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N40M

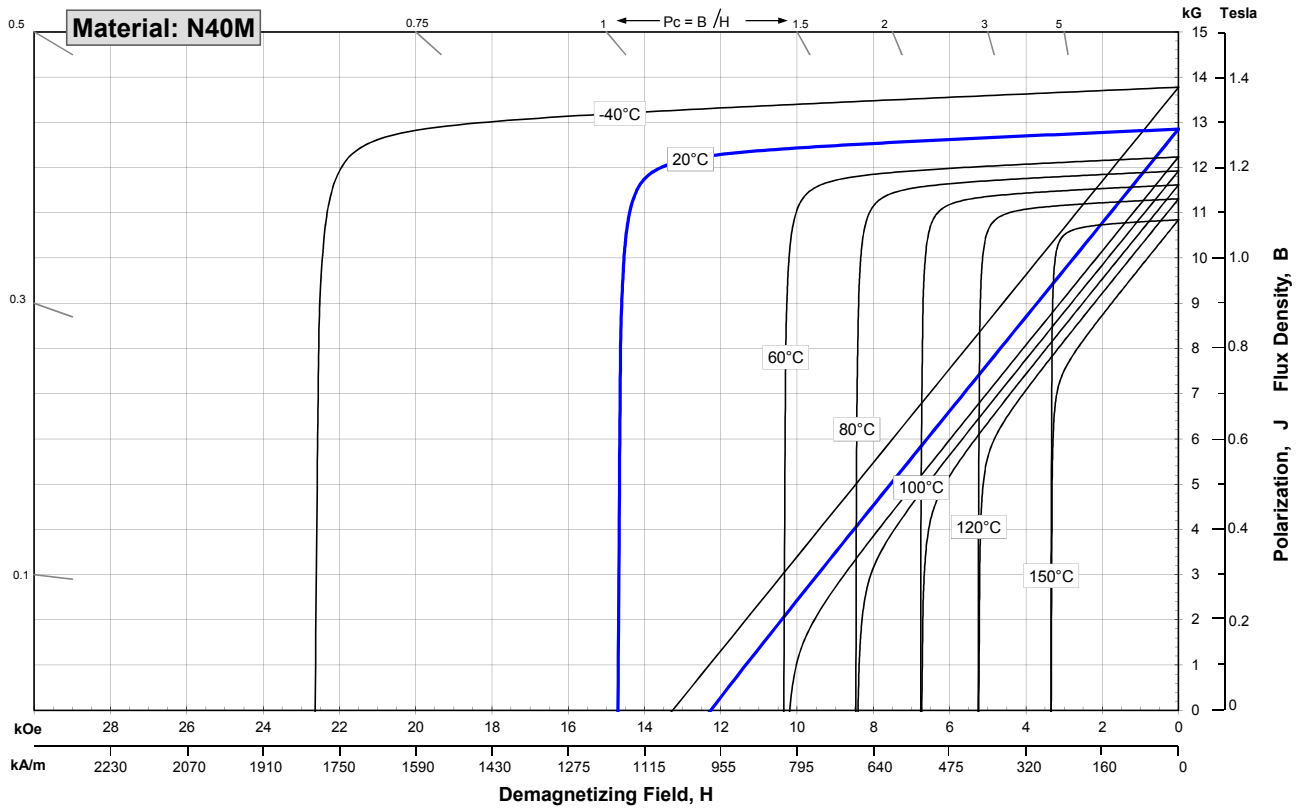
Sintered Neodymium-Iron-Boron Magnets

These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact Arnold for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

	Characteristic	Units	min.	nominal	max.
Magnetic Properties	**Br**, Residual Induction	Gauss	12,500	12,850	13,200
		mT	1250	1285	1320
	H_{cB}, Coercivity	Oersteds	11,600	12,100	12,600
		kA/m	923	963	1003
	H_{cJ}, Intrinsic Coercivity	Oersteds	14,000		
		kA/m	1,114		
	BHmax, Maximum Energy Product	MGOe	38	41	43
		kJ/m³	302	322	342

	Characteristic	Units	C //	C ⊥
Thermal Properties	Reversible Temperature Coefficients (1)			
	of Induction, α(Br)	%/°C	-0.120	
	of Coercivity, α(Hcj)	%/°C	-0.675	
	Coefficient of Thermal Expansion (2)	ΔL/L per °Cx10⁻⁶	7.5	-0.1
	Thermal Conductivity	W / (m • K)	7.6	
	Specific Heat (3)	J / (kg • K)	460	
	Curie Temperature, Tc	°C	310	
Other Properties	Flexural Strength	psi	41,300	
		MPa	285	
	Density	g/cm³	7.5	
	Hardness, Vickers	Hv	620	
	Electrical Resistivity, ρ	μΩ • cm	180	

Notes: (1) Coefficients measured between 20 and 100 °C
(2) Between 20 and 200 °C (3) Between 20 and 140 °C



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. Magnets can be supplied thermally stabilized or magnetically calibrated to customer specifications. Additional grades are available. Please contact the factory for information.