HARD FERRITE MAGNETS

Engineered for stability in a variety of applications

FEATURES

Hard ferrites are permanent magnet materials characterized by their high coercivity and low magnetic permeability, making them resistant to demagnetization. They are composed of barium or strontium ferrite and are commonly used in applications requiring a stable magnetic field, such as loudspeakers, electric motors, and magnetic separators.

Types of Hard Ferrites:

- Strontium Ferrites: Used in applications like small electric motors, telecommunication, and microwave devices.
- Barium Ferrites: Suitable for loudspeaker magnets due to their stability in moist and corrosion-resistant environments.

HIGH COERCIVITY

LOW MAGNETIC PERMEABILITY

CORROSION RESISTANCE

TEMPERATURE STABILITY

COST-EFFECTIVE

100% EMPLOYEE OWNED
THOMAS & SKINNER INC.

TRUSTED MANUFACTURER

Thomas & Skinner is a trusted provider of high-performance metal solutions. With over a century of experience, we're a trusted leader in producing high quality permanent magnets that provide solutions across a range of applications. Our engineers have a deep understanding of the science behind our high performance metals allowing us to provide world-class customer service and expertise to provide solutions to optimize design performance based on your unique needs.

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Thomas and Skinner, Inc.
High Performance Metals

DFARS Compliant ITAR AS9100D CERTIFIED ISO 9001

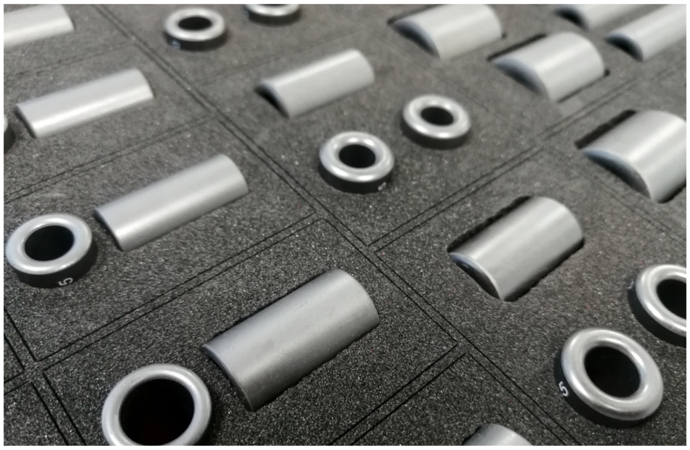
HARD FERRITE MAGNETS

KEY CHARACTERISTICS

- **High Coercivity:**
  - High coercivity field, meaning they are difficult to demagnetize.
- **Low Magnetic Permeability:**
  - Exhibit a low permeability, indicating a lower ability to concentrate magnetic flux compared to soft ferrites.
- **Good Corrosion Resistance:**
  - Generally resistant to corrosion.
- **Temperature Stability:**
  - Typically maintain magnetic properties within a wide temperature range, with some grades capable of withstanding temperatures up to 250°C.
- **Cost-Effectiveness:**
  - Economical and widely used in a variety of applications.

APPLICATIONS

- **Loudspeakers:**
  - Provide the magnetic field for speaker diaphragms.
- **Electric Motors:**
  - Employ hard ferrites for their strong and stable magnetic fields.
- **Magnetic Separators:**
  - Used to separate ferromagnetic materials from other materials.
- **Refrigerator Magnets:**
  - Leverage the high coercivity of hard ferrites to create strong, permanent magnetic forces.
- **Other Applications:**
  - Useful in various other areas, including storage devices, HF antennas, and spin transmission applications.



HARD FERRITES
Summary of main grades of Hard Ferrites

	Maximum Operating Temperature	Temperature Coefficient of Br	Residual Induction Br		Coercivity Hc		Intrinsic Coercivity iHc		Maximum Energy Product (BH)max	
	°C	%/°C	kG	T	kOe	kA/m	kOe	kA/m	MGOe	kJ/m3
Grade	typ	typ	typ	typ	typ	typ	min	min	typ	typ
1	400	-0.2	2.3	0.23	1.86	148	3.0	239	1.0	8.0
5	400	-0.2	3.85	0.385	2.4	191	2.5	199	3.4	27.1
8	400	-0.2	3.85	0.385	2.95	235	3.1	247	3.5	27.9

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