

Alliance S-22B Samarium Cobalt Magnetic Material

Category : Metal , Electronic/Magnetic Alloy , Nonferrous Metal , Cobalt Alloy

Material Notes:

Order this product through the following link:

http://www.lookpolymers.com/polymer_Alliance-S-22B-Samarium-Cobalt-Magnetic-Material.php

Physical Properties	Metric	English	Comments
Density	8.40 g/cc	0.303 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	550	550	
Modulus of Elasticity	110 GPa	16000 ksi	
Flexural Strength	120 MPa	17400 psi	
Compressive Strength	1000 MPa	145000 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	7.00 $\mu\text{m/m-}^{\circ}\text{C}$	3.89 $\mu\text{in/in-}^{\circ}\text{F}$	Parallel DOM
	@Temperature 20.0 $^{\circ}\text{C}$	@Temperature 68.0 $^{\circ}\text{F}$	
CTE, linear, Transverse to Flow	13.0 $\mu\text{m/m-}^{\circ}\text{C}$	7.22 $\mu\text{in/in-}^{\circ}\text{F}$	
	@Temperature 23.0 $^{\circ}\text{C}$	@Temperature 73.4 $^{\circ}\text{F}$	
Specific Heat Capacity	0.370 J/g- $^{\circ}\text{C}$	0.0884 BTU/lb- $^{\circ}\text{F}$	
Thermal Conductivity	10.0 W/m-K	69.4 BTU-in/hr-ft ² - $^{\circ}\text{F}$	
Maximum Service Temperature, Air	250 $^{\circ}\text{C}$	482 $^{\circ}\text{F}$	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000500 - 0.0000600 ohm-cm	0.0000500 - 0.0000600 ohm-cm	
Magnetic Coercive Force, Hc	9100 Oe	9100 Oe	Intrinsic
	20000 Oe	20000 Oe	
Magnetic Remanence, Br	9500 Gauss	9500 Gauss	
Magnetic Maximum Energy Product, BH	22 MGOe	22 MGOe	
Curie Temperature	750 $^{\circ}\text{C}$	1380 $^{\circ}\text{F}$	

Descriptive Properties	Value	Comments
Reversible Temp Coef., Bd	-0.05 %/°C	
Reversible Temp Coef., Hd	+0.25 %/°C	
Temperature Coefficient, Br	-0.04 %/°C	(20-100°C)
Temperature Coefficient, Hci	-0.045 %/°C	(20-100°C)

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