

N42 Grade Sintered Neodymium-Iron-Boron Magnets

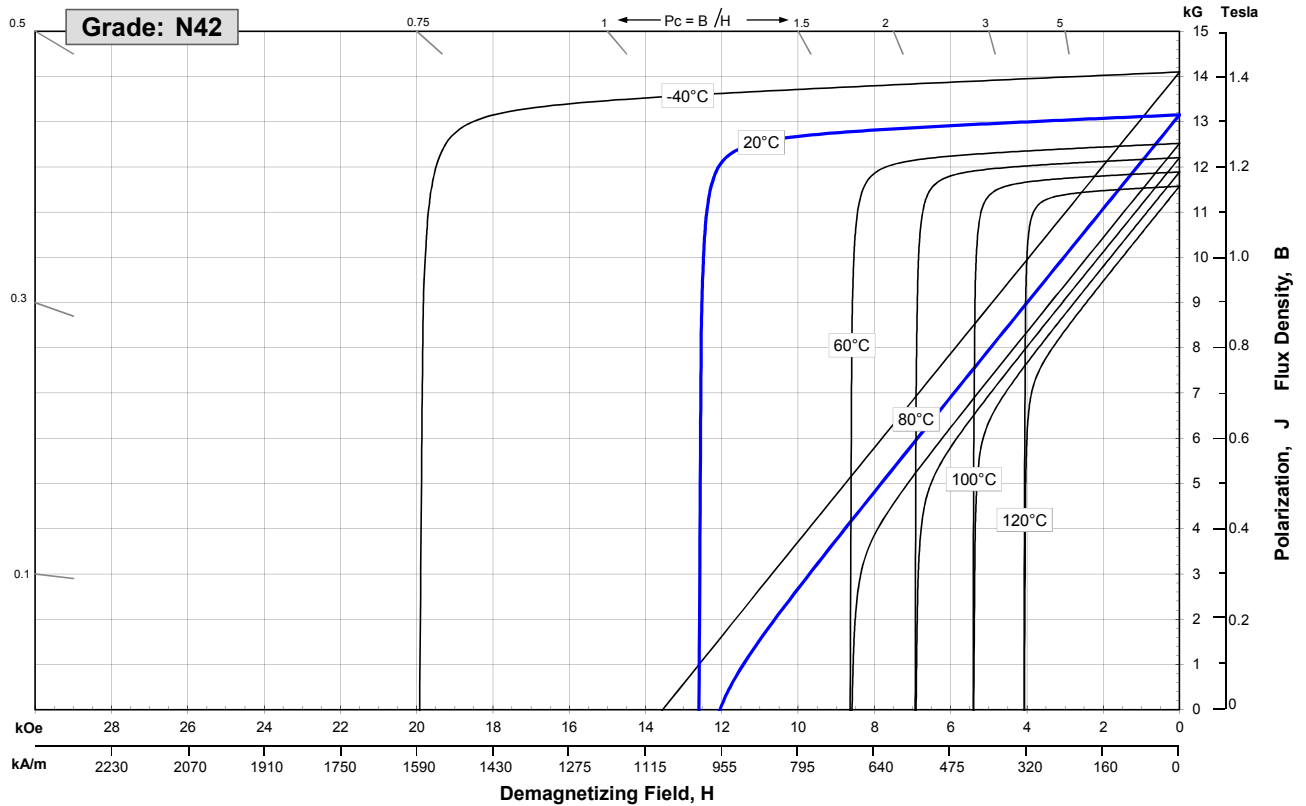
These are also referred to as "Neo" or NdFeB magnets. They offer a combination of high magnetic output at moderate cost. Please contact ALB for additional grade information and recommendations for protective coating. Assemblies using these magnets can also be provided.

Characteristic	Units	Magnetic Properties		
		min.	nominal	max.
Br , Residual Induction	Gauss	12,800	13,150	13,500
	mT	1280	1315	1350
H_{CB} , Coercivity	Oersteds	10,800	11,850	12,900
	kA/m	860	943	1027
H_{CJ} , Intrinsic Coercivity	Oersteds	12,000		
	kA/m	955		
BH_{max} , Maximum Energy Product	MGOe	40	42	44
	kJ/m ³	318	334	350

Characteristic	Units	C // C ⊥	
		C //	C ⊥
Thermal Properties			
Reversible Temperature Coefficients ⁽¹⁾			
of Induction, α(Br)	%/°C	-0.120	
of Coercivity, α(Hcj)	%/°C	-0.750	
Coefficient of Thermal Expansion ⁽²⁾	ΔL/L per °C×10 ⁻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/cm ³	7.5	
Hardness, Vickers	Hv	620	
Electrical Resistivity, ρ	μΩ · cm	180	

Notes: (1) Coefficients measured between 20 and 80 °C
(2) Between 20 and 200 °C
(3) Between 20 and 140 °C

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

