



Samarium Cobalt / Magnetic Properties

Grade	Press ¹	Type ²	Br (Gauss)	Hc (Oersteds)	Hci (Oersteds)	BHmax (MGOe)	Temperature Coefficients (%/°C)		Maximum Operating Temp @ Pc = 2 ³	
			Range	Typical	Minimum	Range	of Br	of Hci	(°C)	(°F)
S3120	D	2:17	10,700 ~ 11,500	10,300	20,000	25 ~ 31	-0.04	-0.20	~ 350	~ 660

¹ D: Die-Pressed, I: Isostatically-Pressed

² Type: Sm₁Co₅ or Sm₂Co₁₇ types

³ The Maximum Operating Temperature shown here is for magnets operating at a Permeance Coefficient of 2. At the temperatures shown the operating point of the material is above the knee of the BH Curve.

Samarium Cobalt / Physical Properties

Grade	Density		Bending Strength		Compressive Strength		Electrical Resistivity (Ωm)	Coeff. of Thermal Expansion ⁴		Curie Temperature	
	(kg/m ³)	(lbs/in ³)	(kg/m ²)	(lbs/in ²)	(kg/m ²)	(lbs/in ²)		// M	⊥M	(°C)	(°F)
S3120	8.4 x 10 ³	0.304	1.2 x 10 ³	1.7 x 10 ⁴	9.1 x 10 ³	1.3 x 10 ⁵	0.8 x 10 ⁻⁶	9.2 x 10 ⁻⁶	11.7 x 10 ⁻⁶	825	1510

⁴// M Parallel to magnetic orientation, ⊥M Perpendicular to magnetic orientation.