Warnings and Safety Instructions

from the Supplier of the Magnets (©EarthMag GmbH) - Translated from German

Important warnings and safety instructions for the general and responsible handling of permanent magnets, specifically neodymium magnets.

Permanent magnets and magnetic materials, particularly the materials NdFeB (Neodyn), SmCo, AlNiCo, and hard ferrite, are products manufactured by the sintering process, which require appropriate precautions in handling.

We kindly ask you to distribute these instructions to all employees, customers, and other individuals associated with these products or processed parts. Please read the warnings and safety instructions before using the magnets. If you have any further questions, please feel free to contact us.

Danger: Swallowing

Magnets are no toys. If magnets are swallowed, they can attract each other inside the body, causing life-threatening injuries.
Keep magnets away from children!

Danger: Electrical Conductivity

Magnets are typically made of metal and conduct electricity. Children could insert such magnets into a plug socket and risk receiving an electric shock.

Warning: Crushing Hazard

Large magnets have very strong attractive force! Mishandling can result in pinching fingers or skin between the magnets, leading to severe crushing injuries and bruises. Extremely large magnets can even cause bone fractures due to their force.
Wear protective gloves when handling larger magnets!

Warning: Pacemakers

Magnets can affect the function of pacemakers and implanted defibrillators. A magnetic impulse could cause the pacemaker to switch to a different mode, and a defibrillator may cease to function. As a wearer of such devices, ensure an adequate distance from magnets. If necessary, warn individuals wearing such devices.

Warning: Heavy Objects

Excessive or sudden loads, fatigue, and material defects can cause a magnet to detach from its mounting surface. Falling objects can result in severe injuries. The specified values for holding force are achieved only under ideal conditions. Always factor in a high safety margin. Do not use magnets in locations where material failure could cause harm to people.

Warning: Metal Splinters

Magnets are brittle and can break apart and splinter upon uncontrolled impact. Sharp-edged splinters can be propelled meters away, potentially causing eye injuries.
Avoid uncontrolled impacts of magnets. Wear safety glasses when handling larger magnets and ensure that surrounding individuals are also protected or keep a safe distance.

Caution: Magnetic Fields

Magnets generate extensive, strong magnetic fields. They can damage electronic devices such as TVs PCs laptops, hard drives, credit and debit cards, data storage devices, mechanical watches, hearing aids, and speakers. Magnetically conductive parts can be attracted to the magnets.
Keep magnets away from all devices and objects that can be damaged by strong magnetic fields. Do not plac iron-containing tools, knives, etc., near magnets.

Caution: Flammability

The drilling, sawing, and grinding dust and sludge generated during processing can ignite and burn at high temperatures.
Avoid mechanical processing of magnets or use suitable tools and sufficient cooling water.

Caution: Nickel Allergy

Most of our magnets contain nickel, including those without nickel coating. Some people may have allergic reactions. Nickel allergies can develop with regular contact with items containing nickel.

Caution: Air Freight

Magnetic fields from improperly packaged magnets can interfere with navigation equipment on aircraft. In worst cases, accidents may occur.
Only ship magnets via air freight in packaging with sufficient magnetic shielding made of metal.

Caution: Postal Shipping

Improperly packaged magnets can generate magnetic fields that disrupt sorting equipment and damage sensitive items in other shipments.
Use a large cardboard box. Center magnets inside, surrounded by packing material. Arrange to neutralize magnetic fields; shield with iron sheets if needed.

Note: Effect on Humans

According to current knowledge, magnetic fields from permanent magnets have no measurable positive or negative effect on our bodies. Health hazards from magnets are unlikely but cannot be entirely ruled out.
For your safety, avoid prolonged contact with the magnets. Keep large magnets at least 1 meter away from your body.

Note: Chipping of the Coating

Most of our neodymium magnets are coated with nickel or zinc to protect against corrosion, but this coating can chip or crack due to colliding magnets or excessive pressure. This makes the magnets more sensitive to environmental influences such as moisture and can oxidise.
Separate large magnets, especially balls, with a piece of cardboard or similar material. Avoid uncontrolled impacts of magnets and repetitive mechanical stress.

Note: Oxidation, Corrosion, Rust

Untreated neodymium magnets oxidize rapidly and disintegrate as a result. Most of our magnets are coated to protect against corrosion, providing some level of protection, but they are not sufficiently resistant for long-term outdoor use.
Only use magnets in dry indoor environments or protect them from environmental influences. Avoid damaging the coating.

Note: Temperature Resistance

Neodymium magnets have a maximum operating temperature of 80 to 200 °C (176-392 °F).
Most neodymium magnets permanently lose some of their strength at temperatures above 80 °C (176 °F).
Do not use magnets in places where they are exposed to high temperatures. When bonding magnets, do not cure the adhesive using hot air.

Note: Mechanical Processing

Neodymium magnets are brittle, heat-sensitive, and prone to oxidation. When drilling, sawing, or grinding, the magnet can break. The generated heat can demagnetize the magnet. Damaging the coating can lead to oxidation and disintegration of the magnet.
Avoid mechanical processing of magnets if you do not have advanced knowledge.

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