



Anodizing Process

Anodizing is an electrochemical process that converts the metal surface into a decorative, durable, corrosion-resistant, anodic oxide finish. This aluminum oxide is not applied to the surface like paint or plating but is fully integrated with the underlying aluminum substrate, so it cannot chip or peel. It has a highly ordered, porous structure that allows for secondary processes such as coloring and sealing. Anodizing is accomplished by immersing the aluminum in an acid electrolyte bath and passing an electric current through the medium. A cathode is mounted to the inside of the anodizing tank; the aluminum acts as an anode so that oxygen ions are released from the electrolyte to combine with the aluminum atoms at the surface of the part being anodized. Anodizing is, therefore, a matter of highly controlled oxidation the enhancement of a naturally occurring phenomenon.

Durability

Most anodized products have a long life span and offer significant economic advantages through maintenance and operating savings. Anodizing is a reacted finish integrated with the underlying aluminum for total bonding and unmatched adhesion.

Color Stability

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Ease of Maintenance

Scars and wear from fabrication, handling, installation, frequent surface dirt cleaning, and usage are virtually non-existent. Rinsing or mild soap and water cleaning usually will restore an anodized surface to its original appearance. Mild abrasive cleaners can be used for more difficult deposits.

Aesthetics

Anodizing offers a large increasing number of gloss and color alternatives and minimizes or eliminates color variations. Unlike other finishes, anodizing allows the aluminum to maintain its metallic appearance.

Almost all finishes used on aluminum may be subdivided into three major categories: mechanical finishes, chemical finishes, and coatings.

Mechanical: (M) This is used on our Black, Clear, and Bronze Anodized Frames, Class 1

M10 - Unspecified as fabricated

Chemical (C)

C12 _ Inhibited chemical cleaned

C22 - Medium matte etch; used etch that goes onto the surface so the anodize can adhere properly.

Anodic Coatings (A) - Clear

Protective and Decorative (less than 0.4 mils thick)

A21 - Clear

Architectural Class II (0.4-0.7 mils thick) - Black & Bronze

A34 - Electrolytically deposited color (2-step)

A44 - Electrolytically deposited color (2-step)

All composite designations are preceded by the letters AA to identify them as an Aluminum Association designation.

Class II Clear Anodize = AA-M10- C12 C22 A21 - Architectural Class II (0.4-0.7 mils thick)

Class I Bronze Anodize = AA-M10-C12 C22 A44 - Architectural Class I (0.7 mil and thicker anodic coating)

Class I Black Anodize = AA-M10-C12 C22 A44 - Architectural Class I (0.7 mil and thicker anodic coating)