pump barrel liners, cement valve slides, wear plates, and dry bearings. Forms: Shapes using all casting processes, comparable hardfacing consumables. Product of former Deloro Stellite Inc. Similar to Delcrome 50V

Order this product through the following link:

http://www.lookpolymers.com/polymer_Kennametal-Stellite-Delcrome-90.php

Physical Properties	Metric	English	Comments
Density	7.59 g/cc	0.274 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	595 - 740	595 - 740	
	70	70	Hot Hardness
	@Temperature 900 °C	@Temperature 1650 °F	
	164	164	Hot Hardness
	@Temperature 700 °C	@Temperature 1290 °F	
	228	228	Hot Hardness
	@Temperature 600 °C	@Temperature 1110 °F	
338	338	Hot Hardness	
@Temperature 500 °C	@Temperature 932 °F		
400	400	Hot Hardness	
@Temperature 400 °C	@Temperature 752 °F		
540	540	Hot Hardness	
@Temperature 20.0 °C	@Temperature 68.0 °F		
Hardness, Knoop	667 - 830	667 - 830	Converted from Brinell hardness

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	640 - 798	640 - 798	Converted from Brinell hardness.
Tensile Strength, Ultimate	450 MPa	65300 psi	
Elongation at Break	<= 1.0 %	<= 1.0 %	
Modulus of Elasticity	225 GPa	32600 ksi	
Izod Impact Unnotched	4.00 J	2.95 ft-lb	

Thermal Properties	Metric	English	Comments
CTE, linear	12.03 $\mu\text{m/m-}\text{^\circ C}$	6.683 $\mu\text{in/in-}\text{^\circ F}$	
	@Temperature 20.0 - 100 ^\circ C	@Temperature 68.0 - 212 ^\circ F	
	14.46 $\mu\text{m/m-}\text{^\circ C}$	8.033 $\mu\text{in/in-}\text{^\circ F}$	
	@Temperature 20.0 - 300 ^\circ C	@Temperature 68.0 - 572 ^\circ F	
	15.18 $\mu\text{m/m-}\text{^\circ C}$	8.433 $\mu\text{in/in-}\text{^\circ F}$	
@Temperature 20.0 - 900 ^\circ C	@Temperature 68.0 - 1650 ^\circ F		
Melting Point	1255 - 1308 ^\circ C	2291 - 2386 ^\circ F	
Solidus	1255 ^\circ C	2291 ^\circ F	
Liquidus	1308 ^\circ C	2386 ^\circ F	

Component Elements Properties	Metric	English	Comments
Carbon, C	2.7 %	2.7 %	
Chromium, Cr	27 %	27 %	
Iron, Fe	67.8 %	67.8 %	
Manganese, Mn	0.90 %	0.90 %	
Silicon, Si	0.80 %	0.80 %	

Component Elements Properties

Metric

English

Comments

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