MAGNET ALLOYS

AlNiCo

Thermal Stability:

- Demonstrates excellent thermal stability, maintaining performance at elevated temperatures up to 550°C.

High Flux Density:

- Generates a strong magnetic field within a given area.

Customizable:

- Versatility allowing for the creation of custom shapes to suit diverse application requirements.

High Residual Induction:

- Retains a significant amount of magnetism, even after the external magnetizing field has been removed, with residual induction reaching up to 13.5 kG.

No Rare Earth Metals in Alloy:

- Contains no rare earth metals as alloys are generally Aluminum, Nickel, and Cobalt, with the balance being iron.

No Exposure to Chinese Supply:

- None of the metals included in alnico are limited, restricted or dominated by supplies from China. All have numerous Western sources.

SmCo

High Temperature Stability:

- Maintains magnetic strength and properties over a wide range of temperatures.

Corrosion Resistance:

- Naturally resistant to corrosion and don’t require protective coatings.

Good Magnetic Strength:

- Known for high coercive force making them resistant to demagnetization.

Cost:

- Typically more expensive than other rare earth magnets but advantages justify the cost in certain applications.

Uniformity:

- Can be magnetized prior to installation as compared to Alnico.

High-Energy Product:

- High-energy product allows less concern for magnetic circuit design.

MAGNET ALLOYS

Grade	Br	Br	Hc	Hc	Hci	Hci	BHmax	BHmax	Temp Coeff of Br	Max Operating Temp
	(kg)	(T)	(kOe)	(kA/m)	(kOe)	(kA/M)	(MGOe)	(kJ/m3)	(% / °C)	(°C)
AlNiCo										
AlNiCo 5-7 Cast										
542	12.8	1.28	0.8	64	0.8	64	7.3	58.1	-0.02	525
543	13.5	1.35	0.74	59	0.74	59	7.5	59.7	-0.02	525
557	13.9	1.39	0.69	55	0.69	55	7.7	61.3	-0.02	525
AlNiCo-8 Cast										
840	8.3	0.83	1.85	147	1.95	155	6.3	50.1	-0.02	550
848	9.2	0.92	1.65	131	1.75	139	6.3	50.1	-0.02	550
851	7.8	0.78	2.1	167	2.3	183	6	47.7	-0.02	550
AlNiCo-9 Cast										
971	11.5	1.15	1.4	111	1.4	111	12	95.5	-0.02	550
973	11	1.1	1.6	127	1.6	127	11.8	93.9	-0.02	550
SmCo										
SmCo - Highest Performing										
2:17-34	11.9	1.19	11.1	884	18	1433	34	271	-0.04	250
2:17-31	11.5	1.15	10.7	852	20	1592	31	247	-0.035	300
2:17-29	11	1.1	10.5	836	24	1910	29	231	-0.035	320
SmCo - Temperature Compensated										
2:17-TC22	9.65	0.97	9.2	732	24	1910	22	175	-0.03	320
2:17-TC20	9.15	0.92	8.8	700	24	1910	20	159	-0.025	320
2:17-TC18	8.65	0.87	8.2	653	24	1910	18	143	-0.01	320
2:17-TC16	8.15	0.82	7.8	621	24	1910	16	127	-0.001	320
2:17-TC15	7.7	0.77	7.3	581	24	1910	15	111	-0.001	320
2:17-TC13	7.4	0.74	6.8	541	24	1910	13	103	0.008	320
2:17-TC7	5.6	0.56	4.9	390	24	1910	7	56	-0.004	320
2:17-TC5	4.7	0.47	4	318	24	1910	5	40	-0.008	320
2:17-TC4	4.2	0.42	3.5	279	24	1910	4	32	0.01	320
SmCo - Ultra High Temperature										
26-T350	10.5	1.05	9.9	788	24	1910	26	207	-0.035	350
24-T400	10	1	9.6	756	24	1910	24	191	-0.035	400
22-T450	9.6	0.96	9.1	724	24	1910	22	175	-0.035	450
20-T500	9.2	0.92	8.8	700	24	1910	20	159	-0.035	500
18-T550	8.7	0.87	8.2	653	24	1910	18	143	-0.035	550