

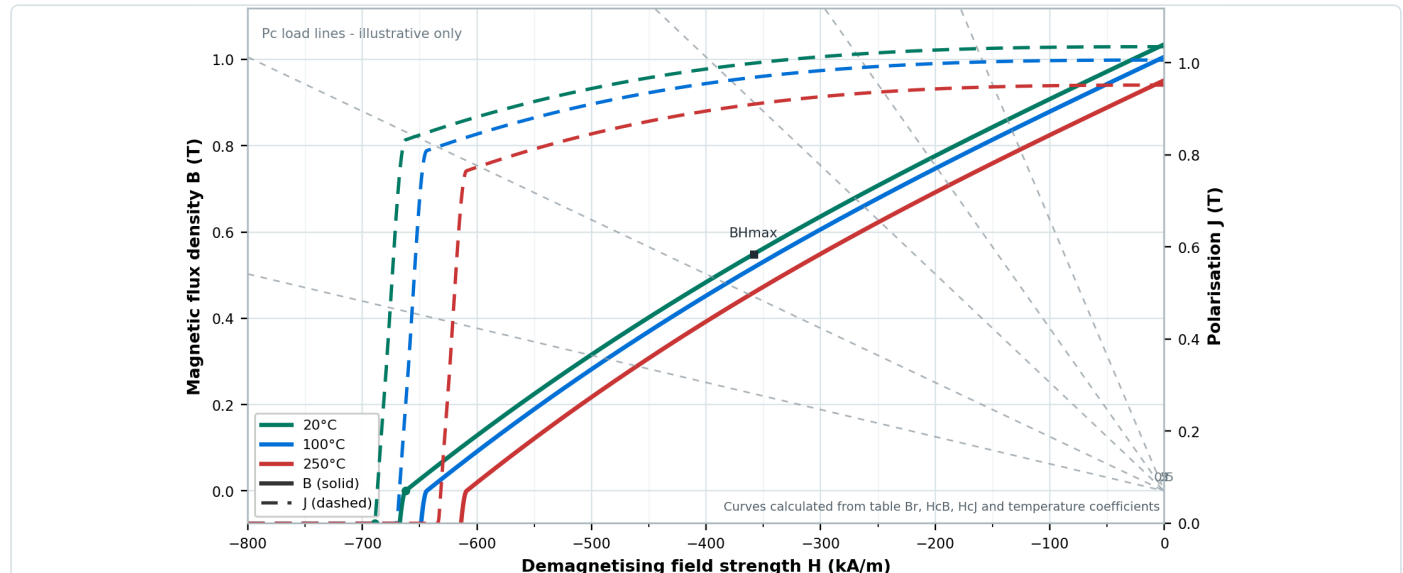
Technical Datasheet: Samarium Cobalt Sm2Co17-26L

Material family: Sm2Co17 · GBT 4180-2012: XGS 207/50

Solid lines represent estimated magnetic flux density B. Dashed lines represent estimated polarisation J. Curves are generated from tabulated grade data for preliminary material comparison.

B_R [T]	H_{CB} [kA/m]	H_{CJ} [kA/m]	$(BH)_{MAX}$ [kJ/m ³]	T_{MAX} [°C]
1.02-1.05	541-784	636-955	191-207	≤250

Estimated Demagnetisation Curve — Sm2Co17-26L



Grade Information		Magnetic Properties			
Grade family	Sm2Co17-L	Property	SI value		Alt. value
Grade	Sm2Co17-26L	Remanence B_r	1.02-1.05	T	10.2-10.5 kGs
GBT 4180-2012	XGS 207/50	Normal coercivity H_{CB}	541-784	kA/m	6.8-9.4 kOe
Max. working temperature	≤250 °C	Intrinsic coercivity H_{CJ}	636-955	kA/m	8-12 kOe
Density	8.4 g/cm ³	Max. energy product $(BH)_{max}$	191-207	kJ/m ³	24-26 MGOe
		Temp. coefficient of B_r $\alpha(B_r)$	-0.035	%/°C	
		Temp. coefficient of H_{CJ} $\beta(H_{CJ})$	-0.2	%/°C	

Typical reference values for the SmCo material family. These values are not grade-specific measured values.

Reference Physical & Mechanical Properties @20°C — Sm2Co17 family					
Vickers hardness	typ	400 - 700	HV	Specific heat capacity	typ 320 - 390 J/(kg·K)
Modulus of elasticity / Young's modulus	typ	100 - 200	GPa	Thermal conductivity	typ 10 - 13 W/(m·K)
Flexural / bending strength	typ	90 - 180	MPa	Recoil permeability μ_r	typ 1.1 -
Compressive strength	typ	650 - 1200	MPa	Coeff. of linear thermal expansion, $\parallel$ DOM*	typ 5 - 12 $\times 10^{-6}/K$
Tensile strength / ultimate strength	typ	30 - 50	MPa	Coeff. of linear thermal expansion, $\perp$ DOM*	typ 10 - 13 $\times 10^{-6}/K$
Electrical resistivity	typ	0.5 - 0.9	$\mu\Omega m$		

Selection note — Sm2Co17-L: Lower-coercivity Sm2Co17 variant; use where the lower H_{CJ} profile is suitable.

Estimated curves are indicative only and are not measured test data. Final material specification, tolerances and performance should be confirmed against agreed supply documentation. * DOM = Direction of Magnetisation.

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