When there's no one left to beat

BREAK YOUR OWN RECORDS

Arnold Magnetic Technologies

RECOMA® 35E

What could a 10% boost in performance mean for you?

Arnold Magnetic Technologies' Samarium Cobalt (SmCo) magnet materials offer market leading performance, and our most recently released grade, RECOMA® 35E, pushes the bar even higher.

RECOMA 35E enables significant opportunity for increased performance, in smaller packages and at higher temperatures, with no trade-off in stability.

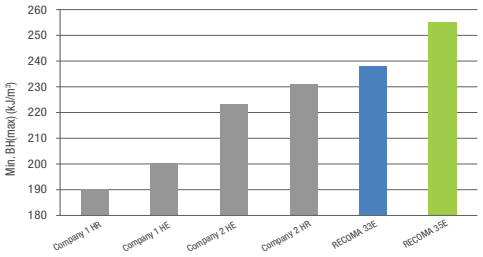
More power, less weight—for applications from aerospace rotors to motor sports.

Reduced supply chain risk—from mine to assembly. Design out reliance on rare dysprosium (Dy) with SmCo.

Market-leading coercivity—not only does it deliver an even higher field than RECOMA 33E, it does so with no sacrifice in stability.

Outperform your competition, RECOMA 35E

RECOMA 35E delivers the highest energy product available



Range of Applications

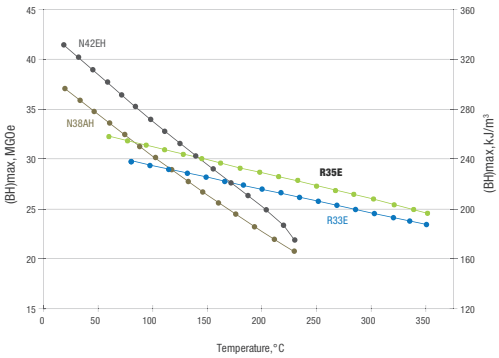
Arnold's RECOMA 35E is an ideal fit for applications where performance improvement is a priority.

Motorsports
Get ahead of the competition with innovative high performance materials that maximize torque and acceleration in the smallest, most reliable package.

Aerospace
Make your design smaller and lighter and eliminate water cooling with RECOMA's unmatched temperature stability.

Automotive
Accelerate electrification with easier miniaturization and more powerful motors.

Comparison of Neo & SmCo as a function of temperature



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ARNOLD® MAGNETIC TECHNOLOGIES

RECOMA® 35E

Record Breaking Performance at Higher Temperatures

Magnetic Properties

Characteristic	Units	Min.	Nominal
Br Residual Induction	Gauss Tesla	11,700 1.170	11,900 1.190
H_{cB} Coercivity	Oersteds kA/m	10,810 860	11,060 880
H_{cJ} Intrinsic Coercivity	Oersteds kA/m	21,000 1,710	23,000 1,800
BHmax Max. Energy Product	MGOe kJ/m³	32.0 255	33.3 265

Thermal Properties

Characteristic	Units	C // I C ⊥
Reversible Temp. Coefficients[1]		
of Induction, α(Br)	%/ºC	-0.035
of Coercivity, α(Hcj)	%/ºC	-0.25
Coefficient of Thermal Expansion[2]	ΔL/L/ºCx10⁻⁶	11 I 13
Thermal Conductivity	W/m-°C	10
Specific Heat[3]	J/(kg•K)	350
Max. Recommended Use Temp.	ºC	300
Curie Temperature, Tc	ºC	820

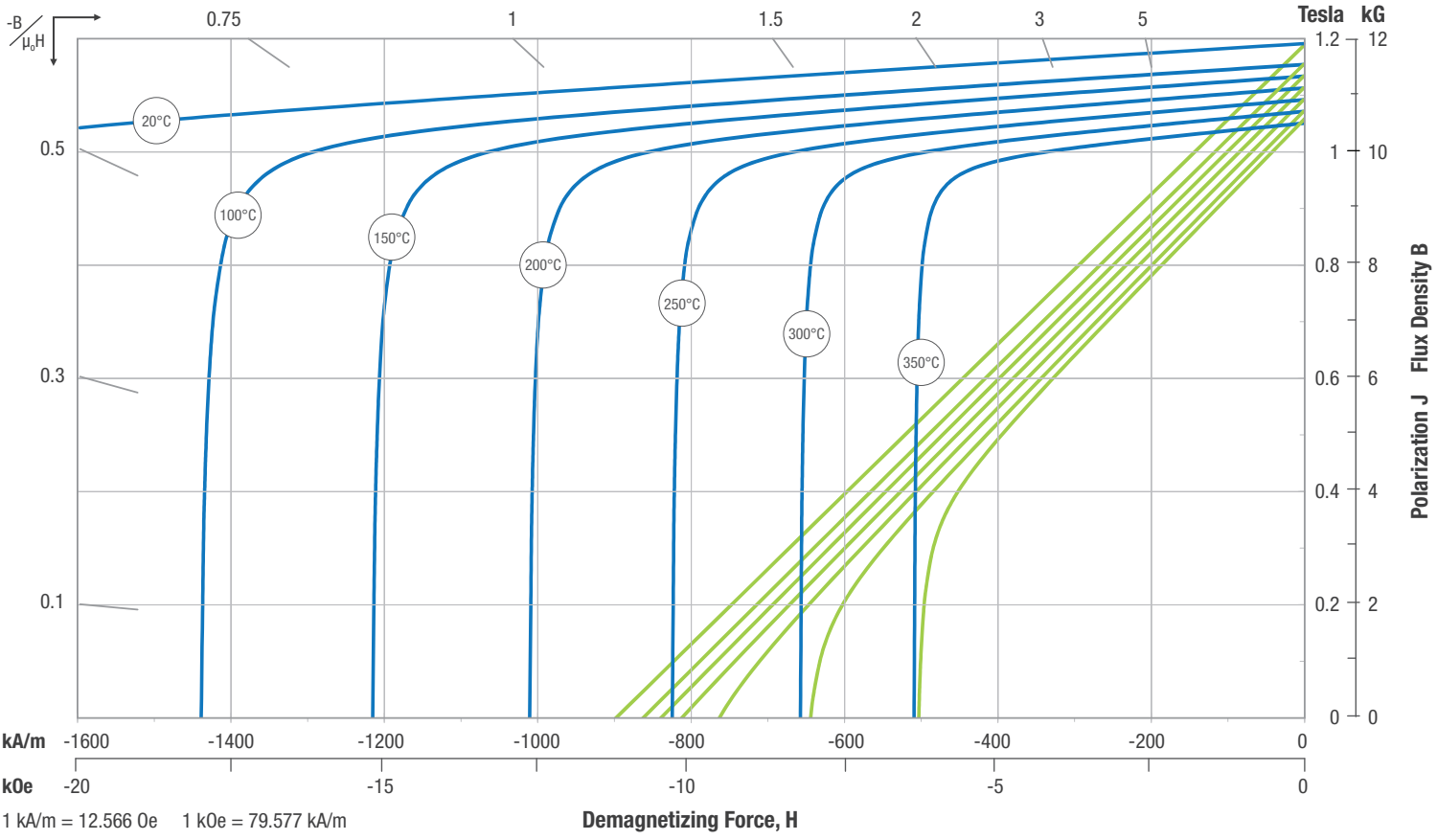
Other Properties

Characteristic	Units	C // I C ⊥
Flexural Strength	psi MPa	17,400 120
Compressive Strength	psi MPa	116,000 800
Young's Modulus	GPa	140
Density	Mg/m³	8.3
Hardness, Vickers	Hv	600
Electrical Resistivity, ρ	μΩ • cm	90

[1] Coefficients measured between 20 and 200 ºC [2] Between 20 and 200 ºC [3] Between 20 and 150 ºC

RECOMA 35E Sintered Sm_2Co_{17}

Demagnetization Curves



1 kA/m = 12.566 Oe 1 kOe = 79.577 kA/m

Notes: The material data and demagnetization curves shown above represent typical properties that may vary due to product shape and size. Demagnetization curves show nominal Br and H_{cJ}. Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.

Dimensions and shape of the magnet, in combination with required manufacturing processes, may cause the magnetic and physical characteristics to vary from typical values. Therefore, all data presented in this document are for general reference only and should not be relied upon to represent standard characteristics, nor are they guaranteed upon use. Arnold Magnetic Technologies reserves the right to change information in this document, including magnet performance standards, specifications, and characteristics without notice.

RECOMA 35E is DFARS and RoHS/RoHS2 compliant.

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