



FLEXIBLE RUBBER MAGNET

General Information



Flexible rubber magnets have physical properties that allow them to be used in a variety of ways that would not be possible with more brittle magnets. Flexible magnetic materials can be coiled, twisted, or cut into shapes without any loss of magnetic capability. The flexibility and ease of machining of these materials permit design innovations and automated manufacturing techniques. They offer product designers a uniquely desirable combination of properties at lower cost than other magnetic materials.

Flexible magnets are used in many applications including small motors, position/angle sensors, advertising signs, magnetic filtering, posters and signs etc.

Lifton Magnets offers flexible magnets in a variety of grades and sizes. Flexible material is available on rolls, cut and scored to length, or made to your exact specifications. The nature of the material makes it possible to achieve very tight tolerances.



Material Information

- Made by consolidating Strontium or Barium ferrite powder with polymer matrix
- Form in profiles, strips and sheets by extrusion / calendaring method
- Product can be stamped, slit, punched and laminated
- Good demagnetization resistance & reasonable resistance to chemical agents
- Material is readily available and low in cost.

Typical Physical Properties

Tensile Strength (kg/cm ³)	20 < f < 100
Elongation (%)	60 < l < 300
Hardness (Hv)	95 ± 5
Density (g/cm ³)	3.70 ± 0.2
Saturation Field Strength	10 KOe, 800 KA/m
Flexibility	No crack when twisting around a testing bar diameter 20-60mm
Twist	No crack at twist with 180° twice



Magnetic Properties of Flexible Rubber Magnets

Material	Isotropic/ Anisotropic	Remanence		Coercivity		Intrinsic Coercivity		Max. Energy Product	
		Br (mT)	Br (Gs)	bHc (kA/m)	bHc (Oe)	iHc (kA/m)	iHc (Oe)	(BH) _{max} (kJ/m ³)	(BH) _{max} (MGOe)
Flex-7L	Isotropic	165±10	1650±100	108±8	1350±100	132±8	1650±100	5.2±0.4	0.65±0.05
Flex-7H	Isotropic	170±10	1700±100	112±8	1400±100	136±8	1700±100	5.6±0.4	0.70±0.05
Flex-10	Semi-aniso	220±5	2200±50	136±8	1700±100	160±8	2000±100	8.0±0.4	1.00±0.05
Flex-12	Anisotropic	245±5	2450±50	140±8	1750±100	148±8	1850±100	11.2±0.4	1.40±0.05
Flex-12BH	Anisotropic	247.5±2.5	2475±25	168±8	2100±100	224±8	2800±100	12.0±0.4	1.50±0.05

Binder and Coating Selection of Flexible Rubber Magnets

Binder Selection

Binder Type	Information
CPE	Most common and economy material, good fabrication properties
NBR	Good resistance to organic solvent such as thinners and petroleum. Applications to motors and sensors etc.

Coating Selection

Coating Type	Information
PVC	Suitable for various kinds of printing method
Self-adhesive tape	Available in pressure sensitive and foam backing

Applications to Promotional Magnets

