

Kennametal Stellite Stellite® 98M2 with P/M Processing

Category : Metal , Nonferrous Metal , Cobalt Alloy , Superalloy

Material Notes:

Adhesive wear test data P/M 0.58 Typical applications include vane plugs, fuel metering pins, spacer bushings, ball bearing blanks, race bearing blanks, 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-98M2-with-PM-Processing.php

Physical Properties	Metric	English	Comments
Density	8.45 g/cc	0.305 lb/in ³	P/M (98%)
	8.63 g/cc	0.312 lb/in ³	Theoretical

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	58	58	Hot hardness.
Tensile Strength, Ultimate	794 MPa	115000 psi	
	656 MPa	95100 psi	
	@Temperature 760 Â°C	@Temperature 1400 Â°F	
	690 MPa	100000 psi	
	@Temperature 649 Â°C	@Temperature 1200 Â°F	
	725 MPa	105000 psi	
	@Temperature 538 Â°C	@Temperature 1000 Â°F	
Elongation at Break	0.30 %	0.30 %	in 25.4 mm
	0.30 %	0.30 %	
	@Temperature 538 Â°C	@Temperature 1000 Â°F	in 25.4 mm
	0.50 %	0.50 %	
	@Temperature 649 Â°C	@Temperature 1200 Â°F	in 25.4 mm
	0.50 %	0.50 %	
	@Temperature 760 Â°C	@Temperature 1400 Â°F	in 25.4 mm

Thermal Properties	Metric	English	Comments
CTE, linear	10.8 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	6.00 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 100 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 212 $\text{Å}^\circ\text{F}$	
	11.1 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	6.17 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 200 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 392 $\text{Å}^\circ\text{F}$	
	11.5 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	6.39 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 300 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 572 $\text{Å}^\circ\text{F}$	
	11.7 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	6.50 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 400 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 752 $\text{Å}^\circ\text{F}$	
	12.1 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	6.72 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	
	@Temperature 20.0 - 500 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 932 $\text{Å}^\circ\text{F}$	
12.7 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.06 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$		
@Temperature 20.0 - 600 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 1110 $\text{Å}^\circ\text{F}$		
13.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.22 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$		
@Temperature 20.0 - 700 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 1290 $\text{Å}^\circ\text{F}$		
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 20.0 - 800 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 1470 $\text{Å}^\circ\text{F}$		
13.7 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.61 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$		
@Temperature 20.0 - 900 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 1650 $\text{Å}^\circ\text{F}$		
14.1 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	7.83 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$		
@Temperature 20.0 - 1000 $\text{Å}^\circ\text{C}$	@Temperature 68.0 - 1830 $\text{Å}^\circ\text{F}$		
Melting Point	1224 - 1275 $\text{Å}^\circ\text{C}$	2235 - 2327 $\text{Å}^\circ\text{F}$	
Solidus	1224 $\text{Å}^\circ\text{C}$	2235 $\text{Å}^\circ\text{F}$	
Liquidus	1275 $\text{Å}^\circ\text{C}$	2327 $\text{Å}^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
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Component Elements Properties	Metric	English	Comments
Carbon, C	2.0 %	2.0 %	
Chromium, Cr	30 %	30 %	
Cobalt, Co	31 %	31 %	As remainder
Iron, Fe	<= 5.0 %	<= 5.0 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Molybdenum, Mo	<= 0.80 %	<= 0.80 %	
Nickel, Ni	3.5 %	3.5 %	
Other	<= 2.0 %	<= 2.0 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	
Tungsten, W	18.5 %	18.5 %	
Vanadium, V	4.2 %	4.2 %	

Electrical Properties	Metric	English	Comments
Magnetic Permeability	<= 1.20 @Temperature 22.0 Â°C	<= 1.20 @Temperature 71.6 Â°F	116 Oersted

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