

MAGFINE[®] New Product Sample Sales Begin Significant Improvement in Corrosion resistance of the World's Strongest Bonded Magnet

Aichi Steel Corporation (President: Naohide Goto) is excited to announce the launch of new product samples of the Nd anisotropic bonded magnet, MAGFINE[®]*1, available from September 2024*2.

In this new product, we have significantly improved corrosion resistance by applying a proprietary coating to individual grains of magnet powder (Figure 1). This innovative approach has resulted in a 14% improvement in the rate of flux loss compared to our conventional products when tested in aqueous solutions, which are known to be harsh environments for magnets. This advancement ensures stable performance even under challenging conditions (Figure 2).

Looking ahead, we aim to expand the application of this product to a wider variety of motors, including electric water pumps. Additionally, leveraging this technology, we are also developing compression molded versions of the magnets that combine higher magnetic force with corrosion resistance, broadening their potential use across various fields.

By leveraging our materials-based development capabilities, we will continue to sincerely meet our customers' needs and contribute to the growing demand for electric vehicles.

*1 The world's strongest anisotropic bonded magnet. Enables integral injection molding, which streamlines the manufacturing process leading to cost savings. In addition, the product does not use heavy rare earths, making it environmentally and health-conscious while also reducing resource procurement risks. It is used in motors for automobile seats, power tools, drones, etc.

*2 For detailed technical information, please refer to the MAGFINE[®] Special WEB Site. (https://www.aichi-steel.co.jp/ENGLISH/products/smart_company/magfine/)

Figure 1: Image of bonded magnet with coated magnetic powder using our proprietary technology

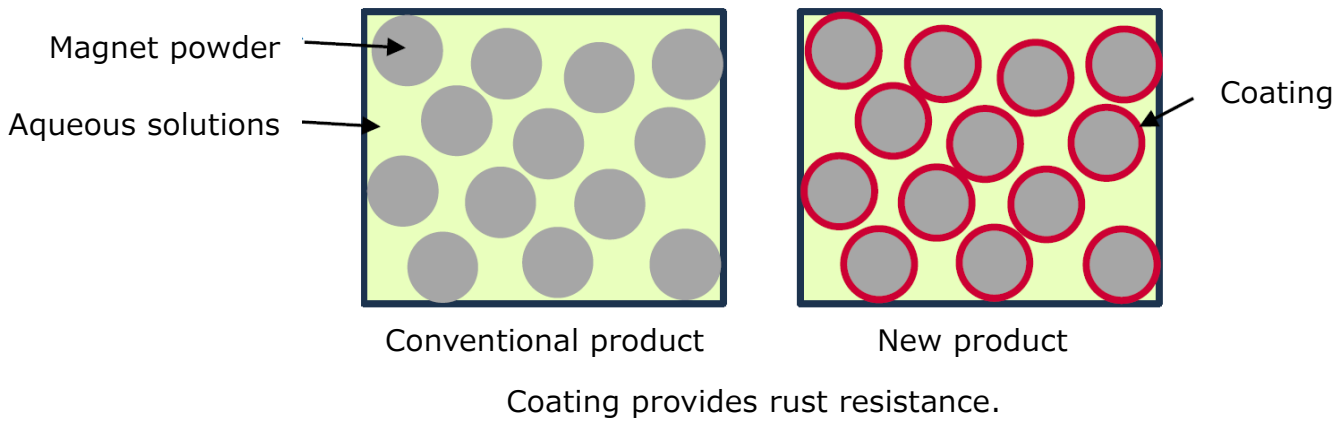


Figure 2: Magnetic durability in aqueous solution

Magnet Shape: Cube 11mm per side

Atmosphere: 50%LLCaq *LLC: long-life coolant for vehicles

Measurement method: Magnetized with an air core coil (4.0T or higher) and flux compared before and after heating.

