



1. PRODUCT DESCRIPTION AND APPLICATION FIELD

FLEXIMIUM MAG is a range of plasto-magnets obtained by mixing Neodymium magnetic powders, rubbers and other additives:

Component	%
$Nd_2 Fe_{14} B -X$	80-95
Butadiene Acrylonitrile Copolymer (NBR) - Polymer Polyethylene Hydrochloride (CPE)	7-9
Other Additives	<0,5

Chemical composition

FLEXIMIUM MAG is a range of MAGNETIZED plasto-magnets.

What about **FLEXP**?



high quality and environmental standards



qualified and verified suppliers



minimal environmental impact thanks to a green-thinking process



all the production wastes are valorized and reused in the process

More in details:

- * Anisotropic plasto-magnet obtained by lamination.
 - ✓ Suitable for applications requiring medium to high magnetic forces
 - ✓ High mechanical strength and flexibility.

Application field: advertising & graphic, instrumental (*lifts, elevators, platforms, escalators, pneumatic systems, etc.*), DC motors, wellness and care (*magneto-therapy*)



2. CUSTOMIZATION

FLEXIMIUM MAG can be supplied in a variety of shapes and sizes: strips, rings and round magnets, profiles and 2D-3D processed designs. It can be also customized, according to Customer's requirements, in the methods below indicated

- ✓ **Standard and Premium cut**
- ✓ painted on one or two surfaces
- ✓ application of one/double sided adhesive tapes
- ✓ marked or engraved
- ✓ with holes
- ✓ **axially magnetized**
- ✓ **magnetized with two or more polarities on the length and on one/two surfaces**

3. CHARACTERISTIC PROPERTIES OF FLEXP PRODUCTS

Intrinsic Magnetic Properties (at 20 °C)

Product	Analytical Method	Br **		BHc		JHc		BHmax	
		G	mT	Oe	KA/m	Oe	KA/m	MGOe	KJ/m ³
Fleximium 2	<i>I ML01</i>	2500 3500	250 350	> 1500	> 120	> 2000	> 150	> 1.4	> 12
Fleximium 5	<i>I ML01</i>	4000 5300	400 530	> 3100	> 250	> 7600	> 600	> 4,5	> 36
Fleximium 8	<i>I ML01</i>	5700 6700	225 250	> 1700	> 350	> 8400	> 800	> 7,5	> 60



Physical Properties (at 20 °C)

The experience gained over many years of business has enabled MyP Magnetica Italiana S.r.l. to optimize different recipes to meet the multiple demands of the customer regarding Hardness and Elasticity; more specific requirements can be agreed upon with the MyP Magnetica Italiana S.r.l. Sales Office.

Product	Shore hardness **		Elasticity			
	Analytical Method	D	Thickness (mm)	2	5	8
			Analytical Method	°		
Fleximium 2	IO ML05	30 80	IO ML09	≥ 150	≥ 130	≥ 100
Fleximium 5	IO ML05	30 80	IO ML09	≥ 150	≥ 130	≥ 100
Fleximium 8	IO ML05	30 80	IO ML09	≥ 150	≥ 130	≥ 100

MyP Magnetica Italiana s.r.l. guarantees a *SHELF LIFE* of 365 days for mechanical properties such as hardness and elasticity, while magnetization is not affected by time

Product	Temperature Coeff.			Thermal Expansion Coeff.	MAX Use Temperature () ¹	Density (± 0.2%)
	Analytical Method	$\Delta Br / \Delta T$ (%/°C)	$\Delta JHc / \Delta T$ (%/°C)	(°C) ⁻¹	(°C)	g/cm ³
Fleximium 2	IML13	- 0.2	+ 0.45	10.5 x 10 ⁻⁶	100 (120)	3.6
Fleximium 5	IML13	- 0.2	+ 0.45	10.5 x 10 ⁻⁶	100 (120)	4.8
Fleximium 8	IML13	- 0.2	+ 0.45	10.5 x 10 ⁻⁶	100 (120)	5.2

(¹) The (values) are meant as MAX Use Temperature for short periods in order to avoid loss in flexibility. Over the maximum temperatures here declared the bacheling process may affect the product, that means the hardening of the rubber present within the mixture. However, the loss of flexibility does not compromise the magnetic values.

3. MAGNETIC CHARACTERISTICS (at 20 °C)

FLEXIMIUM MAG can be magnetized in different ways (on one or two surfaces):

- axially
- multipole with pole pitch (mm: 2, 3, 4, 5, 7)

The different type of magnetization, varying the thickness and the type of **FLEXIMIUM** results in a different Magnetic Force (measured in G [min-max] using IO ML14) and Traction Resistance (measured in dN/cm² using IO ML10):



4. DIMENSIONAL TOLERANCES (at 20 °C)**

STANDARD CUTTING LINE

RINGS - CYLINDER				
Parameter	Range	10 - 20 mm	20.1 - 100 mm	> 100 mm
	Analytical Method			
∅ est - ∅ int	IO ML06	± 0.3 mm		
Parameter	Range	1 - 3 mm	3.1 - 6 mm	6.1 - 8 mm
	Analytical Method			
Thickness	IO ML06	± 0.15 mm		

STRIPS					
Parameter	Range	< 300 mm	300 - 500 mm	500.1 - 1000 mm	> 1000 mm
	Analytical Method				
Length Width	IO ML06	± 0.5 mm	± 1 mm	± 3 mm	± 10 mm
Parameter	Range	1 - 3 mm	3.1 - 6 mm	6.1 - 8 mm	
	Analytical Method				
Thickness	IO ML06	± 0.15 mm			

PREMIUM CUTTING LINE

RINGS - CYLINDER				
Parameter	Range	10 - 20 mm	20.1 - 100 mm	> 100 mm
	Analytical Method			
∅ est - ∅ int	IO ML06	± 0.2 mm		
Parameter	Range	1 - 3 mm	3.1 - 6 mm	6.1 - 8 mm
	Analytical Method			
Thickness	IO ML06	± 0.15 mm		

5. MANIPULATION



FLEXIMIUM is



safe (no Barium, Phthalates, Heavy Metals)metals



non-flammable according to UL94



completely atoxic and classified as “not Dangerous” in accordance with the provisions of Regulation (EC) 1272/2008 (CLP), Regulation (CE) 1272/2008 (CLP), direttiva RoHS and meets the European standard EN71 / 3 concerning the sale of heavy metal cession in toys.

It can be handled with no particular precautions.

For further information MyP Magnetica Italiana S.r.l invites to read the relative Safety Data Sheet: FLEXO & FLEXO MAG.

6. STORAGE

FLEXIMIUM shows a great resistance to the atmospheric events and to the aging.

MyP Magnetica Italiana S.r.l., however, recommends to:



avoid contact of **FLEXIMIUM** with chemicals (oils, solvents, etc.) for long periods in order not to compromise the product



keep **FLEXIMIUM** far from electromagnetic fields to preserve magnetic properties



store **FLEXIMIUM** at the temperature of 20 °C (± 5 °C) in a not humid room and, possibly, closed to maintain the magnetic and physic properties

Although not directly reported in this Technical Data Sheet, MyP Magnetica Italiana s.r.l. is available with Sales and Technical Offices to support any kind of projects or requests.

The values of the indicated parameters are guaranteed by MyP Magnetica Italiana s.r.l.. The ** values for each single batch/lot will be included in the “ANALYSIS CERTIFICATE”, sent correlated to your order. The presence of further parameters will be discussed with the Sales Office of MyP Magnetica Italiana s.r.l.

Note: What is shown in this sheet is the result of direct observations and experiences; However, being unable to maintain and control all conditions and all operational parameters at the user, MyP Magnetica Italiana s.r.l. is not responsible for misuse of such information.