

## Kennametal Stellite Stellite® 33

Category : Metal , Nonferrous Metal , Cobalt Alloy , Superalloy

### Material Notes:

Completely non-magnetic. Specific Electrical Resistance: 39.8  $\mu\Omega\text{m/in}^3$ . Applications: standard tool bits, tipped tools, form tools, milling cutter blades, wood working tools, reamer blades, cut-off tools, valves, valve seats, hot extrusion dies, plug gages, indicator anvils, wire guides, wear strips, balls, glass shear blades, nozzles and hot forming dies. Corrosion: Resists corrosion by moist atmosphere, salt spray, milder acids, and certain strong acids. Excellent resistance to lead oxide corrosion, losing 0.18-0.20 grams per square inch per hour at 927°C. Machinability: Generally finished by grinding, should be well honed, using a hand hone to remove any grinding burr. Weldability: Cannot be welded by fusion or pressure methods. Most satisfactorily joined to steel by brazing silver solder and a paste flux are recommended. 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-33.php](http://www.lookpolymers.com/polymer_Kennametal-Stellite-Stellite-33.php)

Physical Properties	Metric	English	Comments
Density	8.77 g/cc	0.317 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	55 - 63	55 - 63	average
Tensile Strength, Ultimate	344 - 413 MPa	49900 - 59900 psi	
Modulus of Elasticity	243 GPa	35200 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	11.47 $\mu\text{m/m-}^\circ\text{C}$	6.372 $\mu\text{in/in-}^\circ\text{F}$	
	@Temperature 29.0 - 260 $^\circ\text{C}$	@Temperature 84.2 - 500 $^\circ\text{F}$	
	12.87 $\mu\text{m/m-}^\circ\text{C}$	7.150 $\mu\text{in/in-}^\circ\text{F}$	
	@Temperature 29.0 - 538 $^\circ\text{C}$	@Temperature 84.2 - 1000 $^\circ\text{F}$	
	14.04 $\mu\text{m/m-}^\circ\text{C}$	7.800 $\mu\text{in/in-}^\circ\text{F}$	
	@Temperature 29.0 - 816 $^\circ\text{C}$	@Temperature 84.2 - 1500 $^\circ\text{F}$	
Specific Heat Capacity	0.389 J/g- $^\circ\text{C}$	0.0930 BTU/lb- $^\circ\text{F}$	
Thermal Conductivity	8.40 W/m-K	58.3 BTU-in/hr-ft <sup>2</sup> - $^\circ\text{F}$	
Melting Point	1254 $^\circ\text{C}$	2289 $^\circ\text{F}$	

Component Elements Properties	Metric	English	Comments
Carbon, C	2.25 %	2.25 %	
Chromium, Cr	33 %	33 %	
Cobalt, Co	44 %	44 %	As remainder
Iron, Fe	<= 2.0 %	<= 2.0 %	
Silicon, Si	0.75 %	0.75 %	
Tungsten, W	17 %	17 %	

Electrical Properties	Metric	English	Comments
Magnetic Permeability	1.004	1.004	at 200 Oersteds

## Contact Songhan Plastic Technology Co.,Ltd.

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