

Characteristics & application of SmCo permanent magnet

Curie Temp.	T _c	°C	800~850	Coeff. Of thermal expansion	C//	1/°C	~8×10 ⁻⁵
Density	D	g/cm ³	8.3~8.5		C⊥	1/°C	~11×10 ⁻⁵
Recoil Permeability	μ _{rec}		1.00~1.05	Rigidity strength		N/m ²	~1.5×10 ⁸
Max. Working Temp.	T _{max}	°C	350	Compress strength		N/m ²	~8×10 ⁸
Electrical Resistivity		Ω.Cm	~8.6×10 ⁻⁵	Tensile strength		N/m ²	~3.5×10 ⁷
Vickers Hardness	Hv		500~600	Young's Modulus		N/m ²	~1.2×10 ¹¹
Thermal conduct rate		W/mK	~12	Magnetization field Ha		kA/m	≥1600

Material properties:

Grade	Residual Flux		Coercive Force		Intrinsic Coercive		Max. energy product	
	DensityBr		Hcb		force Hcj		(BH)max	
	mT	kGs	kA/m	koe	kA/m	koe	kJ/m3	MGo
smco-YX6	500~600	5.0~6.0	≥358	4.5~5.5	≥960	≥12.0	47~72	6~9
smco-YX10	600~700	6.0~7.0	≥438	5.5~6.5	≥1200	≥15.0	64~88	8~11
smco-YX12	700~750	7.0~7.5	≥520	6.5~7.3	≥1591	≥20.0	96~120	12~15
smco5-YX16	750~880	7.5~8.8	597±40	7.5±0.5	≥1591	≥20.0	127±16	16±2
smco-YX16A	750~880	7.5~8.8	597±40	7.5±0.5	≥1989	≥25.0	127±16	16±2
smco-YX16B	750~880	7.5~8.8	597±40	7.5±0.5	≥2386	≥30.0	127±16	16±2
sm2co17-YX18	800~930	8.0~9.3	637±40	8.0±0.5	≥1194	≥15.0	143±16	18±2
smco-YX18A	800~930	8.0~9.3	637±40	8.0±0.5	≥1591	≥20.0	143±16	18±2
smco-YX18T	800~930	8.0~9.3	637±40	8.0±0.5	≥1591	≥20.0	143±16	18±2
smco-YX18B	800~930	8.0~9.3	637±40	8.0±0.5	≥1989	≥25.0	143±16	18±2
sm2co17-YX20	900~980	9.0~9.8	637±40	8.0±0.5	≥1432	≥18.0	159±16	20±2
smco-YX20	900~950	9.0~9.5	≥670	8.5~9.2	≥1591	≥20.0	159±16	20±2
smco-YX20A	900~980	9.0~9.8	637±40	8.0±0.5	≥1989	≥25.0	159±16	20±2
smco-YX22	900~1030	9.0~10.3	653±40	8.2±0.5	≥1432	≥18.0	175±16	22±2
smco-YX22A	900~1030	9.0~10.3	653±40	8.2±0.5	≥1989	≥25.0	175±16	22±2
smco-YX24	950~1080	9.5~10.8	676±40	8.2±0.5	≥1432	≥18.0	191±16	24±2
smco-YX24A	1000~1100	10.0~11.0	676±40	8.2±0.5	≥1989	≥25.0	191±16	24±2
smco-YX26	1000~1130	10.0~11.3	357~516	4.5~6.5	413~556	5.0~7.0	207±16	26±2
YX26A	1000~1130	10.0~11.3	716±40	9.0±0.5	≥796	≥10.0	207±16	26±2
YX26B	1000~1130	10.0~11.3	716±40	9.0±0.5	≥1194	≥15.0	207±16	26±2
YX26C	1000~1130	10.0~11.3	716±40	9.0±0.5	≥1591	≥20.0	207±16	26±2
YX26D	1000~1080	10.0~10.8	≥732	9.0~10.5	≥2300	≥30.0	207±16	26±2
smco-YX28	1060~1180	10.6~11.8	357~516	4.5~6.5	413~556	5.0~7.0	223±16	28±2
smco-YX28A	1060~1180	10.6~11.8	763±40	9.6±0.5	≥796	≥10.0	223±16	28±2
smco-YX28B	1050~1150	10.5~11.5	≥750	9.4~9.8	≥960	≥12.0	223±16	28±2
smco-YX28C	1060~1180	10.6~11.8	763±40	9.6±0.5	≥1194	≥15.0	223±16	28±2
smco-YX30	1100~1200	11.0~12.0	438~597	5.5~6.5	454~597	5.7~7.5	238±16	30±2
smco-YX30A	1100~1200	11.0~12.0	≥560	7.0~8.5	≥716	≥12.0	238±16	30±2