

Rare Earth Magnets

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Rare Earth Magnet Latest News

Automakers too are cutting down on certain non-essential equipment in their vehicles to reduce the usage of rare earth magnets.

About Rare Earth Magnet

- Rare earth magnets are a type of **permanent magnet** made from **alloys of rare earth elements**.
- **Properties:** They are known for **their exceptional magnetic strength, high energy density,** and **superior performance** compared to other types of magnets.
- These magnets are widely used in various industries due to their **ability to generate strong magnetic fields** in compact sizes.
- Their global supply chain is currently **dominated by China**, which accounts for about 90% of processing capacity.

Rare Earth Magnets Types

- **Neodymium** (Nd-Fe-B) and **Samarium Cobalt** (SmCo) are the two most common types of rare earth magnet materials. Both types are extremely strong.
- Neo magnets are composed **primarily of neodymium**, boron and iron, and samarium cobalt is composed of **samarium and cobalt**.
- Both materials come in **different grades**, or strengths, and have different magnetic and physical properties.
- These magnets **tend to be brittle** and are **vulnerable to corrosion**. Manufacturers typically nickel-plate the material to protect it from oxidation.

Rare Earth Magnets Uses

- These are used in medical applications such as **magnetic resonance imaging** (MRI) machines, as well as **X-Rays and positron emission tomography** (PET) imaging.
- They are also utilized in **aviation, national defense**, electronic devices, smartphones, consumer goods, jewelry, hard drives, and electric vehicles (EVs), to name several applications.

Source: PIB

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