Permanent Magnetic Materials

Rare Earth, Alnico, and Ceramic

In Stock – Rare Earth, Alnico, Ceramic Magnets, and More

Bunting Magnetics Co. offers you one of the largest selections of in-stock permanent magnets available. In addition, we're glad to share our knowledge in the field of applied magnets to help you specify non-standard magnets to meet special needs. We can cut magnets to your specifications from Rare Earth, Alnico, and Ceramic.

You'll find hundreds of shapes and sizes ready for immediate shipment when you call. In fact, you can expect shipment on most of the standard magnets listed in this catalog within 24 hours. For custom orders, virtually any configuration and quantity you need can be prepared and sent to you from our centrally located Chicago stocking facility.

Bunting Stock Magnets Meet IMA Standards

Our stock magnets meet or exceed Magnetic Materials Producers Association Standards for physical quality and magnetic properties.

Stock Permanent Magnet Specifications Comparison Table

Use this table to evaluate and compare the magnetic properties and other specifications of the materials from which our standard, in-stock magnets are manufactured.

	ALNICO						CERAMIC			NEODYMIUM							SAMARIUM COBALT		
	SINTERED		CAST																
GRADE	**2**	**8H**	**2**	**5**	**8**	**8 HE**	**1**	**5**	**8**	**30**	**30SH**	**35**	**38**	**40**	**45**	**50**	**18**	**22**	**26**
MAGNETIC CHARACTERISTICS																			
MAX. ENERGY PRODUCT (Bd Hd) MAX. (MGO)	1.5	5.25	5.4	5.5	5.5	6	1	3.4	3.5	30	30	35	38	40	45	50	18	22	26
RESIDUAL INDUCTION Br. GAUSS	7100	7250	7500	12700	8300	9000	2200	3800	3850	11400	11200	12150	12500	12900	13800	14300	8900	9500	10400
COERCIVE FORCE Hc-OERSTEDS	550	1975	580	640	1650	1600	1825	2400	2950	10400	10640	11050	11800	12300	10500	11500	8600	9200	9500
INTRINSIC COERCIVE FORCE Hci-OERSTEDS	575	2125	600	645	1860	1620	3250	2420	3250	13500	>25000	13500	>12000	>14000	>11000	>11000	>20000	>20000	20000
SATURATION MAGNETIZING FORCE Hs-OERSTEDS	2000	6000	2000	3000	6000	6000	10000	10000	10000	30000	30000	30000	30000	30000	30000	30000	40000	40000	55000
RECOIL PERMEABILITY	6.4	3.2	2.6	2.1	2.0	3	1.15	1.05	1.07	1.05	1.08	1.05	1.08	1.08	1.05	1.05	1.05	1.05	1.05
MAGNETIC ORIENTATION (ANISOTROPIC)	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
MATERIAL CHARACTERISTICS																			
DENSITY - LB./IN.^{3}	.243	.254	.263	.265	.262	.265	.175	.177	.177	.268	.275	.268	.268	.269	.268	.268	.304	.304	.297
CURIE TEMP.-F°	1544	1562	1472	1544	1580	1580	842	842	842	625	648	625	635	635	600	600	1380	1380	1515
TEMP. AFFECTING MATERIAL (METALLURGICAL)-F°	1022	1022	1090	1022	1022	1022	1850	1850	1850	1200	1200	1200	1200	1200	1200	1200	---	---	---
MAX. PRACTICAL OPERATING TEMPERATURE-F°	1000	1000	932	1000	1000	1000	480	480	480	180	300	180	180	180	180	180	575	575	575
REVERSIBLE TEMP. COEF OF BR %/F°	.011	.006	.020	.011	.006	.006	.105	.105	.105	.066	.052	.066	.066	.061	0.61	0.61	.022	.022	.019
HARDNESS-ROCKWELL	Rc43	Rc44	Rc50	Rc50	Rc56	Rc58	---	---	---	Rc55	Rc58	Rc55	Rc55	Rc58	Rc58	Rc58	Ro53	Ro53	Ro56
UNSPECIFIED TOLERANCES																			
UNFINISHED SURFACES (+/-)																			
0 - .125	.005	.005	.015	.015	.031	.031	*	*	*	+	+	+	+	+	+	+	5%	5%	5%
.125 - .625	.010	.010	.015	.015	.031	.031	*	*	*	+	+	+	+	+	+	+	5%	5%	5%
.625 - 1.00	.015	.015	.015	.015	.031	.031	*	*	*	+	+	+	+	+	+	+	5%	5%	5%
1.00 - 3.00	---	---	---	.015	.031	.031	*	*	*	+	+	+	+	+	+	+	5%	5%	5%
3.00 - 5.00	---	---	---	.015	.047	.047	---	*	*	---	---	---					5%	5%	5%
5.00 - 7.00	---	---	---	.015	.062	.062	---	*	*	---	---	---	---	---			5%	5%	5%
7.00 - 9.00	---	---	---	.015	.078	.078	---	*	*	---	---	---	---	---			5%	5%	5%
9.00 - 12.00	---	---	---	---	.094	.094	---	*	*	---	---	---	---	---			5%	5%	5%
GROUND SURFACES (+)	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005	.005
CONCENTRICITY (TIR.)																			
0 - .500	.005	.005	.048	.048	.048	.048	.020	.020	.020	.010	---	.010	---	---	.010	.010	---	---	---
.500 - 1.00	.010	.010	.048	.048	.048	.048	.030	.030	.030	.020	---	.020	---	---	.020	.020	---	---	---
1.00 - 1.50	.015	.015	.093	.093	.093	.093	3%	3%	3%	---	---	---	---	---	.030	.030	---	---	---
1.50 - 3.00	---	---	.093	.093	.093	.093	3%	3%	3%	---	---	---	---	---			---	---	---
CUT SURFACES (+/-)																			
0 - 3.00	.015	.015	---	.015	.015	.015	.015	.015	.015	.005	.005	.005	.005	.005	.005	.005	.015	.015	.015
3.00 - 6.00	---	---	---	.015	.015	.015	---	.015	.015	---	---	---	---	---			---	---	---
6.00 - 12.00	---	---	---	.015	---	---	---	.015	.015	---	---	---	---	---			---	---	---

* Unfinished surfaces tolerances for Ceramic magnets are +/- 0.015 or 2%, whichever is greater.

\+ Unfinished surfaces tolerances for Neodymium magnets are +/- 0.005.