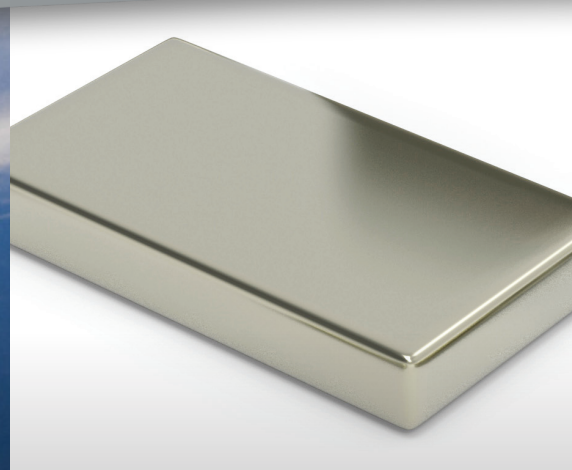




High-Performance Neodymium Iron Boron Magnets

Electron Energy Corporation (EEC) is a preferred supplier of neodymium iron boron (NdFeB), or “neo” magnets, for a variety of markets and applications. NdFeB magnets offer the highest energy product of any permanent magnet material on the market today. The various grades of EEC’s NdFeB offer customers many options when selecting materials based on operating temperature and energy product requirements. NdFeB magnet applications include high-performance motors, brushless DC motors, sensors, and magnetic resonance imaging equipment. EEC’s NdFeB magnets provide a cost-effective solution for high-performance requirements.

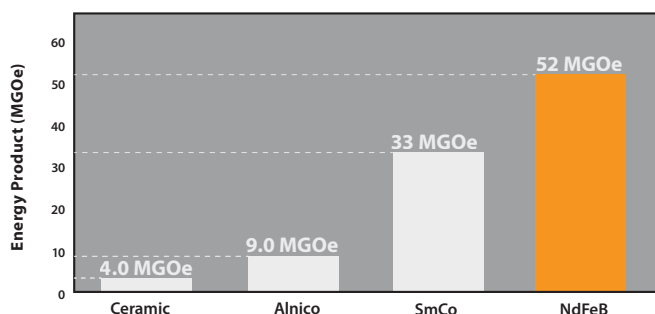
DFARS Compliant NdFeB Magnets

EEC now has available neodymium iron boron that is fully compliant with the U.S. Defense Federal Acquisition Regulation Supplement (DFARS 225.7018 Restriction on acquisition of certain magnets and tungsten, ‘The John S. McCain National Defense Authorization Act – NDAA 2019’).

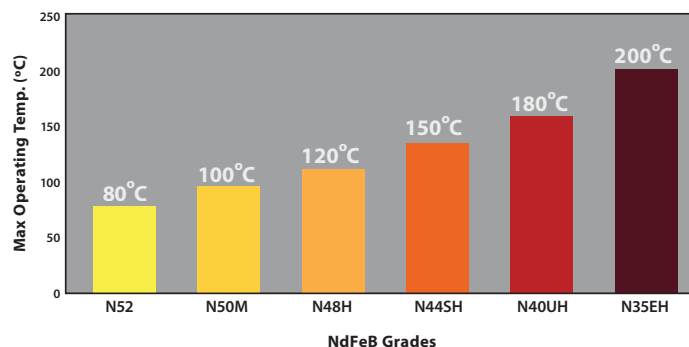
More Than Just Your Supplier

As a producer of permanent magnet materials, EEC has a deep understanding of the science behind the materials. This insight separates EEC from competitors and allows its engineering team to provide best-in-class service to customers. EEC’s applications engineering team works closely with customers to develop magnetic solutions and optimize design performance. In addition to applications engineering, EEC also provides magnetic circuit design and research and development services.

NdFeB Provides the Highest Energy Product Available



Operating Temperatures by NdFeB Grade



Neodymium Iron Boron (NdFeB)

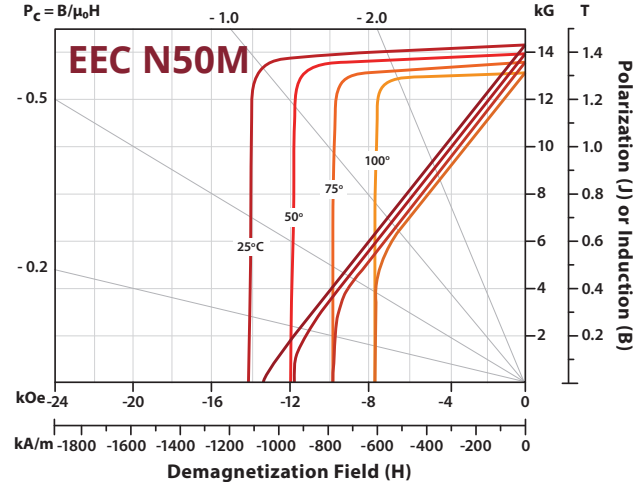
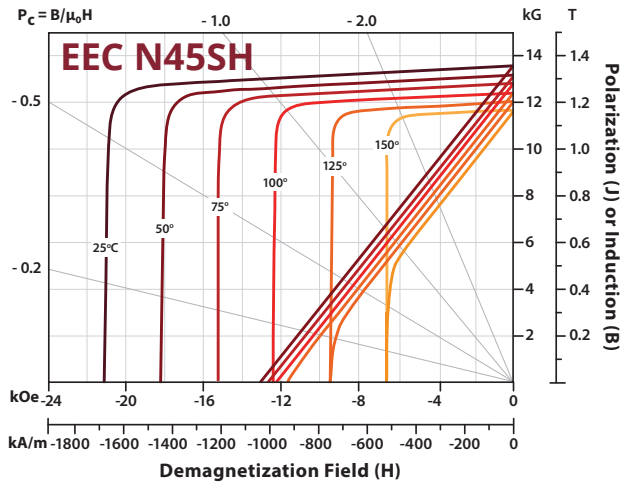
- DFARS compliant grades available
- High Energy product for optimized performance
- Multipole magnet assemblies available

EEC Grades of NdFeB:

- Form-fit-function replacements for non-compliant DFAR material
- Options for operating temperatures up to 200°C
- Variety of coating options for corrosion resistance

EEC’s NdFeB products are used in a variety of applications including:

- Actuators and Motors
- Electric Wind Turbine Generators
- Electronic Medical Devices
- Electric Drives
- Magnetic Resonance Imaging (MRI)
- Magnetic Bearings



Magnetic Properties of NdFeB Magnets

Grade		Maximum Energy Product (BH) _{max}				Residual Induction B _r				Coercivity H _c				Intrinsic Coercivity iH _c		Max. Operating Temp. ⁽²⁾
		MGoe		kJ/m ³		kG		T		kOe		kA/m		kOe	kA/m	°C
		Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Typ	Min	Min	Min	L/D>0.7
N	EEC N52	52	49	413.9	390.0	14.6	14.2	1.46	1.42	10.5	10.0	836	796	11	876	70
	EEC N50	50	47	398.0	374.1	14.3	13.9	1.43	1.39	11.0	10.5	876	836	11	876	70
	EEC N48	48	45	382.1	358.2	14.1	13.6	1.41	1.36	11.5	11.0	915	876	12	955	80
	EEC N45	45	43	358.2	342.3	13.6	13.2	1.36	1.32	11.5	11.0	915	876	12	955	80
	EEC N42	42	40	334.3	318.4	13.3	13.0	1.33	1.30	11.5	11.0	915	876	12	955	80
	EEC N40	40	38	318.4	302.5	12.9	12.6	1.29	1.19	11.5	11.0	915	876	12	955	80
M	EEC N50M	50	47	398.0	374.1	14.3	13.9	1.43	1.39	13.0	12.0	1035	955	14	1114	90
	EEC N48M	48	45	382.1	358.2	14.1	13.6	1.41	1.36	13.0	12.2	1035	971	14	1114	100
	EEC N45M	45	41	358.2	326.4	13.5	13.0	1.35	1.30	13.0	12.2	1035	971	14	1114	100
	EEC N42M	42	40	334.3	318.4	13.3	13.0	1.33	1.30	12.4	12.0	987	955	14	1114	100
	EEC N40M	40	38	318.4	302.5	12.9	12.6	1.29	1.26	12.1	11.6	963	923	14	1114	100
	EEC N38M	38	36	302.5	286.6	12.6	12.3	1.26	1.23	12.0	11.3	955	899	14	1114	100
H	EEC N48H	48	45	382.1	358.2	13.9	13.6	1.39	1.36	13.5	12.9	1075	1027	16	1274	120
	EEC N45H	45	41	358.2	326.4	13.5	13.0	1.35	1.30	13.0	12.2	1035	971	16	1274	120
	EEC N42H	42	40	334.3	318.4	13.1	12.8	1.31	1.28	12.6	12.0	1003	955	17	1353	120
	EEC N40H	40	38	318.4	302.5	13.0	12.6	1.30	1.26	12.5	11.8	995	939	17	1353	120
	EEC N38H	38	36	302.5	286.6	12.6	12.3	1.26	1.23	12.2	11.6	971	923	17	1353	120
SH	EEC N45SH	45	41	358.2	326.4	13.5	13.0	1.35	1.30	13.0	12.2	1035	971	20	1592	150
	EEC N42SH	42	40	334.3	318.4	13.1	12.8	1.31	1.28	12.6	12.1	1003	963	20	1592	150
	EEC N40SH	40	38	318.4	302.5	12.9	12.6	1.29	1.26	12.5	12.0	995	955	20	1592	150
	EEC N38SH	38	36	302.5	286.6	12.6	12.3	1.26	1.23	12.1	11.7	963	931	20	1592	150
	EEC N35SH	35	33	278.6	262.7	12.0	11.7	1.20	1.17	11.6	11.1	923	884	20	1592	150
UH	EEC N40UH	40	37	318.4	294.5	12.9	12.4	1.29	1.24	12.4	11.6	987	923	25	1990	180
	EEC N38UH	38	34	302.5	270.6	12.4	11.9	1.24	1.19	11.9	11.1	947	884	25	1990	180
	EEC N35UH	35	33	278.6	262.7	12.0	11.7	1.20	1.17	11.6	10.8	923	860	25	1990	180
	EEC N33UH	33	31	262.7	246.8	11.6	11.1	1.16	1.11	11.0	10.6	876	844	25	1990	180
	EEC N30UH	30	28	238.8	222.9	11.2	10.8	1.12	1.08	10.6	10.2	844	812	25	1990	180
EH	EEC N35EH	35	33	278.6	262.7	12.0	11.7	1.20	1.17	11.6	11.1	923	884	30	2388	200
	EEC N33EH	33	31	262.7	246.8	11.6	11.1	1.16	1.11	10.9	10.5	868	836	30	2388	200
	EEC N30EH	30	28	238.8	222.9	11.1	10.8	1.11	1.08	10.6	10.2	844	812	30	2388	200

(1) Reversible temperature coefficient of residual induction. Calculated between 20°C and 100°C.

(2) Maximum operating temperature for stand alone parts with an effective L/D ratio greater than 0.7. Maximum operating temperature has strong dependence on the loadline and the operating environment. It can be substantially higher or lower than the published data because of the working point of the magnets in specific systems. Please call EEC engineers for consultation if you have any questions on the maximum operating temperature.