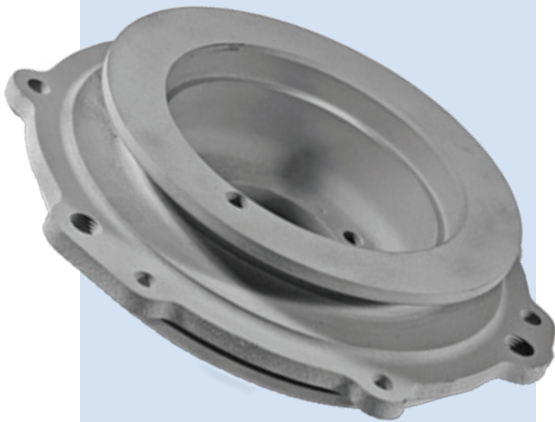


General Magnaplate

Smart Coating Solutions® Worldwide

BENEFITS

- Wide temperature range: -100° to +550°F
- Thicknesses from 0.0002 to 0.003"
- Surface hardnesses up to Rc 58 to 60
- Coefficient of friction as low as 0.05
- High dielectric strength
- Oxidation resistance
- Abrasion and galling prevention
- Permanent lubricity
- Excellent release properties
- Salt spray resistance up to 1,000 hours



MAGNADIZE®

Protecting magnesium alloys from wear, outgassing—and more

MAGNADIZE® is a surface enhancement coating that uses supplementary polymers or dry film lubricants to protect magnesium alloys from wear and prevent outgassing. It surpasses other current methods of magnesium treatment, including magnesium anodizing and HAE anodizing—especially when it comes to preventing oxidation.

MAGNADIZE is ideal for demanding aerospace applications, which benefit from the high strength-to-weight ratio, dimensional stability and low density of magnesium alloys compared to stainless steel and aluminum. As a result of these properties, magnesium alloys can drastically reduce the weight of aircraft—reducing fuel consumption and CO₂ emissions. At the same time, lighter magnesium alloys are more susceptible to corrosion, galling and wear if left uncoated.

MAGNADIZE overcomes these challenges—protecting magnesium alloys from wear, outgassing and thermal extremes while minimizing friction. It also provides varying degrees of corrosion resistance and lubricity for both the application and alloy being used.

ENGINEERING DATA AND PERFORMANCE CHARACTERISTICS

Wide operating temperature range. MAGNADIZE features a wide operating temperature range of -100° to +550°F (-73°C to 288°C)—ensuring surface protection in the harsh vacuum and low temperatures of outer space.

Low coefficients of friction. One way to reduce friction is to apply grease or oil to components. This method, however, requires routine maintenance and can release harmful particulates into the atmosphere. MAGNADIZE offers an eco-friendly, permanent solution that boasts coefficients of friction as low as 0.05.

Galling prevention. Metal galling, caused by adhesion between sliding metal surfaces, is a common industry challenge that causes parts to self-generate an oxide surface film. MAGNADIZE avoids this form of wear by creating hard, fracture-free surfaces that prevent hydrogen absorption from occurring between the metals.



TYPICAL APPLICATIONS

- Frames
- Housings
- Gearboxes
- Wheels
- Compressor components
- Gear splines
- Sliding vanes
- Air operated tools
- Castings
- Parts with weight or inertia constraints

THE ADVANTAGES OF AS9100:D AND OTHER ACCREDITATIONS

Since the beginning of space travel, General Magnaplate has provided smart coating solutions to guard against high temperatures, outgassing and abrasion—offering protection for steel, aluminum, titanium and superalloy components. From lubricating the arm on the Curiosity Rover, to protecting fuel valves from vibration and outgassing, our coatings are up to the challenges that come with space exploration.

In order to ensure our coatings continue to pass stringent quality requirements for use in demanding aerospace applications, we are AS 9100:D-certified. AS9100 is a widely adopted and standardized quality management system for the aerospace industry. Certified since 2020, the accreditation ensures the competency, capability and consistency of our manufacturing processes and ensures our coatings—including MAGNADIZE—meet the highest possible quality standards for use in aerospace.

We are also ISO 9001:2015-certified and ITAR-compliant, and our coatings comply with REACH.

