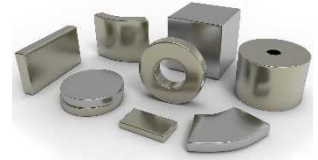


Neodymium Iron Boron (NdFeB) magnets



Are of the Rare Earth class, have been commercially available since the mid -1980's. Their popularity has grown rapidly due to their high Maximum Energy Product and their wide range of available shapes, sizes, and grades. NdFeB magnets can be manufactured by sintering, compression bonding, injection moulding, and extrusion. The sintered form holds the highest energy product of up to 48MGOe, while the bonded form holds a lower energy product of up to 10MGOe.

The majority of NdFeB magnets are anisotropic and can only be magnetised in the orientation direction. In general, magnetising fields of approximately 30kOe are required to saturate NdFeB magnets. These magnets are prone to corrosion in humid environments. For this, liquid epoxy, dry epoxy, nickel plating, zinc plating, and combinations of these coatings may be used as a protective measure.



Surface Treatment Method: Zinc, Nickel, Tin, Phosphor, Silver or Gold Plating Spray Coating Epoxy Resin.

Typical Magnetic Performance for Sintered NdFeB Magnet

Grade	Br		Hcb		Hcj		BHmax		Density	Tw Max
	kGs	mT	kOe	kA/m	kOe	kA/m	KJ/m ³	MGOe	g/cm ³	°C
N27	10.3-10.8	1030-1080	≥10.0	≥796	≥12	≥955	199-231	25-29	7.5	80
N30	10.8-11.3	1080-1130	≥10.0	≥796	≥12	≥955	223-247	28-31	7.5	80
N33	11.3-11.7	1130-1170	≥10.5	≥836	≥12	≥955	247-271	31-34	7.5	80
N35	11.7-12.2	1170-1220	≥10.9	≥868	≥12	≥955	263-287	33-36	7.5	80
N38	12.2-12.5	1220-1250	≥11.3	≥899	≥12	≥955	287-310	36-39	7.5	80
N40	12.5-12.8	1250-1280	≥11.4	≥907	≥12	≥955	302-326	38-41	7.5	80
N42	12.8-13.2	1280-1320	≥11.5	≥915	≥12	≥955	318-342	40-43	7.5	80
N45	13.2-13.8	1320-1380	≥11.6	≥923	≥12	≥955	342-366	43-46	7.5	80
N48	13.8-14.2	1380-1420	≥11.6	≥923	≥12	≥876	366-390	46-49	7.5	80
N50	14.0-14.5	1400-1450	≥10.0	≥796	≥11	≥876	382-406	48-51	7.5	80
N52	14.3-14.8	1430-1480	≥10.0	≥796	≥11	≥876	398-422	50-53	7.5	80
30H	10.8-11.3	1080-1130	≥10.0	≥796	≥17	≥1353	223-247	28-31	7.5	120
33H	11.3-11.7	1130-1170	≥10.5	≥836	≥17	≥1353	247-271	31-34	7.5	120
35H	11.7-12.2	1170-1220	≥10.9	≥868	≥17	≥1353	263-287	33-36	7.5	120
38H	12.2-12.5	1220-1250	≥11.3	≥899	≥17	≥1353	287-310	36-39	7.5	120
40H	12.5-12.8	1250-1280	≥11.6	≥923	≥17	≥1353	302-326	38-41	7.5	120
42H	12.8-13.2	1280-1320	≥12.0	≥955	≥17	≥1353	318-342	40-43	7.5	120
45H	13-13.6	1300-1360	≥12.1	≥963	≥17	≥1353	326-358	43-46	7.5	120
48H	13.7-14.3	1370-1430	≥12.5	≥995	≥17	≥1353	366-390	46-49	7.5	120

Note: Additional Neodymium Iron Boron grades, including bonded versions, are available, contact our sales department

- Bonded NdFeB magnets are produced by binding rapid-quenching Nd-Fe-B powders which is mixed with plastic resin to form a magnet by compression moulding with epoxy and injection moulding with nylon.
- The injection moulding has particularly useful feature in moulding very complicated shapes and thin walled parts.
- The compression moulded magnets are limited for simple geometries, but they can offer higher magnetic strength than injection moulded magnets because of relative high density.
- Bonded NdFeB have lower energy properties compared with sintered NdFeB. However, it can be produced with high dimension accuracy and shape complexity.
- Normally, there is no finishing required for bonded NdFeB. In order to prevent corrosion, the magnet surfaces are treated by epoxy coating or nickel plating.