

## **Safety information when handling and using permanent magnets (Guideline 93/112/EC)**

What you need to know and heed:

All persons handling magnetic materials must be familiar with and heed this information!

The attractive and repulsive forces of magnets can give rise to dangers. Magnets are able to attract and repel one another from considerable distances; this can lead to injuries.

For this reason, only work when wearing protective goggles and heed other protective measures!

Sintered powder magnets are hard, brittle and shatter into many sharp-edged parts when struck together. All impacts between such magnets should therefore be avoided. The large attractive forces can lead to skin being caught and bruised. Therefore, protective gloves must always be worn when working with such magnets!

Important! Because of the risk of sparking, magnets must not be handled in environments where a risk of explosion exists.

The wheel swarf and shavings of rare earth magnets are self-igniting and will burn off. These should therefore always be machined with ample water, never dry. Dried grinding sludge is also susceptible to burning.

Strong magnetic fields have the ability to interfere with and destroy electronic and mechanical elements. This applies to cardiac pacemakers as it does to electronic data media, etc. The required safety distances can be found in the manuals accompanying these devices, alternatively they can be obtained directly from the manufacturers.

Very important:

Permanent magnets must not be subjected to radioactive radiation for an extended period otherwise they will lose their magnetization.

Rare earth magnets must be stored under dry conditions, otherwise they will oxidize.

Permanent magnets, especially rare earth magnets, are partially soluble, depending on the material, in different media. They should therefore not be used without first giving due consideration to this.

The maximum permissible installation temperatures are as follows:

Alnico magnets 500°C

Ferrite magnets 250°C

Plastic-bonded ferrite magnets 160°C (to 200°C for PPS-based magnets)

Plastic-bonded rare-earth magnets 100°C ... 180°C (depending on the material)

Rare-earth magnets 80°C ... 350°C (depending on the material)

Influence on people:

There are no known detrimental effects caused by touching magnetic materials. Persons who are allergic to contact with ceramic or metallic materials can expect to have similar responses when handling magnetic materials; they should not work with magnets.

There are no known detrimental effects on the human body from the magnetic fields of permanent magnets.

Please don't hesitate to get in touch with us if you have any questions relating to the handling of our magnetic materials. We shall be pleased to provide you with further information.