

Kennametal Stellite Stellite® 12 PM with P/M Processing

Category : Metal , Nonferrous Metal , Cobalt Alloy , Superalloy

Material Notes:

Applications: include vane plugs, fuel metering pins, spacer bushings, ball blanks (bearings), race blanks (bearings), diesel engine exhaust, fluid valve seats, saw cutter inserts, miscellaneous wear parts. Data provided by the manufacturer, Deloro Stellite Inc. Product of former Deloro Stellite Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Kennametal-Stellite-Stellite-12-PM-with-PM-Processing.php

Physical Properties	Metric	English	Comments
Density	8.28 g/cc	0.299 lb/in ³	P/M (97%), 8.52 g/cc theoretical.

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	404	404	Converted from Rockwell C hardness.
Hardness, Knoop	486	486	Converted from Rockwell C hardness.
Hardness, Rockwell A	72	72	Converted from Rockwell C hardness.
Hardness, Rockwell B	113	113	Converted from Rockwell C hardness. Beyond normal Rockwell B range, for comparison only.
Hardness, Rockwell C	44	44	Hot hardness.
Hardness, Vickers	428	428	Converted from Rockwell C hardness.

Thermal Properties	Metric	English	Comments
CTE, linear	11.9 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	6.61 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 0.000 - 100 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 212 $\text{Å}^\circ\text{F}$	
	12.8 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.11 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 0.000 - 200 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 392 $\text{Å}^\circ\text{F}$	
	12.9 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.17 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
@Temperature 0.000 - 300 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 572 $\text{Å}^\circ\text{F}$		
13.4 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.44 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$		
@Temperature 0.000 - 400 $\text{Å}^\circ\text{C}$	@Temperature 32.0 - 752 $\text{Å}^\circ\text{F}$		
13.8 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.67 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$		

Thermal Properties	Metric @Temperature 0.000 - 300 Â°C	English @Temperature 32.0 - 539 Â°F	Comments
	14.1 Âµm/m-Â°C	7.83 Âµin/in-Â°F	
	@Temperature 0.000 - 600 Â°C	@Temperature 32.0 - 1110 Â°F	
	14.4 Âµm/m-Â°C	8.00 Âµin/in-Â°F	
	@Temperature 0.000 - 700 Â°C	@Temperature 32.0 - 1290 Â°F	
	15.2 Âµm/m-Â°C	8.44 Âµin/in-Â°F	
	@Temperature 0.000 - 800 Â°C	@Temperature 32.0 - 1470 Â°F	
	15.5 Âµm/m-Â°C	8.61 Âµin/in-Â°F	
	@Temperature 0.000 - 900 Â°C	@Temperature 32.0 - 1650 Â°F	
	15.8 Âµm/m-Â°C	8.78 Âµin/in-Â°F	
	@Temperature 0.000 - 1000 Â°C	@Temperature 32.0 - 1830 Â°F	
Melting Point	1255 - 1341 Â°C	2291 - 2446 Â°F	
Solidus	1255 Â°C	2291 Â°F	
Liquidus	1341 Â°C	2446 Â°F	

Component Elements Properties	Metric	English	Comments
Boron, B	1.0 %	1.0 %	
Carbon, C	1.5 %	1.5 %	
Chromium, Cr	30 %	30 %	
Cobalt, Co	48 %	48 %	As remainder
Iron, Fe	<= 3.0 %	<= 3.0 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Nickel, Ni	<= 3.0 %	<= 3.0 %	
Other	<= 3.0 %	<= 3.0 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Tungsten, W	8.5 %	8.5 %	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
Magnetic Permeability	@Temperature 22.0 Â°C	@Temperature 71.6 Â°F	200 Oersted

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