



# TECHNICAL DATA SHEET

MyFER

## Hard Ferrite

### 1. DESCRIPTION OF PRODUCTS AND FIELDS OF APPLICATION

Hard ferrite, also known as **magnetoceramic**, is a widely used magnetic material due to its excellent physical and magnetic properties. Made mainly from iron oxides and strontium, this class of magnets is distinguished by its **high resistance to demagnetization**, excellent thermal stability, and **resistance to corrosion**.

The two types of hard ferrite are:

- **Hard isotropic ferrite:** Characterized by uniform magnetization in any direction, it offers greater flexibility in applications but with less magnetic intensity. È ideale per usi generici e dove non è richiesta un'elevata forza magnetica. Isotropic ferrites have **BHmax values of less than 2.5 MGOe** and a **Br** generally less than **3000 G (300 mT)**.
- **Hard anisotropic ferrite:** during the production process, it is oriented with a magnetic field to give a preferential direction of magnetization. This makes it more performing than the isotropic version, with a greater force of attraction and coercivity. Anisotropic ferrites have **BHmax values greater than 2.5 MGOe** and a **Br** generally greater than **3000 G (300 mT)**.

Thanks to these characteristics, hard ferrite is used in numerous industrial sectors, including:

- Electric motors and generators
- Magnetic sensors and detection systems
- Automotive (ABS, power steering, wiper motors, fans, etc.)
- Speakers and audio components
- Electromagnetism and magnetotherapy
- Fastening tools and industrial applications

MyP Magnetica Italiana **MyFER** ferrites **are** made of high-quality materials, ensuring **reliable and long-lasting performance**.

COMPONENT	%
SrFe <sub>12</sub> O <sub>19</sub>	>99
Other oxides	-



# TECHNICAL DATA SHEET

## MyFER

### 2. TECHNICAL SPECIFICATIONS OF MyFER MATERIALS

#### Magnetic properties (at 20 °C)

Product	Br**		BHmax	
	G	mT	MGOe	kJ/m <sup>3</sup>
MyFe 25	3700 - 3900	370 - 390	3,1 - 3,6	24,6 - 28,6
MyFe 30 (C5)	3800 - 4000	380 - 400	3,5 - 3,9	27,8 - 31,0
MyFe 30H	3700 - 3900	370 - 390	3,5 - 3,7	27,8 - 29,4
MyFe 30H-1	3800 - 4000	380 - 400	3,4 - 4,0	27,0 - 31,8
MyFe 30H-2	3950 - 4150	395 - 415	3,6 - 4,0	28,6 - 31,8
MyFe 30BH (C8)	3800 - 4000	380 - 400	3,4 - 3,9	27,0 - 31,0
MyFe 35	4000 - 4200	400 - 420	3,9 - 4,1	31,0 - 32,5
MyFe 35H	3900 - 4100	390 - 410	3,6 - 3,9	28,6 - 31,0
MyFe 35H-1	3700 - 3900	370 - 390	3,5 - 3,8	27,8 - 30,2
MyFe 35H-2	3400 - 3600	340 - 360	3,1 - 3,6	24,6 - 28,6
MyFe 42B	4000 - 4200	400 - 420	3,8 - 4,2	30,2 - 33,4
MyFe 44	4000 - 4400	400 - 420	3,8 - 4,3	30,2 - 34,1
MyFe 44H	4000 - 4400	400 - 440	4,0 - 4,4	31,8 - 34,9



# TECHNICAL DATA SHEET

## MyFER

### Physical Properties (at 20 °C)

Hardness		Specific weight ( $\pm 0.1\%$ )		Shelf Life**	
Analytical Method	Hv	Analytical Method	g/cm <sup>3</sup>	Analytical Method	Days
-	480 580	IO ML08	4.5 5.1	IO ML11	365

Temperature Coefficient		Max Working Temperature	Curie Temperature
Analytical Method	$\Delta Br / \Delta T$ (%/ °C)	(°C)	(°C)
IO ML13	-0,2	300	460
	(0-100 °C)		480

### 3. HANDLING

**MyFER hard ferrite** is a magnetic ceramic material that is stable and safe to handle.

- **It does not contain** hazardous substances such as phthalates or heavy metals in significant quantities.
- **It is non-flammable**, thanks to its inorganic composition.
- **It is resistant to corrosion** and does not require special protective treatments.
- **It is not restricted** according to **REACH (EC Regulation 1907/2006)** and **CLP (EC Regulation 1272/2008) regulations**.
- **It is RoHS compliant**, relating to the restriction of the use of hazardous substances in electrical and electronic equipment.

**MyFER hard ferrite** can be **handled without special precautions**, but, being a ceramic material, it is fragile and prone to breakage in the event of impacts or falls. It is therefore advisable to handle it carefully to avoid chipping.

For further details, MyP Magnetica Italiana S.r.l. refers to the relevant **MyFER Hard Ferrite Safety Data Sheet**.



# TECHNICAL DATA SHEET

## MyFER

### 4. STORAGE

**MyFER hard ferrite** is characterized by both excellent **resistance to atmospheric agents** and a long life. However, to preserve its magnetic and mechanical properties, it is recommended to:

- **Avoid prolonged contact with aggressive chemical agents** (greases, solvents, acids), which could alter the surface.
- **Protect magnets from bumps and drops**, as ferrite is a brittle material and can chip or break.
- **Keep the magnets separate from each other or with spacers**, especially if they are very strong, to avoid sudden attractions that could cause damage or injury.
- **Keep MyFER hard ferrite in a dry**, temperature-controlled environment of **20 °C (± 5 °C)**, avoiding prolonged exposure to high humidity that could affect its performance.

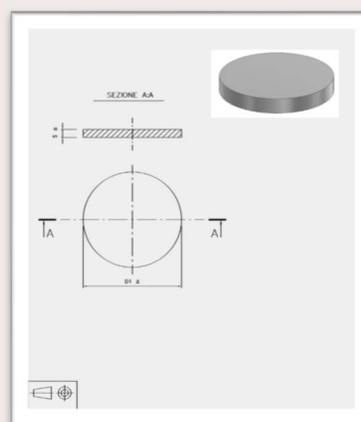
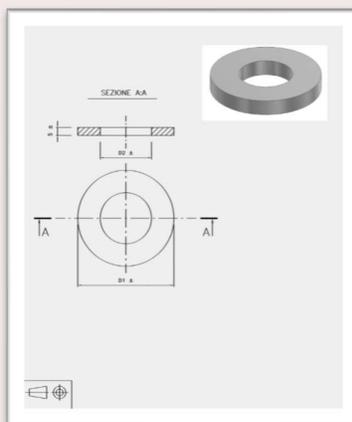
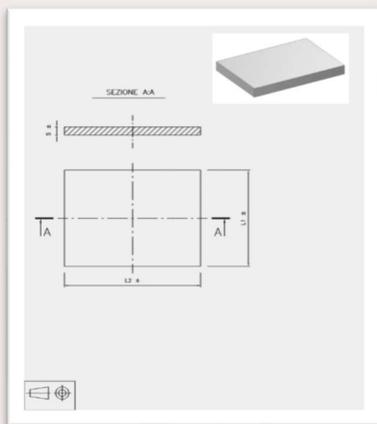
### 5. SHAPES AND SIZES

MyP Magnetica Italiana has the most advanced cutting technologies, which allow us to create any type of shape and unique and innovative solutions starting from ferrite sheets.



The standard shapes are: parallelepipeds, rings, rods.

### DIMENSIONAL TOLERANCES \*\*



### DESCRIPTION



# TECHNICAL DATA SHEET

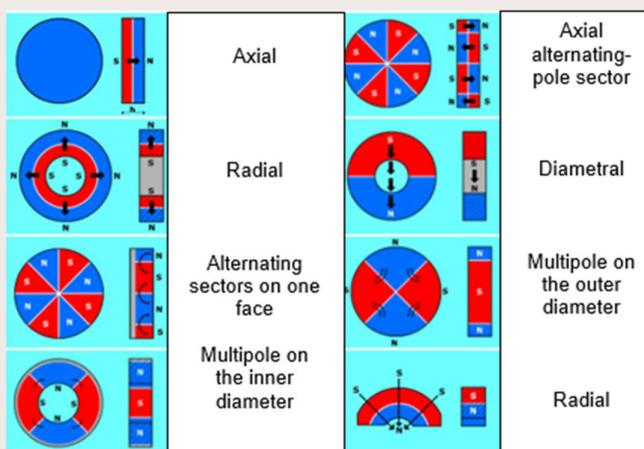
## MyFER

	S [mm]	D1 [mm]	D2 [mm]
<b>MIN. VALUE</b>	0,80	8,00	4,00
<b>MAX VALUE</b>	8,00	440,00	420,00
<b>TOLERANCES + -</b>	0,15	0,20	0,20

Thanks to our partnership with a Chinese manufacturer, MyP Magnetica Italiana is able to supply ferrite magnets of all types of shapes and sizes.

## 6. MAGNETIZATION

**MyFER hard ferrite** can be magnetized in different ways depending on the application. The main magnetization configurations are:



### AXIAL MAGNETIZATION

Description: The magnetic field is oriented along the main axis of the magnet (from top to bottom).  
 Applications: Cylindrical magnets, discs and blocks used in motors, sensors and loudspeakers.

### DIAMETRAL MAGNETIZATION

Description: The magnetic field is oriented along the diameter of the magnet.  
 Applications: Circular magnets for motors and rotating applications.

### MULTIPOLAR MAGNETIZATION ON FLAT SURFACE

Description: The magnetization takes place on a flat surface with several alternating magnetic poles (North and South).  
 Applications: Magnetic strips and sheets, magnetic rollers, magnetic latches.

# TECHNICAL DATA SHEET

## MyFER

### MULTIPOLAR MAGNETIZATION ON CYLINDRICAL SURFACE

Description: The magnetization is distributed alternately along the circumference of a cylinder.  
Applications: Stepper motor magnets and sensors.

### RADIAL MAGNETIZATION

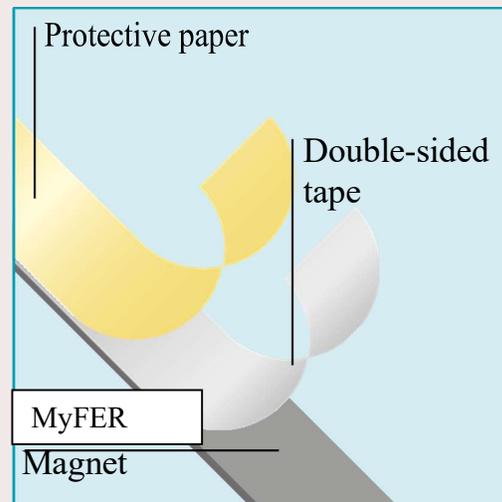
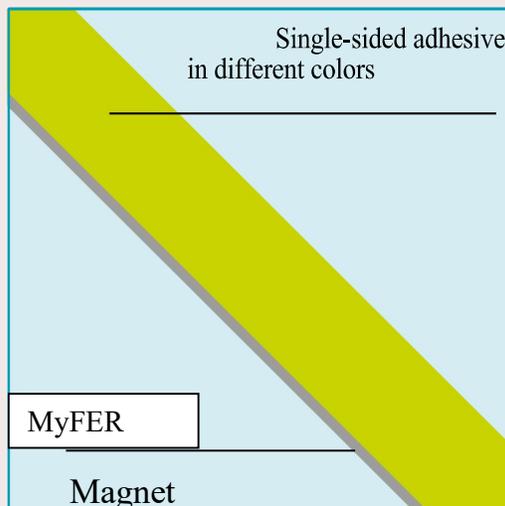
Description: The magnetic field develops from the center outwards or vice versa along the radius of the magnet.  
Applications: High-performance motor magnets, magnetic rings.

### CUSTOM MAGNETIZATION

Description: Some magnets can be magnetized with custom patterns for specific needs, such as coding systems or specialized applications.  
Applications: Magnetic encoders, levitation systems, medical devices.

## 7. CUSTOMIZATION

**MyFER** magnets can be customized by varnishing one or more surfaces, or by applying colored single-sided adhesive tape or with a double-sided adhesive surface.



The adhesives we use are highly resistant to ageing, light and temperatures from  $-20^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ . It is customary for MyP Magnetica Italiana to use double-sided adhesives from the best brands on the market, whose names are indicated during the offer phase.

## 8. CUSTOMER CARE

For anything not directly reported in this Technical Data Sheet, MyP Magnetica Italiana s.r.l. makes its Commercial and Technical Offices available to advise you on the material that best suits your needs and to support new projects and/or requests.



# TECHNICAL DATA SHEET

MyFER

## CONTACTS

commerciale@mypmagnetica.it  
+39 02 83595060



*The values of the parameters reported and marked with \*\* are guaranteed and certified by MyP Magnetica Italiana s.r.l.. Additional values can be supplied, guaranteed and certified only, and exclusively, subject to agreement with the Commercial Office of MyP Magnetica Italiana s.r.l..*

*Note: what is reported in this sheet is the result of direct observations and practical experiences. However, since it is not possible to have and keep under control all the conditions and all the operating parameters at the user's premises, MyP Magnetica Italiana s.r.l. does not assume responsibility for the improper use of such information.*