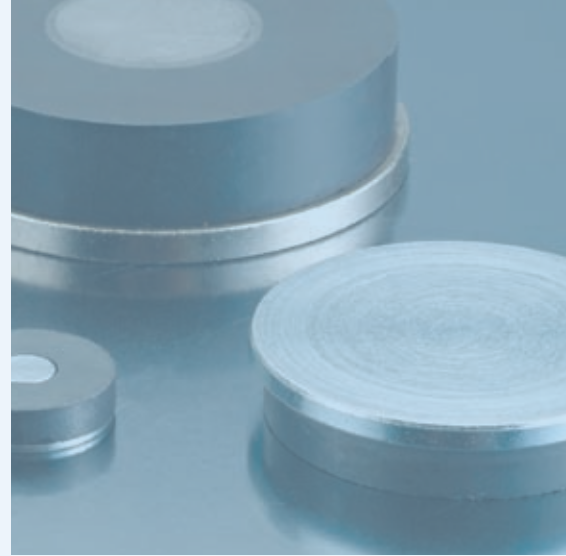


# FERRITES

Ferrite magnets are brown ceramics, manufactured using the powder metallurgy process: pressing and sintering.  
Density 4.8.



## HOLDING FORCE

- ▶ Magnetic force is optimal when the magnet is in contact with a mild steel frame, flat, clean and rather thick. It is lower with allied steels and cast iron (less 30% for cast iron).
- ▶ It is lower in presence of an air gap (space between the part to magnetize and the polar face of the magnet).
- ▶ It is decreasing by 0.4% every degree C (see besides curve).

## INDUCTION ON SURFACE

- ▶ The maximum value of induction in surface at 20°C is about 1500 Gauss for Ferrite flat pot magnets and blocks.
- ▶ This value is decreasing by 0.2% every degree C, when temperature is increasing.

## MECHANICAL RESISTANCE

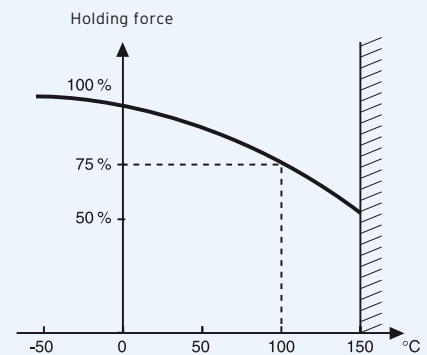
- ▶ These ceramics are very fragile and offer little resistance to shocks.
- ▶ They must be handled carefully.
- ▶ To avoid magnets attraction during handling we advise to put them on a mild steel plate.
- ▶ Do not shock or squeeze.

## RESISTANCE TO CHEMICALS

- ▶ Ferrite magnets are rustproof.

## RESISTANCE TO TEMPERATURE

- ▶ Induction losses are reversible so far we stay in the limit of working temperature of the material.



- ▶ This is the family of magnets with the best energy/cost ratio.
- ▶ Their remanent induction is low but the coercive field remains high.
- ▶ The catalogue shows an isotropic and anisotropic ferrite grade.

Grades	9A	5B
Br Typical (T)	0,215	0,416
Hcb Typical (kA/m)	139	267
Hcj Typical (kA/m)	226	277
BH max Typical (kJ/m <sup>3</sup> )	8,2	32

