



Inherent Anodize Color Variation From Change in Viewing Angle

Anodized finishes exhibit a natural metallic beauty that makes them a preferred choice by architects and designers. The reason these finishes look like genuine metal is because the anodized coating is essentially transparent, allowing a clear view through to the base aluminum. Adding coloring agents to the coating can give the appearance of other metals such as brass, gold and stainless steel.

One characteristic of this semi-transparent anodic coating is a shift in color depth as the viewing angle is changed. The color of an anodized coating is at its lightest hue when the observer is viewing a specimen with a surface that is perpendicular to the observer's line of sight. As this viewing angle changes, the color begins to appear darker. This darker appearance occurs because the observer's line of sight must travel through a greater distance of the semi-transparent, tinted coating to reach the aluminum surface. This phenomenon is most apparent in colored anodic coatings, but it can also occur in clear finishes. When an aluminum alloy is anodized, the non-aluminum components of the alloy are incorporated into the coating, increasing the coating's opacity by absorbing and scattering light. These impurities in the aluminum oxide tint the coating in a way similar to that of a coloring agent. The degree of this effect depends directly upon the types and amounts of alloying constituents in the base metal.

Even slight differences in viewing angle between two adjacent anodized components can have a noticeable effect on apparent color. If adjacent building anodized panels are not installed completely parallel to each other, there will be a perceived color difference. Similarly, if an anodized panel is not completely flat, it will appear to vary in color within itself.

Color variation in anodized finishes due to differences in viewing angle is an expected result due to the natural metallic nature of the coating. Further information regarding this subject is available from AaCron's Technical Service experts.

AACRON, INC.

2705 CHESHIRE LANE, MINNEAPOLIS, MN 55443

WWW.AACRON.COM

763-559-9141