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ANODIZING



APPLICATIONS

Machinery • Electronics • Marine • Oil • Aerospace • Cookware Medical • Automotive • Firearms • Recreational • Sporting goods

Durable Anodizing Finishes

Anodizing creates a decorative, durable, corrosion-resistant anodic oxide finish by converting the metal surface of an aluminum alloy. This aluminum oxide layer is not applied to the surface like paint or plating, it originates from the metal substrate and is composed entirely of aluminum oxide, so it cannot chip or peel.

The aluminum oxide finish is highly porous. That means when a substrate needs a secondary process, such as coloring and sealing, the aluminum oxide finish provides an effective primary base for the next process. During the anodizing process, we immerse the aluminum into an acid electrolyte bath and pass an electric current through the medium.

> ECO FINISHING OFFERS TWO TYPES OF ANODIZING FINISHES: TYPE II (regular) sulfuric anodizing TYPE III Hardcoat sulfuric anodizing, which is accomplished at a lower temperature and higher current density than Type II.

Both finishes are very hard, but Type III is much thicker than Type II. When your substrate is prone to scratching or experiences heavy wear, Type III provides increased protection.



The oxide layer is a combination of buildup on the surface of the aluminum part and penetration into the metal. The surface of the parts recedes dimensionally as the aluminum outer layer converts into aluminum oxide. The aluminum oxide layer grows faster than the metal base recedes, thus adding thickness to the surfaces.

Roughly, it is estimated that 50% of the coating thickness (the oxide layer) in type III hardcoat anodizing corresponds to penetration and 50% to buildup, whereas these values are approximately 67% / 33% for type II anodizing, respectively.

ANODIZING BENEFITS AND DIFFERENCES

Type II	Type III Hardcoat
Increased corrosion resistance	High corrosion res
Increased wear resistance	Extreme wear resis
Increased electrical insulation	Increased electrica
Heightened appearance thru	Improved color and
use of colored dyes	are not as vibrant a
Better paint adhesion	Better paint adhes
Enhanced heat dissipation	Enhanced heat dis
	High durability

High corrosion resistance Extreme wear resistance Increased electrical insulation Improved color and appearance. Colors are not as vibrant as with type II anodizing Better paint adhesion Enhanced heat dissipation High durability Hard durable surface



SPECIFICATIONS MIL-A-8625 Type II, Class 1 & 2 • MIL-A-8625 Type III, Class 1 & 2

CAPABILITIES & RELATED SERVICES

- Chromate conversion coatings
- Color dyes:
- Clear, Black, Red, Blue, Green, Gold

 Salt spray testing
- Stripping

- Tumbling
- BlastingPackaging
- Masking
- Spray-on Teflon®

COMMON SUBSTRATES

- 2000 series
- 5000 series
- 6000 series 7000 series
- T I I
- Tooling plate

GET A FREE QUOTE FOR ANODIZING

Eco Finishing's anodizing services can cover a wide range of needs. Contact our Fridley office at (763) 574-1000 or contact us for a risk-free quote at www.ecofinishing.com.