

# Plating on Difficult-to-Plate Material

Through our surface treatment technology and results,  
Create new values.



## What Are Difficult-to-Plate Materials?

Materials such as aluminum, tungsten, magnesium, titanium, and their alloys are considered “difficult-to-plate” due to challenges in achieving reliable adhesion. At ERG, we utilize proprietary techniques to provide plating solutions for a wide range of such components—including springs, probes, and pins—with proven results.

## Supported Materials

### Aluminum

Plating on aluminum is available.

For alloys, please specify the alloy type when making an inquiry.



- Lightweight (approximately one-third the weight of steel)
- Excellent workability due to good extrudability and deep drawability
- High thermal conductivity (237 W/m·K)
- High specific strength (strength-to-weight ratio)
- Superior corrosion resistance (against water and seawater)

### Tungsten

Plating is possible with specialized pre-treatment.

Direct gold plating onto the base material is also available.



- Highest melting point among metals (3380 °C)
- High hardness (Hv: approx. 3400)
- Low thermal expansion coefficient (4.5 μm/m·K), minimizing distortion and warping
- Excellent corrosion resistance

### Magnesium

Plating on magnesium is available.

For alloys, please specify the alloy type when making an inquiry.



- Non-magnetic
- Excellent machinability
- Lightweight (approximately 22% the weight of steel)
- Higher specific strength and stiffness than copper or aluminum
- Highly recyclable

### Titanium

Plating is possible with specialized pre-treatment.

Direct gold plating onto the base material is also available.



- Titanium has the highest specific strength among metals
- Excellent corrosion resistance
- Superior biocompatibility, widely used in medical applications
- Lightweight (approximately 57% the weight of steel)
- Non-magnetic metal

## Product Size

We specialize in plating micro components with a length of 30 mm or less. For more details, please refer to our technical information page.

## Available Plating Types

We offer plating in Ni, Ni-P, Au, Ag, and Cu.

Please feel free to contact us regarding other plating options as well.

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