

Ferrite magnet

Ferrite magnets are sintered permanent magnets composed of Barium or Strontium Ferrite. This class of magnets, aside from good resistance to demagnetization, has the popular advantage of low cost.

Ferrite magnets are very hard and brittle, and require specialized machining techniques. Moreover, they should be machined in an unmagnetized state. We are equipped to machine these materials to specifications.

Temperature Effects

Up to about 840 F, changes in magnetization are largely reversible, while changes between 840 F and 1800 F are re-magnetizable. For all Ferrite magnets, the degradation of magnetic properties is essentially linear with temperature. At 350 F, about 75% of room temperature magnetization is retained, and at 550 F, about 50% is retained.

Common Applications for Ferrite Magnets

Ferrite magnets are widely used in motors, magnetic couplings, for sensing, loudspeakers, holding-magnet systems, crafts, magnetic therapy, novelties, and toys.

Typical Magnetic Performance for Sintered Ferrite

1. Mostly Used national standard - SJ285-77 permanent ferrite magnet standard
2. Chinese standard -sj/T10410 2000 permanent ferrite magnet standard
3. USA standard - permanent ferrite magnet industry standard of USA
4. The standard from International Electronics Committee(IEC404-8-1)

Magnetic Properties

Mostly Used national standard - SJ285-77 permanent ferrite magnet standard

Grade	Value(min/typical in our factory)							
	Br		Hcb(BHC)		Hcj(IHC)		(BH)max	
	MT	KG	KA/m	Koe	KA/m	KOe	Kj/m3	MGOe
Y10T(=C1)	200-218	2.00-2.18	125-145	1.57-1.82	210-250	2.64-3.14	6.5-8.0	0.8-1.0
Y25	360-370	3.60-3.70	135-150	1.70-1.88	140-170	1.76-2.14	22.5-25.3	2.8-3.2
Y30(=C5)	380-385	3.80-3.85	191-210	2.40-2.64	199-220	2.50-2.51	26.0-28.0	3.4-3.7
Y30BH	380-390	3.80-3.90	223-235	2.80-2.95	231-245	2.90-3.08	27.0-30.0	3.4-3.7
Y33	410-420	4.10-4.20	220-235	2.77-2.95	225-240	2.83-3.01	31.5-33.0	4.0-4.2
Y35	400-410	4.00-4.10	175-195	2.20-2.45	180-200	2.26-2.51	30.0-32.0	3.8-4.0
C8(=C8A)	385-390	3.85-3.90	235-255	2.95-3.20	242-265	3.05-3.33	27.8-30.0	3.5-3.7
C10	400-410	4.00-4.10	288-300	3.62-3.77	280-287	3.51-3.60	30.4-31.9	3.8-4.0

Chinese standard -sj/T10410 2000 permanent ferrite magnet standard

Material	Br		HcB		HcJ		(BH)max	
	mT	KG	KA/m	Oe	KA/m	Oe	Kj/m ³	MGOe
Y8T	200-235	≥2000	125-160	≥1570	210-280	2610	6.5-9.5	≥0.8
Y22H	310-360	≥3100	220-250	≥2770	280-320	3520	20.0-24.0	≥2.5
Y25	360-400	≥3600	135-170	≥1700	140-200	1760	22.5-28.0	≥2.8
Y26H-1	360-390	≥3600	220-250	≥2512	225-255	2830	23.0-28.0	≥2.9
Y26H-2	360-380	≥3600	263-288	≥3300	318-350	4000	24.0-28.0	≥3.0
Y27H	370-400	≥3500	225-240	≥2830	235-260	2950	25.0-29.0	≥3.1
Y28	370-400	≥3700	175-210	≥2200	180-220	2260	26.0-30.0	≥3.3
Y28H-1	380-400	≥3800	240-260	≥3020	250-280	3140	27.0-30.0	≥3.1
Y28H-2	360-380	≥3600	271-295	≥3400	382-405	1800	26.0-30.0	≥3.3
Y30	370-400	3.7~4.0	175-210	2.20~2.64	180-220	2.26~2.77	26.0-30.0	3.3~3.8
Y30H-1	380-400	≥3800	230-275	≥2890	235-290	2950	27.0-32.5	≥3.4
Y30H-2	395-415	≥3950	275-300	≥3460	310-335	3900	27.0-32.0	≥3.4
Y32	400-420	≥4000	160-190	≥2010	165-195	2070	30.0-33.5	≥3.8
Y32H-1	400-420	≥4000	190-230	≥2390	230-250	2890	34.5-35.0	≥4.0
Y32H-2	400-440	≥4000	224-240	≥2810	230-250	2890	31.0-34.0	≥3.9
Y33	410-430	≥4100	220-250	≥2760	225-255	2830	31.5-35.0	≥4.0
Y33H	410-430	≥4100	250-270	≥3140	250-275	3140	31.5-35.0	≥4.0
Y34	420-440	≥4200	200-230	≥2510	205-235	2580	32.5-36.0	≥4.1
Y35	430-450	≥4300	215-239	≥2700	217-242	2730	33.1-33.2	≥4.2

USA standard - permanent ferrite magnet industry standard of USA

Material	Br		HcB		HcJ		(BH)max	
	mT	KG	KA/m	KOe	KA/e	KOe	kJ/m ³	MGOe
C1	230	2.30	148	1.860	258	3.50	8.36	1.05
C5	380	3.80	191	2.400	199	2.50	27.00	3.40
C7	340	3.40	258	3.230	318	4.00	21.90	2.75
C8(=C8A)	385	3.85	235	2.950	242	3.05	27.80	3.50
C8B	420	4.20	232	2.913	236	2.96	32.80	4.12
C9	380	3.80	280	3.516	320	4.01	26.40	3.32
C10	400	4.00	288	3.617	280	3.51	30.40	3.82
C11	430	4.30	200	2.512	204	2.56	34.40	4.32

The standard from International Electronics Committee(IEC404-8-1)

Grade	Allowed Value (min/typical)							
	Br		Hcb(BHC)		Hcj(IHC)		(BH)max	
	MT	KG	KA/m	KOe	KA/m	KOe	Kj/m³	MGOe
HF8/22	200-220	2.00-2.20	125-140	1.57-1.76	220-230	2.76-2.89	6.5-6.8	0.8-1.1
HF20/19	320-333	3.20-3.33	170-190	2.14-2.39	190-200	2.39-2.51	20.0-21.0	2.5-2.7
HF20/28	310-325	3.10-3.25	220-230	2.76-2.89	280-290	3.52-3.64	20.0-21.0	2.5-2.7
HF22/30	350-365	3.50-3.65	255-265	3.20-3.33	290-300	3.64-3.77	22.0-23.5	2.8-3.0
HF24/16	350-365	3.50-3.65	155-175	1.95-2.20	160-180	2.01-2.26	24.0-25.5	3.0-3.2
HF24/23	350-365	3.50-3.65	220-230	2.76-2.89	230-240	2.89-3.01	24.0-25.5	3.0-3.2
HF24/35	360-370	3.60-3.70	260-270	3.27-3.39	350-360	4.40-4.52	24.0-25.5	3.0-3.2
HF26/16	370-380	3.70-3.80	155-175	1.95-2.20	160-180	2.01-2.26	26.0-27.0	3.2-3.4
HF26/18	370-380	3.70-3.80	175-190	2.20-2.39	180-190	2.26-2.39	26.0-27.0	3.3-3.4
HF26/24	370-380	3.70-3.80	230-240	2.89-3.01	240-250	3.01-3.14	26.0-27.0	3.3-3.4
HF26/26	370-380	3.70-3.80	230-240	2.89-3.01	260-270	3.27-3.39	26.0-27.0	3.3-3.4
HF26/30	385-395	3.85-3.95	260-270	3.27-3.39	300-310	3.77-3.89	26.0-27.0	3.3-3.4
HF28/26	385-395	3.85-3.95	250-265	3.14-3.33	260-275	3.27-3.45	28.0-30.0	3.5-3.8
HF28/28	385-395	3.85-3.95	260-270	3.27-3.39	280-290	3.50-3.60	28.0-30.0	3.5-3.8
HF30/26	395-405	3.95-4.05	250-260	3.14-3.33	260-270	3.27-3.39	30.0-31.5	3.8-3.9
HF32/17	410-420	4.10-4.20	160-180	2.01-2.26	165-175	2.07-2.20	32.0-33.0	4.0-4.1
HF32/22	410-420	4.10-4.20	215-225	2.70-2.83	220-230	2.76-2.89	32.0-33.0	4.0-4.1
HF32/25	410-420	4.10-4.20	240-250	3.01-3.14	250-260	3.14-3.27	32.0-33.0	4.0-4.1

Physical Properties

Physical Properties of Hard Ferrite

Parameters	Mark	Unit	Values	Remark
Recoil Permeability	rec	Gs/Oe	1.05-1.3	
Curie Temperature	Tc	°C	≥450	
Temp. Coefficient of Magnetic Induction	A(Br)	°C-1	-0.2%	0-100°C
Temp. Coefficient of Inturensic Coerrice Induction	A(Hcj)	°C-1	-0.2-0.5%	0-100°C
Density	d	G/cm3	4.6-5.0	
Specific Resistance		Ω.cm	≥106	
Coefficient of Thermal Expansion	A	°C-1	7-15X10-6	
Hardness	HV	--	480-580	

Ningbo Awork Magnetic Technology Co., LTD.

Add: Hongdu Road, Jiangbei District, Ningbo of China

Postcode: 315033

Tel: 0086 135 8691 2623

Fax: 0086 574 8739 2649

Email: Connie: connie.magnets@awork-magnet.com

Jane: Jane.magnets@awork-magnet.com

Maria: maria.magnets@gmail.com

Nicole: magnets1017@hotmail.com

Http : <http://www.awork-magnet.com>