

34 GRADE SAMARIUM COBALT MAGNETS



The Premier Source for Samarium Cobalt

Electron Energy Corporation's (EEC's) 34 Grade Samarium Cobalt (SmCo) delivers best-in-class performance for your most mission critical applications. The 34 Grade SmCo provides a superior energy product, corrosion resistance, excellent temperature stability, and demagnetization resistance.

Optimized Performance

- **Energy density** is maximized to deliver the highest energy in the smallest size.
- **Lighter weight** is possible with less material, so you can pack more power into smaller payloads.
- **Improved efficiency** is achieved by delivering more torque with magnet material.

Engineering Support

EEC's engineering team is a highly capable group that works closely with our customers to develop magnet solutions that optimize performance. Because EEC is a producer of rare earth magnets, we have a deep understanding of the materials and the science behind their performance. This understanding translates into superior product development and a reduction in defects for faster time to market.

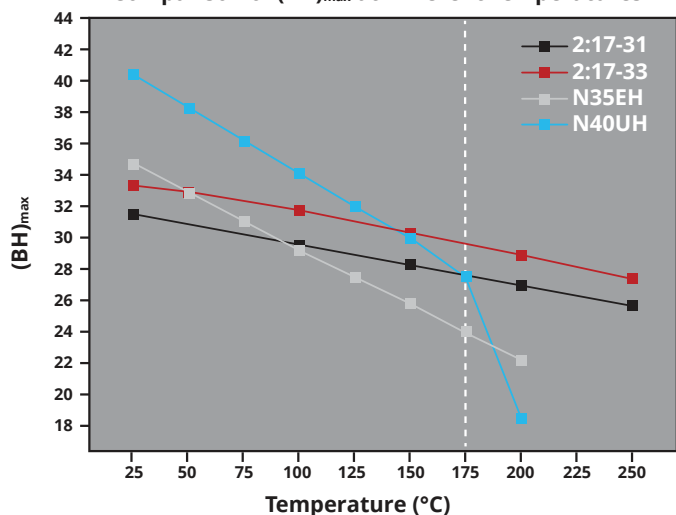
SmCo is the Ultimate Choice for High-Performance Applications Including:

- High-Speed Motors
- Generators and Actuators
- Microwave Signal Amplification
- Aircraft and Aerospace Assemblies
- Biomedical and Surgical Equipment
- Oil and Gas Exploration



Highest Energy Output vs. Temperature

Comparison of $(BH)_{max}$ at Different Temperatures



Properties of 34 Grade SmCo Magnets

Maximum Energy Product $(BH)_{\max}$

Characteristic	typ	min
MGOe	34	32
kJ/m ³	271	255

Residual Induction B_r

Characteristic	typ	min
kG	11.9	11.70
T	1.19	1.17

Coercivity H_c

Characteristic	typ	min
kOe	11.1	10.8
kA/m	884	860

Intrinsic Coercivity iH_c

Characteristic	min
kOe	18
kA/m	1433

Reversible Temp. Coefficients of B_r (1)

Characteristic	typ
%/°C (of induction B_r)	-0.035
%/°C (of coercivity iH_c)	-0.25

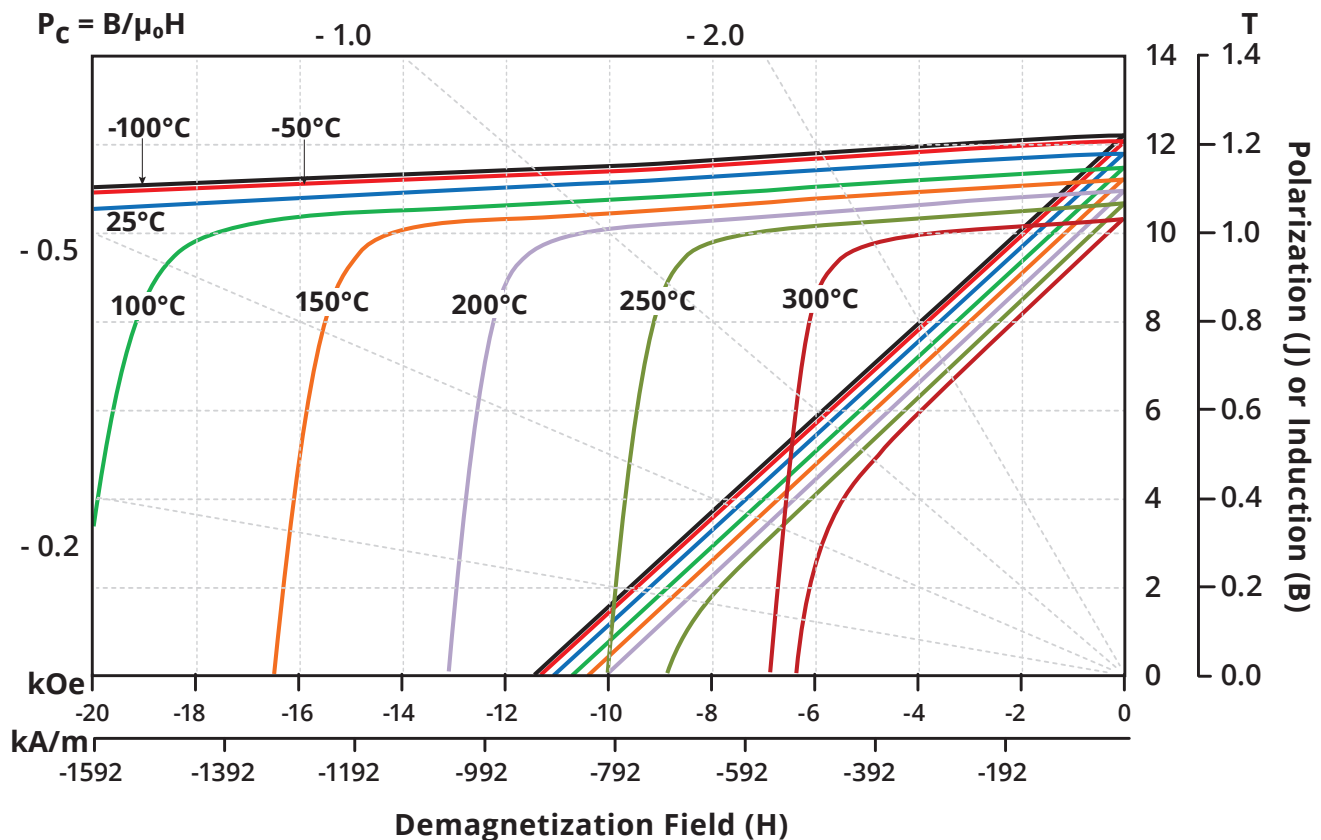
Maximum Operating Temp. (2)

Characteristic	typ
°C	250

(1) Typical reversible temperature coefficient (RTC) of B_r calculated between -50 and 150°C. It is for reference only.

(2) Maximum operating temperature has strong dependence on the loadline and operating environment. Consult EEC engineering for details.

EEC 2:17-34 Sintered $\text{Sm}_2\text{Co}_{17}$



Notes

The information above is representative of typical material properties and may vary due to part geometry and weight. Additional customized magnet materials available upon request. Please contact Electron Energy Corporation for more information.

EEC 2:17-34 (is DFARS compliant)