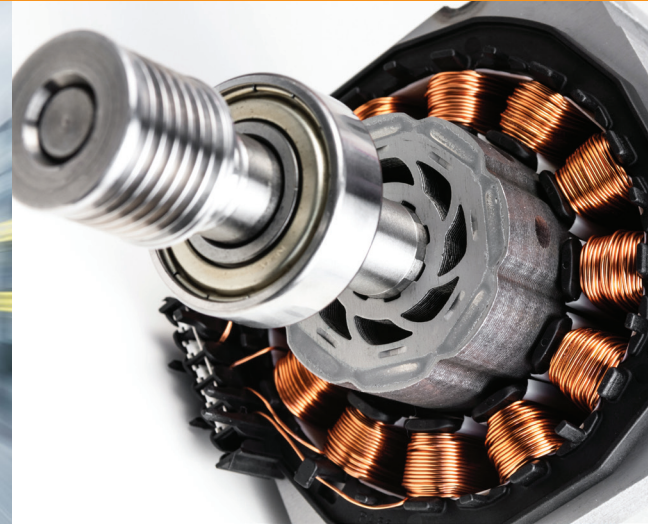


# 34 GRADE SAMARIUM COBALT MAGNETS



## The Highest Energy Grade SmCo Available

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.

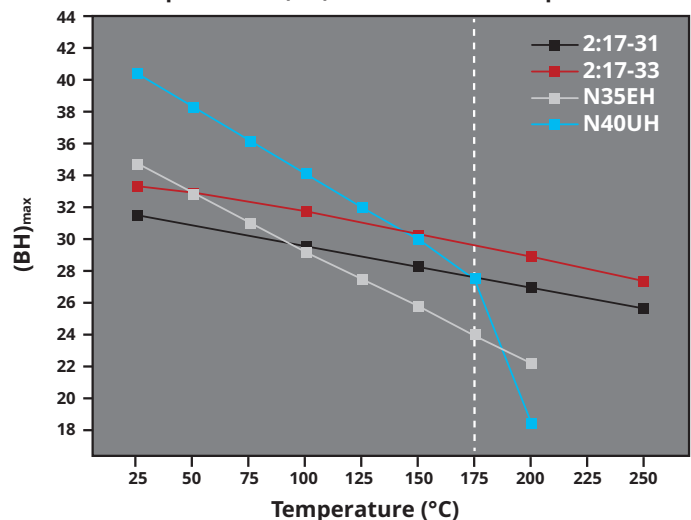
### SmCo is the Ultimate Choice for High-Performance

#### 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 <sup>3</sup>	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

### RTC of $B_r$ (1)

Characteristic	typ
%/°C	-0.035

### 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.

