



SmCo Magnets

Samarium Cobalt (SmCo_5 / $\text{Sm}_2\text{Co}_{17}$) rare-earth magnets offer excellent high-temperature performance, low temperature coefficient, and corrosion resistance up to 500°C — available in blocks, discs, arcs, and rings for high-temperature motors.



X-MAG's capabilities cover magnetic engineering & simulation, automated sustainable manufacturing, comprehensive quality assurance, and advanced magnet R&D.

Typical Magnetic Properties of Sintered SmCo Magnets

Type	Grade	Remanence		Coercivity				Max Energy Product		Temperature Coefficient		Max Working Temperature
		Br		HcB		HcJ		(BH)max		a (Br)	β (HcJ)	TwMax
		T	kGs	kA/m	kOe	kA/m	kOe	kJ/m ³	MGOe	%/ ° C	%/ ° C	° C
Sm1Co5	Sm1Co5-16	0.79-0.84	7.9-8.4	620-660	7.8-8.3	≥1830	≥23	118-135	15-17	-0.035	-0.28	250
	Sm1Co5-18	0.84-0.89	8.4-8.9	660-700	8.3-8.8	≥1830	≥23	135-151	17-19	-0.04	-0.28	250
	Sm1Co5-20	0.89-0.93	8.9-9.3	684-732	8.6-9.2	≥1830	≥23	150-167	19-21	-0.045	-0.28	250
	Sm1Co5-22	0.92-0.96	9.2-9.6	710-756	8.9-9.5	≥1830	≥23	167-183	21-23	-0.045	-0.28	250
	Sm1Co5-24	0.96-1.00	9.6-10.0	740-788	9.3-9.9	≥1830	≥23	183-199	23-25	-0.045	-0.28	250
Sm2Co17	Sm2Co17-24L	0.95-1.02	9.5-10.2	541-716	6.8-9.0	636-955	8-12	175-191	22-24	-0.025	-0.2	250
	Sm2Co17-26L	1.02-1.05	10.2-10.5	541-784	6.8-9.4	636-955	8-12	191-207	24-26	-0.035	-0.2	250
	Sm2Co17-28L	1.03-1.08	10.3-10.8	541-764	6.8-9.6	636-955	8-12	207-220	26-28	-0.035	-0.2	250
	Sm2Co17-30L	1.08-1.15	10.8-11.5	541-796	6.8-10.0	636-955	8-12	220-240	28-30	-0.035	-0.2	250
	Sm2Co17-32L	1.10-1.15	11.0-11.5	541-812	6.8-10.2	636-955	8-12	230-255	29-32	-0.035	-0.2	250
	Sm2Co17-26M	1.02-1.05	10.2-10.5	676-780	8.5-9.8	955-1433	12-18	191-207	24-26	-0.035	-0.2	300
	Sm2Co17-28M	1.03-1.08	10.3-10.8	676-796	8.5-10.0	955-1433	12-18	207-220	26-28	-0.035	-0.2	300
	Sm2Co17-30M	1.08-1.1	10.8-11.0	676-835	8.5-10.5	955-1433	12-18	220-240	28-30	-0.035	-0.2	300
	Sm2Co17-32M	1.10-1.13	11.0-11.3	676-852	8.5-10.7	955-1433	12-18	230-255	29-32	-0.035	-0.2	300
	Sm2Co17-33M	1.13-1.15	11.3-11.5	820-870	10.3-10.9	955-1433	12-18	246-262	31-32	-0.039	-0.22	300
	Sm2Co17-22	0.93-0.97	9.3-9.7	676-740	8.5-9.3	≥1433	≥18	160-183	20-23	-0.02	-0.2	300
	Sm2Co17-24	0.95-1.02	9.5-10.2	692-764	8.7-9.6	≥1433	≥18	175-191	22-24	-0.025	-0.2	300

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Type	Grade	Remanence		Coercivity				Max Energy Product		Temperature Coefficient		Max Working Temperature
		Br		HcB		HcJ		(BH)max		a (Br)	β (HcJ)	TwMax
		T	kGs	kA/m	kOe	kA/m	kOe	kJ/m³	MGOe	%/ ° C	%/ ° C	° C
Sm2Co17	Sm2Co17-26	1.02-1.05	10.2-10.5	748-796	9.4-10.0	≥1433	≥18	191-207	24-26	-0.03	-0.2	300
	Sm2Co17-28	1.03-1.08	10.3-10.8	756-812	9.5-10.2	≥1433	≥18	207-220	26-28	-0.035	-0.2	300
	Sm2Co17-30	1.08-1.10	10.8-11.0	788-835	9.9-10.5	≥1433	≥18	220-240	28-30	-0.035	-0.2	300
	Sm2Co17-32	1.10-1.13	11.0-11.3	812-860	10.2-10.8	≥1433	≥18	230-255	29-32	-0.035	-0.2	300
	Sm2Co17-33	1.13-1.15	11.3-11.5	820-870	10.3-10.9	≥1433	≥18	246-262	31-32	-0.039	-0.22	300
	Sm2Co17-35	1.16-1.20	11.6-12.0	844-892	10.6-11.2	≥1432	≥18	255-271	32-34	-0.039	-0.25	250
	Sm2Co17-24H	0.95-1.02	9.5-10.2	692-764	8.7-9.6	≥1990	≥25	175-191	22-24	-0.025	-0.2	350
	Sm2Co17-26H	1.02-1.05	10.2-10.5	748-796	9.4-10.0	≥1990	≥25	191-207	24-26	-0.03	-0.2	350
	Sm2Co17-28H	1.03-1.08	10.3-10.8	756-812	9.5-10.2	≥1990	≥25	207-220	26-28	-0.035	-0.2	350
	Sm2Co17-30H	1.08-1.10	10.8-11.0	788-835	9.9-10.5	≥1990	≥25	220-240	28-30	-0.035	-0.2	350
	Sm2Co17-32H	1.10-1.13	11.0-11.3	812-860	10.2-10.8	≥1990	≥25	230-255	29-32	-0.035	-0.2	350
	Sm2Co17-33H	1.13-1.15	11.3-11.5	830-880	10.4-11	≥1990	≥25	246-262	31-32	-0.039	-0.22	350
	Sm2Co17-35H	1.16-1.20	11.6-12.0	852-899	10.7-11.3	≥1990	≥25	255-271	32-34	-0.039	-0.25	300
Sm2Co17-TR	Sm2Co17-20TR	0.9-0.94	9.0-9.4	661-732	8.3-9.2	≥1592	≥20	143-159	18-20	-0.035	-0.15	500
Sm2Co17-LT	Sm2Co17-16LT	0.81-0.85	8.1-8.5	605-669	7.6-8.4	≥1592	≥20	111-127	14-16	Temperature range -50°C ~ 20°C 20°C ~ 200°C 200°C ~ 300°C	Temperature Coefficient of Br ±0.005%/°C -0.008%/°C -0.011%/°C	300
	Sm2Co17-18LT	0.85-0.9	8.5-9.0	629-708	7.9-8.9	≥1592	≥20	127-143	16-18			300
	Sm2Co17-20LT	0.9-0.94	9.0-9.4	661-732	8.3-9.2	≥1592	≥20	143-159	18-20			300
	Sm2Co17-22LT	0.94-0.97	9.4-9.7	685-740	8.6-9.3	≥1592	≥20	159-175	20-22			300