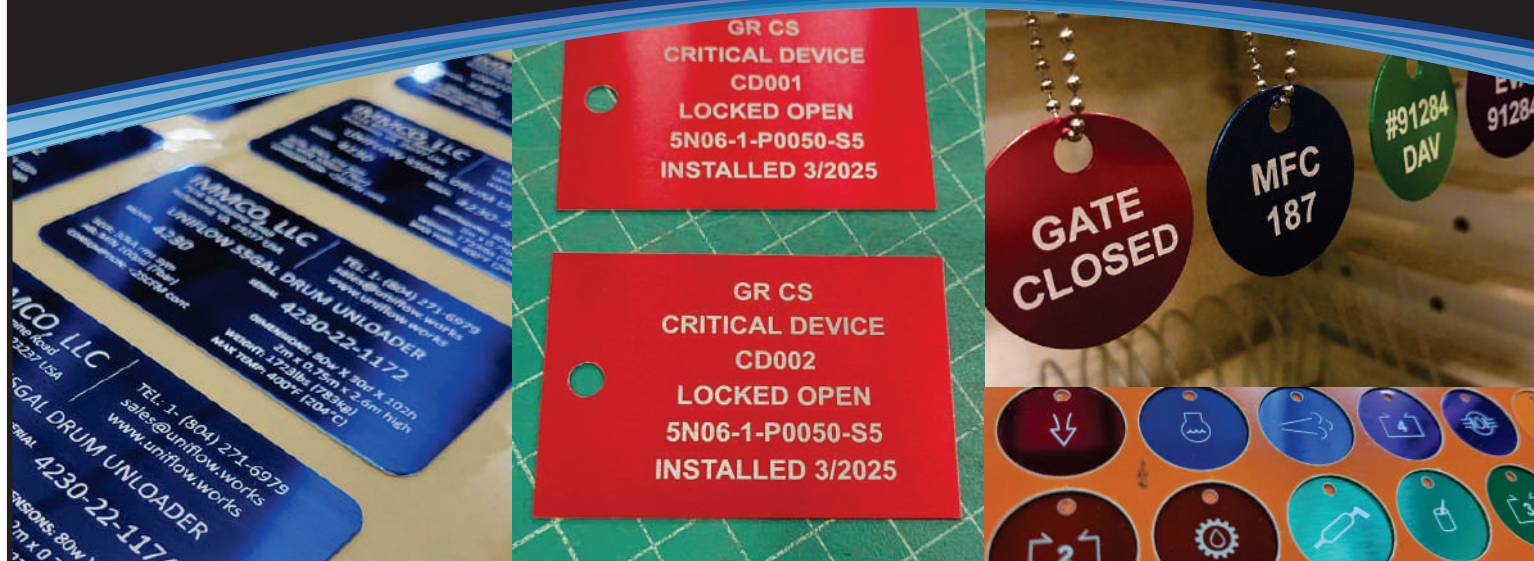


Material Guide Anodized Aluminum



Anodized aluminum is aluminum that has undergone an electrochemical process to form a protective oxide layer on its surface. This process not only enhances the metal's corrosion resistance, durability, and appearance, but also integrates the oxide layer into the metal itself, making it part of the material rather than just a coating.

BENEFITS of ANODIZED ALUMINUM:

- **Durability & Protection:**
 - Corrosion resistance: The anodized layer protects the aluminum from oxidation and corrosion, especially in harsh environments (e.g., marine, industrial).
 - Scratch & wear resistance: The hard oxide surface is much more resistant to scratches and abrasion than raw aluminum.
 - Weatherproof: Stands up well to UV light, moisture, and temperature changes.
- **Aesthetic Appeal:**
 - Color options: The porous surface can be dyed in a wide range of colors before being sealed.
 - Metallic finish: Maintains the natural metallic look, unlike paint or plastic coatings.
 - Long-lasting appearance: The finish doesn't peel or fade easily.
- **Structural Integrity:**
 - Doesn't add weight: The anodizing layer is thin and lightweight, preserving aluminum's strength-to-weight advantage.
- **Environmental & Safety Advantages:**
 - Non-toxic: Safe for cookware, food-contact surfaces, and medical devices.
 - Recyclable: Anodized aluminum can be recycled just like raw aluminum.
 - Low maintenance: Requires little upkeep over time; easy to clean.
- **Versatility:**
 - Wide range of applications: Used in architecture, electronics, automotive, aerospace, consumer goods, and more.

APPLICATIONS for ANODIZED ALUMINUM:

- **Industrial & Equipment Labeling:**
 - Machine labels
 - Model and serial number tags
 - Operating instructions and warning labels
 - Asset tags: to track tools, equipment and assets
 - Valve tags: to label pipes, valves, and controls
- **Architectural & Commercial:**
 - Building signage for doors, room, or directional markers
 - Control panel: marking for switches, dials, or instrumentation
- **Awards & Personalization:**
 - Trophy plaques
 - Luggage tags and keychains
 - Pet tags or engraved gifts
 - Employee nameplates
 - Engraved recognition or award plates
- **Safety Signage:**
 - Danger, warning, and instructional signs
 - Fire extinguisher or inspection tags
 - Signs and tags that remain legible in emergencies

**Contact us today to quote your
Anodized Aluminum Project**

Toll Free: 1-800-451-3330

Local: 616-647-0998

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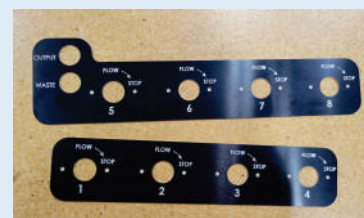
info@napindgroup.com

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Material Guide Anodized Aluminum

CHARACTERISTICS of ANODIZED ALUMINUM:

- **Corrosion Resistance:**
 - ° Enhanced protection: The anodizing process creates a thick, stable oxide layer on the surface, which is highly resistant to corrosion, especially in harsh environments.
 - ° Self-healing to a degree: The oxide layer doesn't flake or peel like paint; it's integral to the metal surface.
- **Hardness and Durability:**
 - ° Increased surface hardness: Anodized aluminum is much harder than untreated aluminum. Type III anodizing ("hard anodizing") can achieve surface hardness comparable to hard steel.
 - ° Abrasion resistance: The tough surface resists wear better than bare aluminum.
- **Appearance and Finish:**
 - ° Color variety: Anodized aluminum can be dyed in many colors, but the oxide layer is also naturally clear. Colors are typically more UV-resistant than painted finishes.
 - ° Metallic look: The process retains a metallic sheen, giving it an aesthetic edge over painted surfaces.
- **Electrical Insulation:**
 - ° Non-conductive surface: The oxide layer is an electrical insulator, which can be advantageous in electrical or electronic applications.
- **Environmentally Friendly:**
 - ° Non-toxic and recyclable: The anodizing process is generally safe for the environment, especially when sealed properly, and aluminum is fully recyclable.
- **Thermal Properties:**
 - ° Good heat dissipation: While the surface resists heat and wear, the base aluminum still conducts heat well, making it suitable for heatsinks and electronics housings.
- **Lightweight:**
 - ° Low density: Maintains aluminum's high strength-to-weight ratio, making it ideal for aerospace, automotive, and consumer electronics.



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