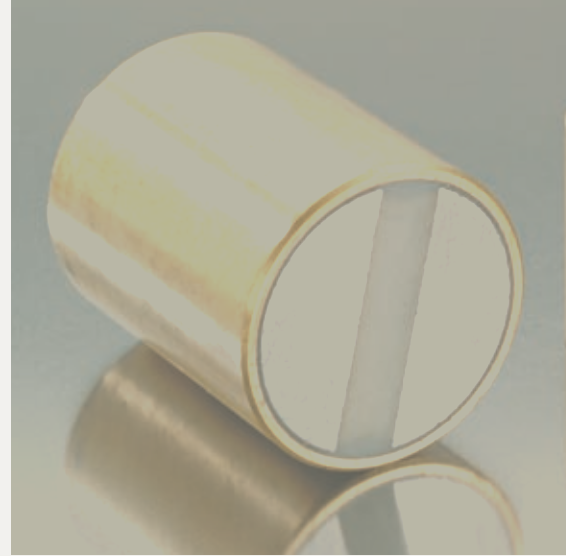


SAMARIUM COBALT

Samarium Cobalt magnets are sintered magnets made of samarium and cobalt powder.

They are light grey in colour.

Density 8,2.



HOLDING FORCE

- ▶ Magnetic force is optimal when 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 the presence of an air gap (space between the part to magnetize and the polar face of the magnet).
- ▶ It is decreasing by 0.08% every degree C (see besides curve). This loss is reversible.

INDUCTION ON SURFACE

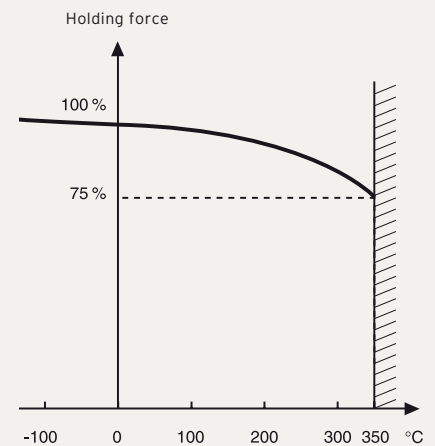
- ▶ The maximum value of induction in surface at 20°C is about 4000 Gauss for SmCo flat pot magnets and magnetic blocks.
 - ▶ This value is decreasing by 0.04% every degree C when temperature is increasing.
- It is a reversible loss.

MECHANICAL RESISTANCE

- ▶ These ceramics are very fragile. They must be handled carefully.

RESISTANCE TO CHEMICALS

- ▶ Samarium Cobalt magnets must not be put in the proximity of hydrogen and chlorine.



- ▶ Samarium Cobalt has a very high magnetic energy (BHmax).
- ▶ There are 2 main subfamilies: SmCo5 and Sm2Co17.
- ▶ The Samarium Cobalt grade presented in this type of catalogue is the best performing Sm2Co17.

Grade	Sm2Co17
Br Typical (T)	1,06
Hcb Typical (kA/m)	720
Hcj Typical (kA/m)	1650
BH max Typical (kJ/m ³)	195

