

## 2.NdFeB Grades magnetic performance table.

Characteristics of sintered NdFeB magnets at  $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$

Material Grade	Br		Hcb,min		Hcj,min		(BH)max		$\alpha\text{Br}$	$\beta\text{Hcj}$	Tw	$\rho$
	T	kGs	kA/m	kOe	kA/m	kOe	$\text{kJ/m}^3$	MG0e	%/°C	%/°C	°C	$\text{g/cm}^3$
N55	1.45-1.49	14.5-14.9	836.0	$\geq 10.5$	955.4	$\geq 12$	398-414	50-52	-0.13	-0.65	80	7.5
N52	1.42-1.47	14.2-14.7	836.0	$\geq 10.5$	955.4	$\geq 12$	398-414	50-52	-0.13	-0.65	80	7.5
N50	1.39-1.44	13.9-14.4	836.0	$\geq 10.5$	955.4	$\geq 12$	382-398	48-50	-0.13	-0.65	80	7.5
N48	1.37-1.41	13.7-14.1	836.0	$\geq 10.5$	955.4	$\geq 12$	358-382	45-48	-0.13	-0.65	80	7.5
N45	1.33-1.37	13.3-13.7	836.0	$\geq 10.5$	955.4	$\geq 12$	334-358	42-45	-0.13	-0.65	80	7.5
N42	1.29-1.33	12.9-13.3	836.0	$\geq 10.5$	955.4	$\geq 12$	318-334	40-42	-0.13	-0.65	80	7.5
N40	1.26-1.29	12.6-12.9	859.9	$\geq 10.8$	955.4	$\geq 12$	302-326	38-40	-0.13	-0.65	80	7.5
N38	1.22-1.26	12.2-12.6	859.9	$\geq 10.8$	955.4	$\geq 12$	279-310	35-38	-0.13	-0.65	80	7.5
N35	1.17-1.22	11.7-12.2	859.9	$\geq 10.8$	955.4	$\geq 12$	263-286	33-35	-0.13	-0.65	80	7.5
N33	1.14-1.17	11.4-11.7	859.9	$\geq 10.8$	955.4	$\geq 12$	239-270	30-33	-0.13	-0.65	80	7.5
N30	1.08-1.14	10.8-11.4	859.9	$\geq 10.8$	955.4	$\geq 12$	223-246	28-30	-0.13	-0.65	80	7.5
N55M	1.45-1.49	14.5-14.9	1019.1	$\geq 12.8$	1114.6	$\geq 14$	398-415	50-52	-0.13	-0.65	100	7.5
N52M	1.42-1.47	14.2-14.7	1019.1	$\geq 12.8$	1114.6	$\geq 14$	398-415	50-52	-0.13	-0.65	100	7.5
N50M	1.39-1.44	13.9-14.4	1011.1	$\geq 12.7$	1114.6	$\geq 14$	382-399	48-50	-0.13	-0.65	100	7.5
N48M	1.41-1.45	13.7-14.1	995.2	$\geq 12.5$	1114.6	$\geq 14$	358-384	45-48	-0.13	-0.65	100	7.5
N45M	1.37-1.41	13.3-13.7	971.3	$\geq 12.2$	1114.6	$\geq 14$	334-361	42-45	-0.13	-0.65	100	7.5
N42M	1.33-1.37	12.9-13.3	955.4	$\geq 12.0$	1114.6	$\geq 14$	318-338	40-42	-0.13	-0.65	100	7.5
N40M	1.29-1.33	12.6-12.9	939.5	$\geq 11.8$	1114.6	$\geq 14$	302-322	38-40	-0.13	-0.65	100	7.5
N38M	1.26-1.29	12.2-12.6	915.6	$\geq 11.5$	1114.6	$\geq 14$	279-307	35-38	-0.13	-0.65	100	7.5
N35M	1.22-1.26	11.7-12.2	875.8	$\geq 11.0$	1114.6	$\geq 14$	263-285	33-35	-0.13	-0.65	100	7.5
N33M	1.17-1.22	11.4-11.7	836.0	$\geq 10.5$	1114.6	$\geq 14$	239-263	30-33	-0.13	-0.65	100	7.5
N30M	1.14-1.17	10.8-11.4	796.2	$\geq 10.0$	1114.6	$\geq 14$	223-240	28-30	-0.13	-0.65	100	7.5
N55H	1.45-1.49	14.5-14.9	1099.5	$\geq 13.8$	1353.5	$\geq 17$	398-420	50-52	-0.125	-0.62	120	7.5
N52H	1.42-1.47	14.2-14.7	1074.8	$\geq 13.5$	1353.5	$\geq 17$	398-420	50-52	-0.125	-0.62	120	7.5
N50H	1.39-1.44	13.9-14.4	1035.0	$\geq 13.0$	1353.5	$\geq 17$	382-398	48-50	-0.125	-0.62	120	7.5
N48H	1.37-1.41	13.7-14.1	1011.1	$\geq 12.7$	1353.5	$\geq 17$	358-383	45-48	-0.125	-0.62	120	7.5
N45H	1.33-1.37	13.3-13.7	971.3	$\geq 12.2$	1353.5	$\geq 17$	334-361	42-45	-0.125	-0.62	120	7.5
N42H	1.29-1.33	12.9-13.3	955.4	$\geq 12.0$	1353.5	$\geq 17$	318-338	40-42	-0.125	-0.62	120	7.5
N40H	1.26-1.29	12.6-12.9	939.5	$\geq 11.8$	1353.5	$\geq 17$	302-322	38-40	-0.125	-0.62	120	7.5
N38H	1.22-1.26	12.2-12.6	915.6	$\geq 11.5$	1353.5	$\geq 17$	279-307	35-38	-0.125	-0.62	120	7.5
N35H	1.17-1.22	11.7-12.2	875.8	$\geq 11.0$	1353.5	$\geq 17$	263-285	33-35	-0.125	-0.62	120	7.5
N33H	1.14-1.17	11.4-11.7	836.0	$\geq 10.5$	1353.5	$\geq 17$	239-263	30-33	-0.125	-0.62	120	7.5
N30H	1.08-1.14	10.8-11.4	796.2	$\geq 10.0$	1353.5	$\geq 17$	223-240	28-30	-0.125	-0.62	120	7.5
N55SH	1.45-1.49	14.5-14.9	1099.5	$\geq 13.8$	1592.4	$\geq 20$	398-420	50-52	-0.12	-0.60	150	7.5
N52SH	1.42-1.47	14.2-14.7	1074.8	$\geq 13.5$	1592.4	$\geq 20$	398-420	50-52	-0.12	-0.60	150	7.5

N50SH	1.39-1.44	13.9-14.4	1035.0	≥13.0	1592.4	≥20	382-398	48-50	-0.12	-0.60	150	7.5
N48SH	1.37-1.41	13.7-14.1	1011.1	≥12.7	1592.4	≥20	366-383	46-48	-0.12	-0.60	150	7.5
N45SH	1.33-1.37	13.3-13.7	995.2	≥12.5	1592.4	≥20	334-368	42-46	-0.12	-0.60	150	7.5
N42SH	1.29-1.33	12.9-13.3	955.4	≥12.0	1592.4	≥20	318-338	40-42	-0.12	-0.60	150	7.5
N40SH	1.26-1.29	12.6-12.9	939.5	≥11.8	1592.4	≥20	302-322	38-40	-0.12	-0.60	150	7.5
N38SH	1.22-1.26	12.2-12.6	915.6	≥11.5	1592.4	≥20	279-307	35-38	-0.12	-0.60	150	7.5
N35SH	1.17-1.22	11.7-12.2	875.8	≥11.0	1592.4	≥20	263-285	33-35	-0.12	-0.60	150	7.5
N33SH	1.14-1.17	11.4-11.7	836.0	≥10.5	1592.4	≥20	239-263	30-33	-0.12	-0.60	150	7.5
N30SH	1.08-1.14	10.8-11.4	796.2	≥10.0	1592.4	≥20	223-240	28-30	-0.12	-0.60	150	7.5
N52UH	1.42-1.47	14.2-14.7	1074.8	≥13.5	1990.4	≥25	398-420	50-52	-0.12	-0.5	180	7.55
N50UH	1.39-1.44	13.9-14.4	1035.0	≥13.0	1990.4	≥25	382-398	48-50	-0.12	-0.5	180	7.55
N48UH	1.37-1.41	13.7-14.1	1011.1	≥12.7	1990.4	≥25	366-383	46-48	-0.12	-0.5	180	7.55
N45UH	1.33-1.37	13.3-13.7	995.2	≥12.5	1990.4	≥25	334-368	42-46	-0.12	-0.5	180	7.55
N42UH	1.29-1.33	12.9-13.3	971.3	≥12.2	1990.4	≥25	318-337	40-42	-0.12	-0.5	180	7.55
N40UH	1.26-1.29	12.6-12.9	955.4	≥12.0	1990.4	≥25	302-322	38-40	-0.12	-0.5	180	7.55
N38UH	1.22-1.26	12.2-12.6	923.6	≥11.6	1990.4	≥25	279-307	35-38	-0.12	-0.5	180	7.55
N35UH	1.17-1.22	11.7-12.2	891.7	≥11.2	1990.4	≥25	263-284	33-35	-0.12	-0.5	180	7.55
N33UH	1.14-1.17	11.4-11.7	859.9	≥10.8	1990.4	≥25	239-270	30-33	-0.12	-0.5	180	7.55
N30UH	1.08-1.14	10.8-11.4	812.1	≥10.2	1990.4	≥25	223-240	28-30	-0.12	-0.5	180	7.55
N50EH	1.39-1.44	13.9-14.4	1035.0	≥13.0	1990.4	≥25	382-398	48-50	-0.115	-0.45	200	7.6
N48EH	1.37-1.41	13.7-14.1	1011.1	≥12.7	2388.5	≥30	366-383	46-48	-0.115	-0.45	200	7.6
N45EH	1.33-1.37	13.3-13.7	995.2	≥12.5	2388.5	≥30	334-368	42-46	-0.115	-0.45	200	7.6
N42EH	1.29-1.33	12.9-13.3	971.3	≥12.2	2388.5	≥30	318-337	40-42	-0.115	-0.45	200	7.6
N40EH	1.26-1.29	12.6-12.9	939.5	≥11.8	2388.5	≥30	302-322	38-40	-0.115	-0.45	200	7.6
N38EH	1.22-1.26	12.2-12.6	923.6	≥11.6	2388.5	≥30	279-307	35-38	-0.115	-0.45	200	7.6
N35EH	1.17-1.22	11.7-12.2	883.8	≥11.1	2388.5	≥30	263-285	33-35	-0.115	-0.45	200	7.6
N33EH	1.14-1.17	11.4-11.7	859.9	≥10.8	2388.5	≥30	239-270	30-33	-0.115	-0.45	200	7.6
N30EH	1.08-1.14	10.8-11.4	820.1	≥10.3	2388.5	≥30	223-240	28-30	-0.115	-0.45	200	7.6
N45AH	1.33-1.37	13.3-13.7	979.3	≥12.3	2786.6	≥35	334-369	42-46	-0.11	-0.4	230	7.6
N42AH	1.29-1.33	12.9-13.3	971.3	≥12.2	2786.6	≥35	318-337	40-42	-0.11	-0.4	230	7.6
N40AH	1.26-1.29	12.6-12.9	955.4	≥12.0	2786.6	≥35	302-322	38-40	-0.11	-0.4	230	7.6
N38AH	1.22-1.26	12.2-12.6	923.6	≥11.6	2786.6	≥35	279-307	35-38	-0.11	-0.4	230	7.6
N35AH	1.17-1.22	11.7-12.2	883.8	≥11.1	2786.6	≥35	255-285	32-35	-0.11	-0.4	230	7.6
N33AH	1.14-1.17	11.3-11.7	851.9	≥10.7	2786.6	≥35	239-262	30-32	-0.11	-0.4	230	7.6
N30AH	1.08-1.14	10.8-11.4	820.1	≥10.3	2786.6	≥35	223-240	28-30	-0.11	-0.4	230	7.6

\*  $\alpha$  (Br),  $\beta$ (Hcj),  $\rho$  is for reference.

$$\alpha (\text{Br}) = (\text{Br}_{T_w} - \text{Br}_{T_0}) / (\text{Br}_{T_0} * (T_0 - T_w)) * 100\%$$

$$\beta (\text{Hcj}) = (\text{Hcj}_{T_w} - \text{Hcj}_{T_0}) / (\text{Hcj}_{T_0} * (T_0 - T_w)) * 100\%$$

$T_0 = 20^\circ\text{C}$