NdFeB Magnet

Introduction of NdFeB Magnet

NdFeB magnets, also known as neodymium magnets, are currently one of the most widely used permanent magnets. Neodymium magnets are divided into sintered neodymium magnets and bonded neodymium magnets. The commonly used neodymium magnets are made by sintering process. Compared with other permanent magnet materials, sintered neodymium magnets have outstanding advantages in magnetic properties. It has extremely high magnetic energy product, coercivity and remanence. At the same time, it has excellent mechanical properties so it is easy to process. These excellent properties make sintered NdFeB permanent magnets widely used in modern industry and electronic technology, especially suitable for high power and high magnetic field density scenarios. It is commonly used in industries such as permanent magnet motors, loudspeakers, magnetic separators, computer disk drives and magnetic resonance imaging equipment. The emergence of NdFeB magnets makes products tend to be lighter and miniaturized, injecting new impetus into the update and iteration of modern industrial products.

HS Magnet

Bonded NdFeB FLOW CHART
1.Injection Molding:Mixing Pelleting Injection Molding Surface Gauss Inspection Inspection Magnetizing Magnetic Flux Inspection Packing.
2.Pressing Forming:Mixing Pressing Curing Surface Gauss Inspection Electrophpresis Inspection Magnetizing Magnetic Flux Inspection Packing.

Bonded NdFeB magnets are magnets made by mixing NdFeB magnetic powder and binder through "compression molding" or "injection molding". Although its performance is not as high as that of sintered NdFeB, the bonded magnet has high dimensional accuracy and can be made into magnetic components with relatively complex shapes, and has the characteristics of one-time molding and multi-pole orientation. Bonded neodymium magnets have high mechanical strength and can be molded together with other supporting components during molding.

Magnetic Properties of Sintered **NdFeB** Magnet

Grade	Remanence Br		Coercivity Hcb		Intrinsic Coercive Force Hci		Max. Energy Product (BH)max		working Temperature	Density
	T	kGs	kA/m	kOe	kA/m	kOe	kJ/m3	MGOe	℃	G/CM3
N30	1.08-1.13	10.8-11.3	≥798	≥10.0	≥955	≥12	223-247	28-31	80	≥7.5
N33	1.13-1.17	11.3-11.7	≥836	≥10.5	≥955	≥12	247-271	31-34	80	≥7.5
N35	1.17-1.22	11.7-12.2	≥868	≥10.9	≥955	≥12	263-287	33-36	80	≥7.5
N38	1.22-1.25	12.2-12.5	≥899	≥11.3	≥955	≥12	287-310	36-39	80	≥7.5
N40	1.25-1.28	12.5-12.8	≥907	≥11.4	≥955	≥12	302-326	38-41	80	≥7.5
N42	1.28-1.32	12.8-13.2	≥915	≥11.5	≥955	≥12	318-342	40-43	80	≥7.5
N45	1.32-1.38	13.2-13.8	≥923	≥11.6	≥955	≥12	342-366	43-46	80	≥7.5
N48	1.38-1.42	13.8-14.2	≥923	≥11.6	≥955	≥12	366-390	46-49	80	≥7.5
N50	1.40-1.45	14.0-14.5	≥796	≥10.0	≥876	≥11	382-406	48-51	80	≥7.5
N52	1.43-1.48	14.3-14.8	≥796	≥10.0	≥876	≥11	398-422	50-53	80	≥7.5
N55	1.46-1.52	14.6-15.2	≥796	≥10.0	≥876	≥11	414-430	52-54	80	≥7.5
N35M	1.17-1.22	11.7-12.2	≥868	≥10.9	≥1114	≥14	263-287	33-36	100	≥7.5
N38M	1.22-1.25	12.2-12.5	≥899	≥11.3	≥1114	≥14	287-310	36-39	100	≥7.5
N40M	1.25-1.28	12.5-12.8	≥923	≥11.6	≥1114	≥14	302-326	38-41	100	≥7.5
N42M	1.28-1.32	12.8-13.2	≥955	≥12.0	≥1114	≥14	318-342	40-43	100	≥7.5
N45M	1.32-1.38	13.2-13.8	≥995	≥12.5	≥1114	≥14	342-366	43-46	100	≥7.5
N48M	1.37-1.43	13.7-14.3	≥1027	≥12.9	≥1114	≥14	366-390	46-49	100	≥7.5
N50M	1.40-1.45	14.0-14.5	≥1033	≥13.0	≥1114	≥14	382-406	48-51	100	≥7.5
N52M	1.43-1.48	14.3-14.8	≥1050	≥13.2	≥1114	≥14	398-422	50-53	100	≥7.5
N54M	1.45-1.50	14.5-15.0	≥1051	≥13.2	≥1114	≥14	414-438	52-55	100	≥7.5
N35H	1.17-1.22	11.7-12.2	≥868	≥10.9	≥1353	≥17	263-287	33-36	120	≥7.5
N38H	1.22-1.25	12.2-12.5	≥899	≥11.3	≥1353	≥17	287-310	36-39	120	≥7.5
N40H	1.25-1.28	12.5-12.8	≥923	≥11.6	≥1353	≥17	302-326	38-41	120	≥7.5
N42H	1.28-1.32	12.8-13.2	≥955	≥12.0	≥1353	≥17	318-342	40-43	120	≥7.5
N45H	1.32-1.36	13.2-13.6	≥963	≥12.1	≥1353	≥17	342-366	43-46	120	≥7.5
N48H	1.37-1.43	13.7-14.3	≥995	≥12.5	≥1353	≥17	366-390	46-49	120	≥7.5
N50H	1.40-1.45	14.0-14.5	≥1011	≥12.7	≥1353	≥17	382-406	48-51	120	≥7.5
N52H	1.43-1.48	14.3-14.8	≥1027	≥12.9	≥1353	≥17	398-422	50-53	120	≥7.5
N33SH	1.14-1.18	11.4-11.8	≥852	≥10.7	≥1592	≥20	247-279	31-35	150	≥7.5
N35SH	1.17-1.22	11.7-12.2	≥876	≥11.0	≥1592	≥20	263-287	33-36	150	≥7.5
N38SH	1.22-1.25	12.2-12.5	≥907	≥11.4	≥1592	≥20	287-310	36-39	150	≥7.5
N40SH	1.25-1.28	12.5-12.8	≥939	≥11.8	≥1592	≥20	302-326	38-41	150	≥7.5
N42SH	1.28-1.32	12.8-13.2	≥987	≥12.4	≥1592	≥20	318-342	40-43	150	≥7.5
N45SH	1.32-1.38	13.2-13.8	≥1003	≥12.6	≥1592	≥20	342-366	43-46	150	≥7.5
N48SH	1.37-1.43	13.7-14.3	≥1027	≥12.9	≥1592	≥20	366-390	46-49	150	≥7.5
N50SH	1.40-1.45	14.0-14.5	≥1003	≥12.6	≥1592	≥20	382-406	48-51	150	≥7.5
N28UH	1.04-1.08	10.4-10.8	≥764	≥9.6	≥1990	≥25	207-231	26-29	180	≥7.5
N30UH	1.08-1.13	10.8-11.3	≥812	≥10.2	≥1990	≥25	223-247	28-31	180	≥7.5
N33UH	1.13-1.17	11.3-11.7	≥852	≥10.7	≥1990	≥25	247-271	31-34	180	≥7.5
N35UH	1.17-1.22	11.7-12.2	≥860	≥10.8	≥1990	≥25	263-287	33-36	180	≥7.5
N38UH	1.22-1.25	12.2-12.5	≥876	≥11.0	≥1990	≥25	287-310	36-39	180	≥7.5
N40UH	1.25-1.28	12.5-12.8	≥899	≥11.3	≥1990	≥25	302-326	38-41	180	≥7.5
N42UH	1.28-1.32	12.8-13.2	≥899	≥11.3	≥1990	≥25	318-342	40-43	180	≥7.5
N45UH	1.32-1.36	13.2-13.6	≥908	≥11.4	≥1990	≥25	342-366	43-46	180	≥7.5
N48UH	1.37-1.43	13.7-14.3	≥908	≥11.4	≥1990	≥25	366-390	46-49	180	≥7.5

Magnetic Properties of Sintered **NdFeB** Magnet

Grade	Remanence Br		Coercivity Hcb		Intrinsic Coercive Force Hci		Max. Energy Product (BH)max		working Temperature	Density
	T	kGs	kA/m	kOe	kA/m	kOe	kJ/m3	MGOe	˚C	G/CM3
N28EH	1.04-1.08	10.4-10.8	≥780	≥9.8	≥2388	≥30	207-231	26-29	200	≥7.5
N30EH	1.08-1.13	10.8-11.3	≥812	≥10.2	≥2388	≥30	223-247	28-31	200	≥7.5
N33EH	1.13-1.17	11.3-11.7	≥836	≥10.5	≥2388	≥30	247-271	31-34	200	≥7.5
N35EH	1.17-1.22	11.7-12.2	≥876	≥11.0	≥2388	≥30	263-287	33-36	200	≥7.5
N38EH	1.22-1.25	12.2-12.5	≥899	≥11.3	≥2388	≥30	287-310	36-39	200	≥7.5
N40EH	1.25-1.28	12.5-12.8	≥899	≥11.3	≥2388	≥30	302-326	38-41	200	≥7.5
N42EH	1.28-1.32	12.8-13.2	≥899	≥11.3	≥2388	≥30	318-342	40-43	200	≥7.5
N45EH	1.32-1.36	13.2-13.6	≥899	≥11.3	≥2388	≥30	342-366	43-46	200	≥7.5
N28AH	1.04-1.08	10.4-10.8	≥787	≥9.9	≥2786	≥35	207-231	26-29	230	≥7.5
N30AH	1.08-1.13	10.8-11.3	≥819	≥10.3	≥2786	≥35	223-247	28-31	230	≥7.5
N33AH	1.13-1.17	11.3-11.7	≥843	≥10.6	≥2786	≥35	247-271	31-34	230	≥7.5
N35AH	1.17-1.22	11.7-12.2	≥876	≥11.0	≥2786	≥35	263-287	33-36	230	≥7.5
N38AH	1.22-1.25	12.2-12.5	≥899	≥11.3	≥2786	≥35	287-310	36-39	230	≥7.5
N40AH	1.26-1.31	12.6-13.1	≥939	≥11.8	≥2786	≥35	302-334	38-42	230	≥7.5
N42AH	1.29-1.35	12.9-13.5	≥955	≥12.0	≥2786	≥35	318-350	40-44	230	≥7.5

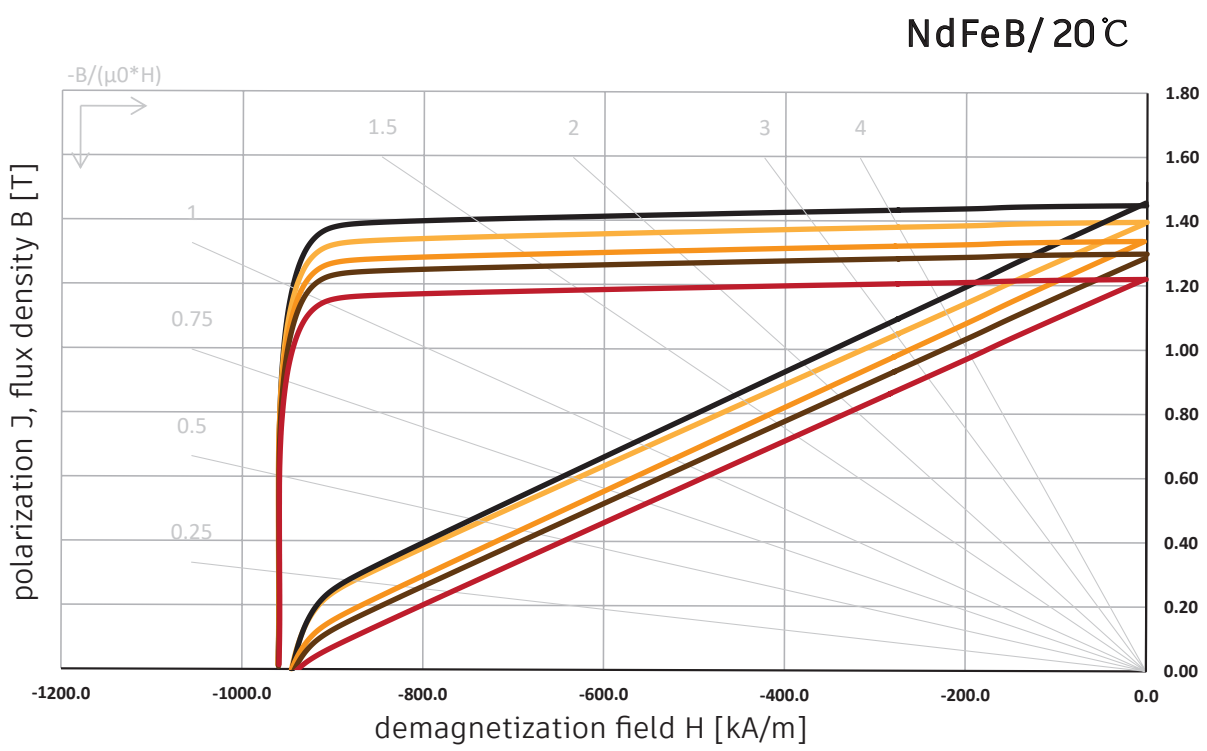
Magnetic Properties of Diffusion **NdFeB** Magnet

Grade	Remanence Br		Coercivity Hcb		Intrinsic Coercive Force Hci		Max. Energy Product (BH)max		working Temperature	Density
	T	kGs	kA/m	kOe	kA/m	kOe	kJ/m3	MGOe	˚C	G/CM3
G48SH	1.37-1.42	13.7-14.2	>1011	>13	>1592	>20	358-390	45-49	<150	≥7.5
G50SH	1.40-1.45	14.0-14.5	>1027	>13.2	>1592	>20	374-406	47-51	<150	≥7.5
G52SH	1.42-1.48	14.2-14.8	>1067	>13.4	>1592	>20	390-422	49-53	<150	≥7.5
G55SH	1.46-1.51	14.6-15.1	>1083	>13.6	>1592	>20	406-438	51-55	<150	≥7.5
G45UH	1.33-1.38	13.3-13.8	>978	>12.4	>1990	>25	334-366	42-46	<180	≥7.5
G48UH	1.37-1.42	13.7-14.2	>1027	>12.9	>1990	>25	358-390	45-49	<180	≥7.5
G50UH	1.40-1.45	14.0-14.5	>1051	>13.2	>1990	>25	374-406	47-51	<180	≥7.5
G52UH	1.42-1.48	14.2-14.8	>1067	>13.5	>1990	>25	390-422	49-53	<180	≥7.5
G54UH	1.46-1.51	14.6-15.1	>1075	>13.5	>1990	>25	406-438	51-55	<180	≥7.5
G40EH	1.26-1.31	12.6-13.1	>955	>12.0	>2388	>30	302-334	38-42	<200	≥7.5
G44EH	1.29-1.35	12.6-13.1	>971	>12.2	>2388	>30	318-350	40-44	<200	≥7.5
G46EH	1.33-1.38	12.6-13.1	>1011	>12.7	>2388	>30	334-366	42-46	<200	≥7.5
G48EH	1.37-1.42	12.6-13.1	>1027	>12.9	>2388	>30	358-390	45-49	<200	≥7.5
G50EH	1.40-1.45	12.6-13.1	>1051	>13.2	>2388	>30	374-406	47-51	<200	≥7.5

Magnetic Properties of Bonded **NdFeB** Magnet

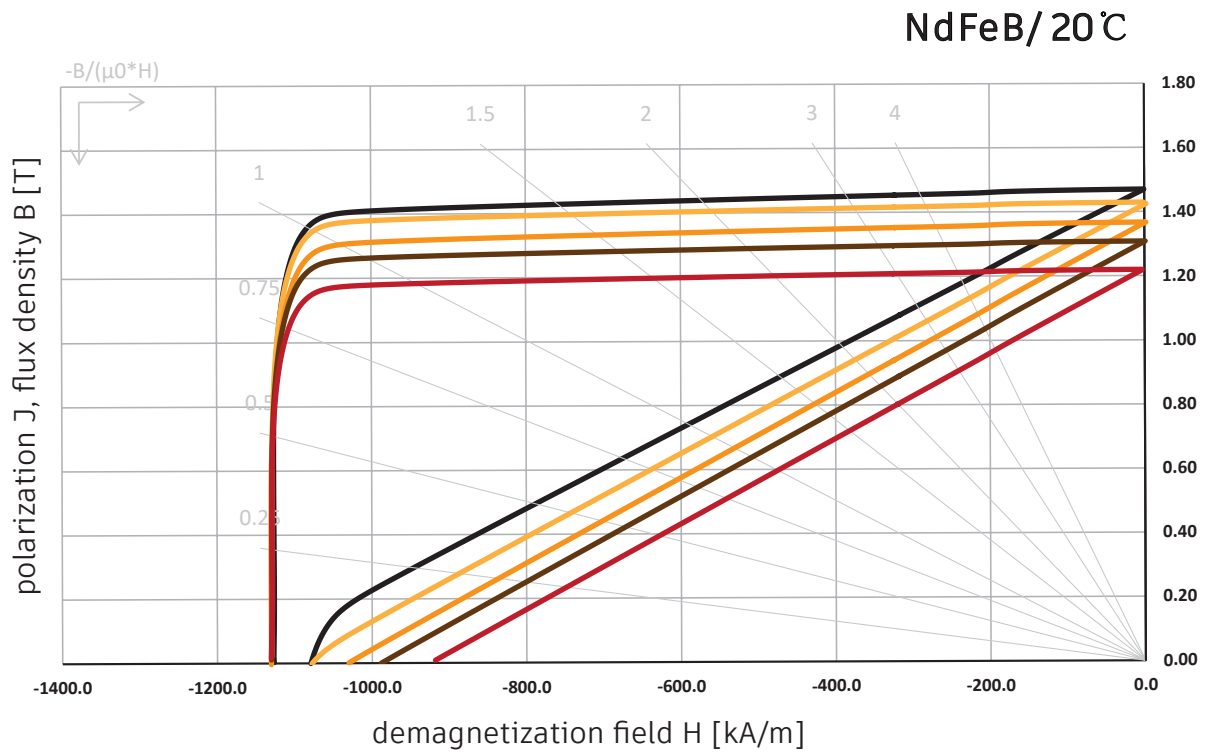
Item	Grade	BR		HCB		HCJ		(BH) MAX		Working Temperature	Density	Temperature Average Reversible Temperature Coefficient
		T	KGS	KA/M	KOE	KA/M	KOE	KJ/M3	MGOE	°C	G/CM3	
Compression Molding NdFeB Magne	KBM-2	0.30~0.40	3.0-4.0	160~240	2.0~3.0	480~640	6.0~8.0	16~24	2.0~3.0	≤120	4.5~6.0	-0.12
	KBM-4	0.40~0.50	4.0~5.0	240~320	3.0~4.0	560~720	7.0~9.0	32~44	4.0~5.5	≤120	5.2~6.0	-0.11
	KBM-6	0.55~0.63	5.5~6.3	320~400	4.0~5.0	480~640	6.0~8.0	48~60	6.0~7.5	≤120	5.5~6.0	-0.11
	KBM-8	0.65~0.68	6.5~6.8	360~440	4.5~5.5	640~800	8.0~10.0	64~72	8.0~9.0	≤150	5.8~6.1	-0.1
	KBM-8H	0.60~0.65	6.0~6.5	400~480	5.0~6.0	1120~1280	14.0~16.0	60~68	7.5~8.5	≤160	5.8~6.2	-0.1
	KBM-8L	0.65~0.68	6.5~6.8	400-480	5.0~6.0	900~1120	11.0~14.0	64~72	8.0~9.0	≤160	5.8~6.2	-0.1
	KBM-9	0.60~0.68	6.0~6.8	400~480	5.0~6.0	640~800	8.0~10.0	68~72	8.5~9.0	≤150	5.8~6.2	-0.1
	KBM-10	0.68~0.73	6.8~7.3	400~480	5.0~6.0	640~800	8.0~10.0	76~84	9.5~10.5	≤150	5.8~6.2	-0.1
	KBM-12	0.71~0.75	7.1~7.5	440~520	5.5~6.5	720~800	9.0~10.0	84~96	10.5~12.0	≤150	5.8~6.2	-0.1
SInjection Molding NdFeB Magnet	KB1-3	0.25~0.35	2.5~3.5	160~240	2.0~3.0	480~640	6.0~8.0	12~24	1.5~3.0	≤120	3.9~4.4	-0.12
	KBI-4	0.35~0.45	3.5~4.5	240~320	3.0~4.0	560~720	7.0~9.0	24~36	3.0~4.5	≤120	4.2~4.9	-0.11
	KB1-5	0.45~0.52	4.5~5.2	320~360	4.0~4.5	560~720	7.0~9.0	36~44	4.5~5.5	≤120	4.5~5.0	-0.11
	KB1-5H (PPS)	0.48~0.52	4.8~5.2	400~480	5.0~6.0	880~1040	11.0~13.0	36~44	4.5~5.5	≤120	4.9~5.4	-0.11
	KB1-6	0.50~0.55	5.0~5.5	320~440	4.0~5.5	640~800	8.0~10.0	44~52	5.5~6.5	≤120	4.7~5.1	-0.11
	KBI-7	0.58~0.64	5.8~6.4	320~400	4.0~5.0	640~800	8.0~10.0	52~60	6.5~7.5	≤120	5.0~5.5	-0.11
	KB1-8	0.64~0.74	6.4~7.44	400~480	5.0~6.0	640~800	8.0~10.0	68~76	8.5~9.5	≤120	5.5~5.9	-0.11

Demagnetization curve of Sintered **NdFeB** Magnets

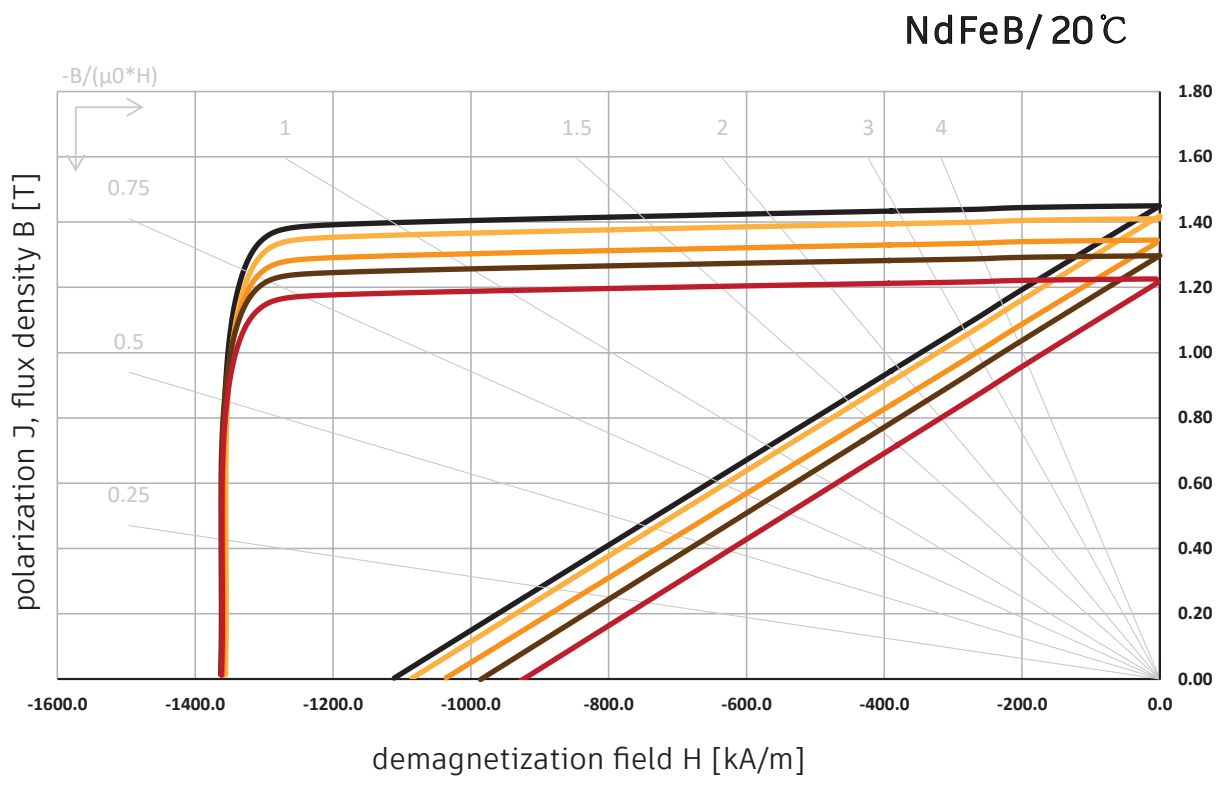


Material: **N52** **N48** **N42** **N40** **N35**

Demagnetization curve of Sintered NdFeB Magnets

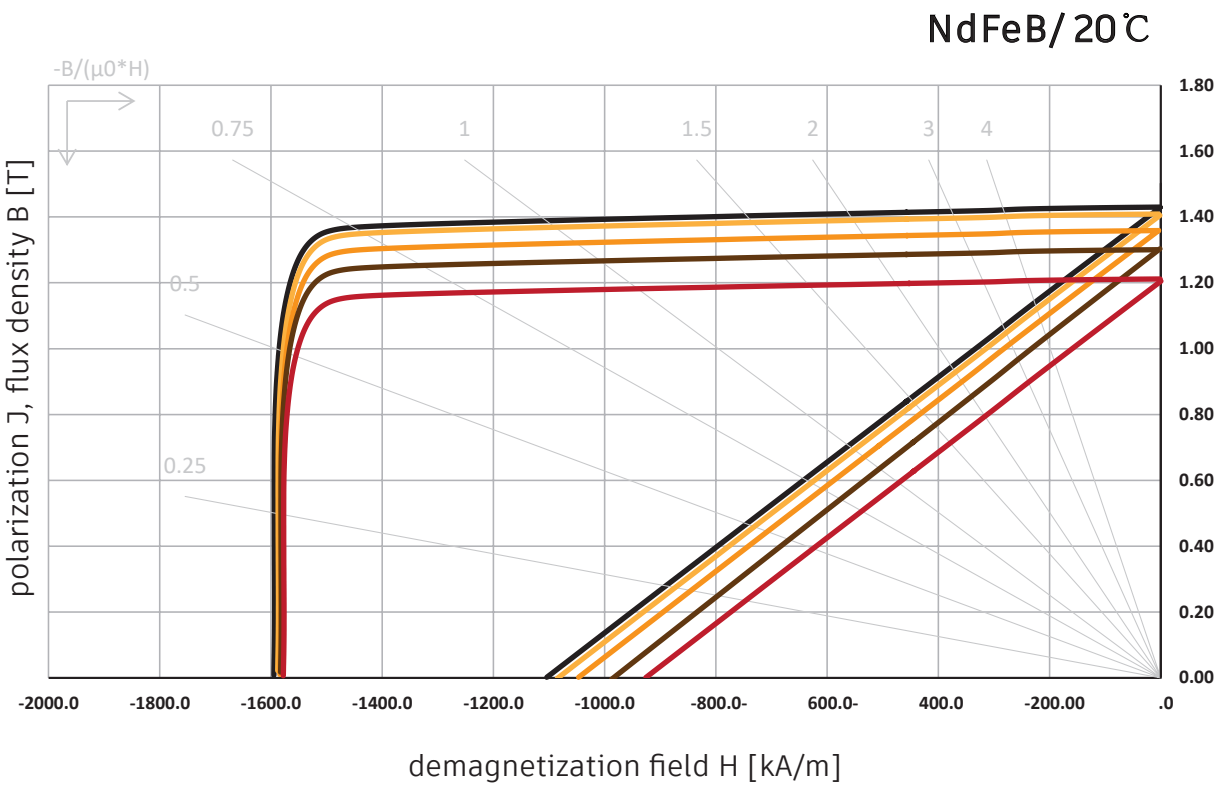


Material: **N54M** **N50M** **N45M** **N40M** **N35M**

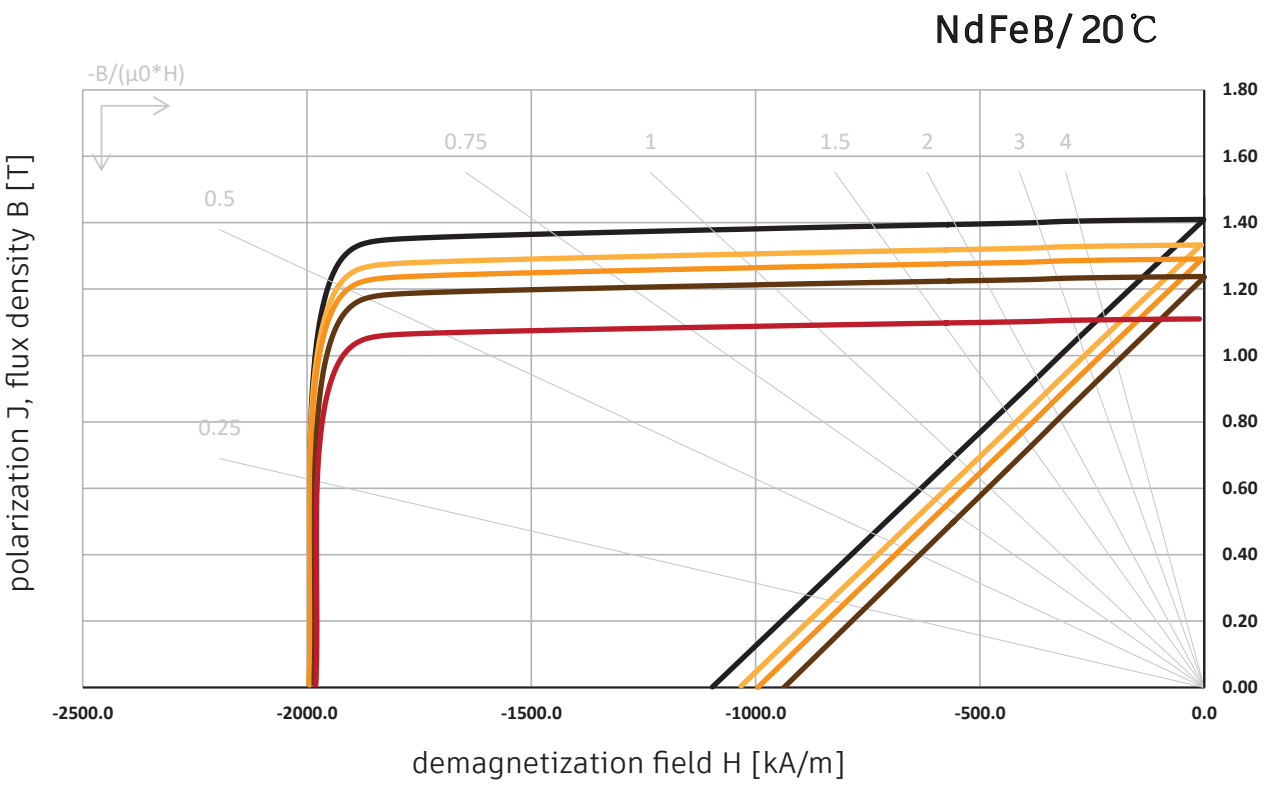


Material: **N52H** **N48H** **N44H** **N40H** **N35H**

Demagnetization curve of Sintered **NdFeB** Magnets

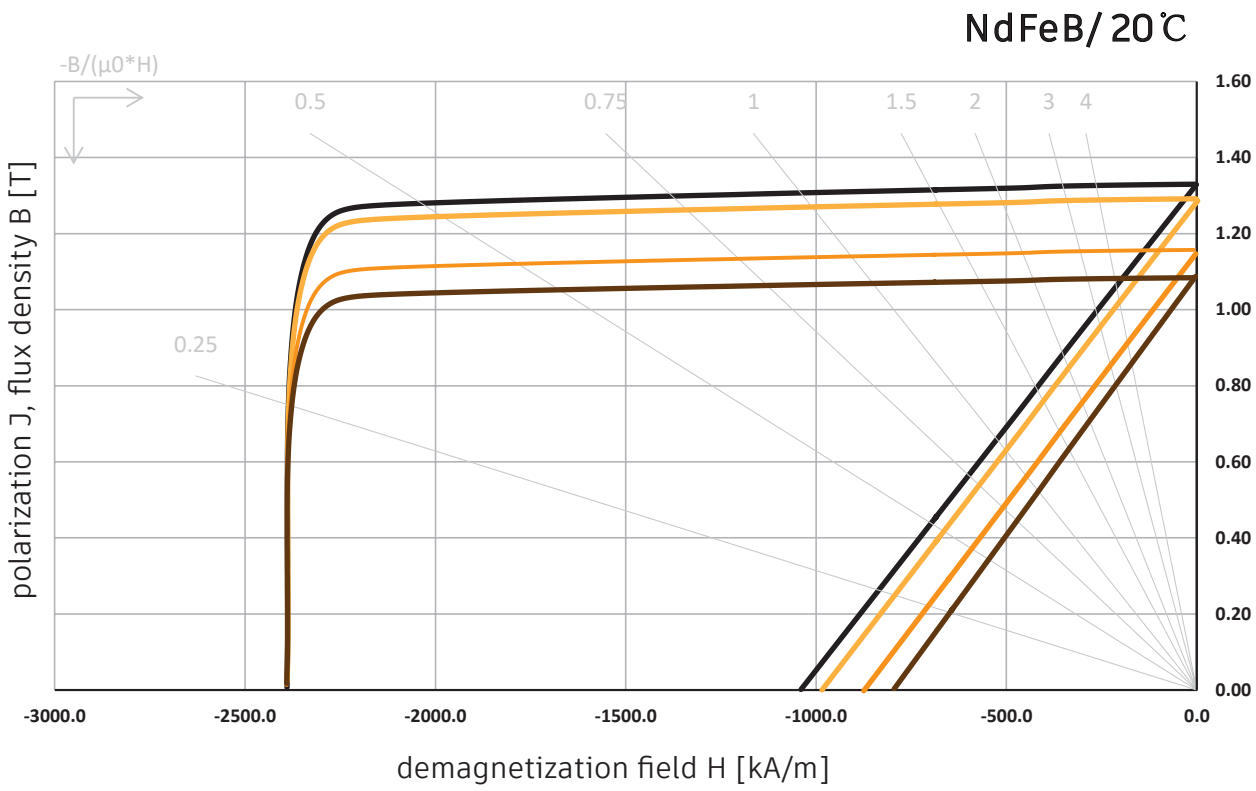


Material: **N50SH** **N48SH** **N42SH** **N40SH** **N35SH**

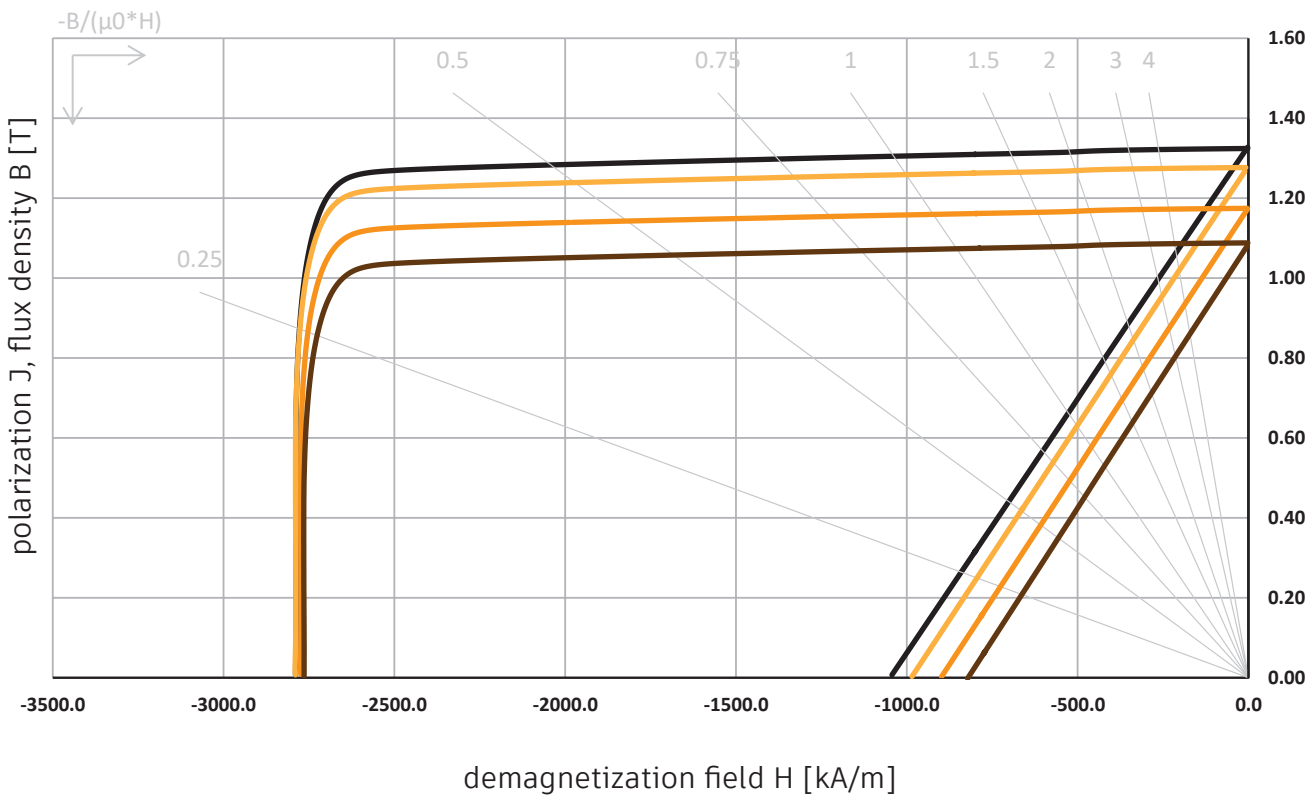


Material: **N48UH** **N42UH** **N40UH** **N35UH** **N30UH**

Demagnetization curve of Sintered **NdFeB** Magnets



Material: **N42EH** **N38EH** **N33EH** **N28EH**



Material: **N42EH** **N38EH** **N33EH** **N28EH**