

Alliance S-30B 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-30B-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	640	640	
Modulus of Elasticity	150 GPa	21800 ksi	
Flexural Strength	90.0 - 150 MPa	13100 - 21800 psi	
Compressive Strength	650 MPa	94300 psi	

Thermal Properties	Metric	English	Comments
CTE, linear	10.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	5.56 $\mu\text{in}/\text{in}\cdot\text{°F}$	Parallel DOM
	@Temperature 20.0 °C	@Temperature 68.0 °F	
CTE, linear, Transverse to Flow	12.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	6.67 $\mu\text{in}/\text{in}\cdot\text{°F}$	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Specific Heat Capacity	0.390 J/g·°C	0.0932 BTU/lb·°F	
Thermal Conductivity	12.0 W/m-K	83.3 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	300 °C	572 °F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000750 - 0.0000850 ohm-cm	0.0000750 - 0.0000850 ohm-cm	
Magnetic Coercive Force, Hc	10200 Oe	10200 Oe	
	20000 Oe	20000 Oe	Intrinsic
Magnetic Remanence, Br	11200 Gauss	11200 Gauss	
Magnetic Maximum Energy Product, BH	30 MGOe	30 MGOe	
Curie Temperature	750 °C	1380 °F	

Descriptive Properties	Value	Comments
Reversible Temp Coef., Bd	-0.03 %/°C	
Reversible Temp Coef., Hd	+0.23 %/°C	
Temperature Coefficient, Br	-0.03 %/°C	(20-100°C)
Temperature Coefficient, Hci	-0.18 %/°C	(20-100°C)

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