

## Magnetic Properties of Cast Alnico

	Residual Induction Typical	Coercive Force Typical	Max Energy Product Reference	Max Operation Temperature	Temp Coefficient of Br		
Grade	Br	Hcb	BH Max	Max Temp	$\alpha_{Br}$	MMPA	IEC
	kGs	kOe	MGOe	°C	%/°C	Equivalent	Equivalent
LN9	6.9	0.47	1.1	450	-0.03	Alnico3	Alnico9/4
LN10	6.0	0.50	1.3	450	-0.03	Alnico3	Alnico10/4
LNG12	7.2	0.55	1.5	450	-0.03	Alnico2	Alnico12/5
LNG13	7.0	0.60	1.6	450	-0.03	Alnico2	Alnico13/5
LNG16	8.0	0.60	2.0	525	-0.02	Alnico4	Alnico16/5
LNG18	9.0	0.60	2.3	525	-0.02	Alnico4	Alnico18/5
LNG34	11.8	0.60	4.3	525	-0.02	Alnico5	Alnico34/5
LNG37	12.0	0.60	4.7	525	-0.02	Alnico5	Alnico37/5
LNG40	12.5	0.60	5.0	525	-0.02	Alnico5	Alnico40/5
LNG44	12.5	0.65	5.5	525	-0.02	Alnico5	Alnico44/5
LNG48	12.5	0.65	6.0	525	-0.02	Alnico5 DG	Alnico48/5
LNG52	13.0	0.70	6.5	525	-0.02	Alnico5 DG	Alnico52/6
LNG60	13.5	0.70	7.5	525	-0.02	Alnico5~7	Alnico60/6
LNGT28	10.5	0.70	3.5	525	-0.02	Alnico6	Alnico26/6
LNGT18	5.8	1.13	2.2	550	-0.03	Alnico7	Alnico17/9
LNGT34	8.0	1.30	4.3	550	-0.03	Alnico8	Alnico34/10
LNGT38	8.2	1.38	4.8	550	-0.03	Alnico8	Alnico38/11
LNGT40	8.5	1.50	5.0	550	-0.03	Alnico8	Alnico40/12
LNGT44	8.8	1.50	5.5	550	-0.03	Alnico8	Alnico44/12
LNGT48	9.0	1.50	6.0	550	-0.03	Alnico8	Alnico48/12
LNGT60	9.0	1.38	7.5	550	-0.03	Alnico9	Alnico60/11
LNGT72	10.5	1.41	9.0	550	-0.03	Alnico9	Alnico72/11
LNGT82	11.0	1.50	10.3	550	-0.03	Alnico9	Alnico82/12
LNGT88	11.0	1.50	11.0	550	-0.03	Alnico9	Alnico88/12
LNGT92	11.2	1.50	11.5	550	-0.03	Alnico9	Alnico92/12
LNGT36J	7.0	1.75	4.5	550	-0.03	Alnico8HC	Alnico8HC

All listed values are approximate and should be used as a reference only. Magnetic or physical characteristics should be verified before selecting a magnet material.

## Magnetic Properties of Sintered Alnico

	Residual Induction Typical	Coercive Force Typical	Max Energy Product Reference	Max Operation Temperature	Temp Coefficient of Br		
Grade	Br	Hcb	BH Max	Max Temp	$\alpha_{Br}$	MMPA	IEC
	kGs	kOe	MGOe	°C	%/ °C	Equivalent	Equivalent
FLN8	5.0	0.80	1.0	450	-0.022	S.Alnico3	S.Alnico8/4
FLNG12	6.5	0.60	1.5	450	-0.014	S.Alnico2	S.Alnico12/5
FLNGT18	5.0	1.13	2.3	450	-0.020	S.Alnico7	S.Alnico18/9
FLNG34	12.0	0.60	4.3	450	-0.016	S.Alnico5	S.Alnico34/5
FLNGT28	10.5	0.70	3.5	450	-0.020	S.Alnico6	S.Alnico28/6
FLNGT38	8.0	1.50	4.8	450	-0.020	S.Alnico8	S.Alnico38/12
FLNGT42	8.8	1.50	5.3	450	-0.020	S.Alnico8	S.Alnico42/12
FLNGT33J	7.0	1.75	4.2	450	-0.025	S.Alnico8HC	S.Alnico33/14

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## Physical Properties of Sintered & Cast Alnico

	<b>Value Sintered Alnico</b>	<b>Value Cast Alnico</b>
<b>Bending Strength</b>	350 ~760 MPa	450 ~750 Mpa
<b>Compressive Strength</b>	300 ~400 Mpa	700 Mpa
<b>Coefficient of Thermal Expansion</b>	+11.0 to +12.4 x10-6/°C	+11.0 to +13.0 x10-6/°C
<b>Curie Temp</b>	810 - 860 °C	740 - 860 °C
<b>Density</b>	6.8 - 7.0 g/cm3	6.9 - 7.3 g/cm3
<b>Poisson's Ratio</b>	0.24	
<b>Relative Permeability</b>	1.3 $\mu$ r	
<b>Resistivity</b>	40 ~70 $\mu\Omega \cdot \text{cm}$	47~53 $\mu\Omega \cdot \text{cm}$
<b>Specific Heat</b>	0.35 - 0.5 J/ (g • °C)	
<b>Temp Coefficient of Hcj</b>	0.01 %/°C	0.01 %/°C
<b>Thermal Conductivity</b>	0.1 ~2 W/m • °C	
<b>Vickers Hardness</b>	440 HV	440-620 HV
<b>Young's Modulus</b>	150000 Mpa	

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