

Kennametal Stellite Stellite® STAR cast

Category : Metal , Nonferrous Metal , Cobalt Alloy , Superalloy

Material Notes:

Applications: Vane plugs, fuel metering pins, spacer bushings, ball bearing blanks, race bearing blanks, diesel engine exhaust, fluid valve seats, saw cutter inserts, wear pads, pins, balls, hardfacing when crack free deposits are not required. **Corrosion:** Corrosion resistance similar to Stellite alloy 3, but inferior to Stellite alloy 6. **Excellent oxidation resistance at low temperatures, but not recommended for reducing environments.** **Corrosion will vary depending on concentration, temperature, stress, and type of contaminants so exposure tests are recommended.** **Machinability:** Stress relieve before and during machining by holding at 900°C (1650°F) for four hours and slow cool. **Wear:** High tungsten content results in excellent hot hardness and low stress abrasion resistance superior to Stellite alloy 3. Wear resistance is similar to Stellite alloy 3 and is non-galling when mated with other Stellite alloys. 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-STAR-cast.php

Physical Properties	Metric	English	Comments
Density	8.58 g/cc	0.310 lb/in ³	P/M (98%)
	8.76 g/cc	0.316 lb/in ³	Theoretical

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	56	56	Hot hardness.
Tensile Strength, Ultimate	428 MPa	62100 psi	
Elongation at Break	<= 1.0 %	<= 1.0 %	in 25.4 mm
Modulus of Elasticity	258 GPa	37400 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	12.0 Åµm/m-Å°C	6.67 Åµin/in-Å°F	
	@Temperature 0.000 - 100 Å°C	@Temperature 32.0 - 212 Å°F	
	12.1 Åµm/m-Å°C	6.72 Åµin/in-Å°F	
	@Temperature 0.000 - 200 Å°C	@Temperature 32.0 - 392 Å°F	
	12.2 Åµm/m-Å°C	6.78 Åµin/in-Å°F	
	@Temperature 0.000 - 300 Å°C	@Temperature 32.0 - 572 Å°F	
	12.3 Åµm/m-Å°C	6.83 Åµin/in-Å°F	
	@Temperature 0.000 -	@Temperature 32.0 -	

Thermal Properties	400 Â°C Metric	752 Â°F English	Comments
	12.6 Âµm/m-Â°C	7.00 Âµin/in-Â°F	
	@Temperature 0.000 - 500 Â°C	@Temperature 32.0 - 932 Â°F	
	12.8 Âµm/m-Â°C	7.11 Âµin/in-Â°F	
	@Temperature 0.000 - 600 Â°C	@Temperature 32.0 - 1110 Â°F	
	13.2 Âµm/m-Â°C	7.33 Âµin/in-Â°F	
	@Temperature 0.000 - 700 Â°C	@Temperature 32.0 - 1290 Â°F	
	13.6 Âµm/m-Â°C	7.56 Âµin/in-Â°F	
	@Temperature 0.000 - 800 Â°C	@Temperature 32.0 - 1470 Â°F	
	14.3 Âµm/m-Â°C	7.94 Âµin/in-Â°F	
	@Temperature 0.000 - 900 Â°C	@Temperature 32.0 - 1650 Â°F	
	15.1 Âµm/m-Â°C	8.39 Âµin/in-Â°F	
	@Temperature 0.000 - 1000 Â°C	@Temperature 32.0 - 1830 Â°F	
Melting Point	1215 - 1299 Â°C	2219 - 2370 Â°F	
Solidus	1215 Â°C	2219 Â°F	
Liquidus	1300 Â°C	2370 Â°F	

Component Elements Properties	Metric	English	Comments
Boron, B	<= 1.0 %	<= 1.0 %	
Carbon, C	2.5 %	2.5 %	
Chromium, Cr	32.5 %	32.5 %	
Cobalt, Co	36.5 %	36.5 %	As remainder
Iron, Fe	<= 3.0 %	<= 3.0 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Nickel, Ni	<= 3.0 %	<= 3.0 %	
Other	<= 2.0 %	<= 2.0 %	
Silicon, Si	<= 1.0 %	<= 1.0 %	

Tungsten W Component Elements Properties	17.5 % Metric	17.5 % English	Comments
Electrical Properties	Metric	English	Comments
Magnetic Permeability	<= 1.20 @Temperature 22.0 Â°C	<= 1.20 @Temperature 71.6 Â°F	200 Oersted

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