

# Flexible Magnetic Sheeting

Flexible Magnetic Sheeting is produced with calendering process. It is normally used in office appliance, advertising, checking and testing meters etc. According to its magnetization method, it is divided into penetration magnetization and surface magnetization. (pole width 2,4,7mm or 12,7/6.4/3.6 poles per inch).



As with all magnetic materials, performance is difficult to quantify without going into complex formula. We strive in this section to give rules of thumb and an appreciation of different materials which will help in the selection of magnets. Hands-on testing is definitely recommended (with papers/air gaps as necessary) to select the best magnet for the job.

## Material Types

Material	Bhmax-Energy Product
a. Isotropic/semi Anisotropic Ferrite	0.7-0.8MGOe
b. Full Anisotropic Ferrite( High Energy Sheet)	1.1-1.4MGOe
c. Neodymium Flexible Material	2.0-2.5MGOe

## 2. Material Thickness

The popular thickness range of flexible magnet material is 0.4-1.5mm, but thicker material is available in high energy. The thicker the material the greater the pull. It is not in direct proportion, but the thicker the material the greater the pull increase. Eg: 0.75mm thick material has a pull of 44 gram/cm<sup>3</sup> and if proportional the 1.5mm thick material would be 88gram/cm<sup>3</sup>, but in fact it is actually far higher at 140 gram/cm<sup>3</sup>.

## Typical Pull Characteristics

Material Thickness(mm)	Pull (Gram/cm <sup>3</sup> )
0.4	19
0.5	28
0.75	44
1.5	140

### 3.Magnetic properties of **flexible magnetic sheeting**

Code	Br	Hcb	Hcj	(BH)max	Forming way	Size		
	T	KA/m	KA/m	KJ/m <sup>3</sup>		Max Length(m)	Max Width(mm)	Height(mm)
YXZY-1	0.13~0.18	80~120	100~160	4~6.4	Calendering	100	400	0.4~1.1
YXZY-2	0.18~0.22	100~140	120~190	6.4~8.0	Calendering	2	930	0.6~3
YXZY-3	0.21~0.239	140~165	150~210	8.0~10.4	Calendering	100	400	0.4~1.5
YXZY-4	0.24~0.265	152~181	200~270	10.4~12.5	Calendering	2	400	0.6~6

### 4.Physical properties of **flexible magnetic sheeting**

Code	Tensile Strength (MPa)	Elongation Rate (%)	Hardness (SHA)	Temperature (oC)	Density (g/cm <sup>3</sup> )
YXZY-1	7~12	100~200	85~98	-10~80	3.6~3.7
YXZY-2	7~12	100~300	85~98	-10~80	3.6~3.7
YXZY-3	7~12	100~200	85~98	-10~80	3.6~3.7
YXZY-4	7~12	100~300	85~98	-10~80	3.6~3.7

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Add :F/16, Jinyuan plaza, # 57 South Hubin.Rd, Xiamen, CHINA 361004  
Tel : (86)592 2295387 (86)592 2217138 Fax: (86)592 2207122  
Email To Us: [susana@aaamagnet.net](mailto:susana@aaamagnet.net)

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