



Crazing of Anodized Finishes Caused By Bending and Forming Operations

Anodized finishes will craze (crack) when the aluminum substrate is deformed in any fashion. This happens because the base aluminum has a marginal degree of elasticity, while the anodized coating has virtually no elasticity. When the part is bent, the aluminum will deflect quite far without failing, but the coating cracks immediately upon deflection.

The result of this crazing raises two issues to consider - aesthetics and longevity. The visual change on the part is sometimes difficult to see since the cracks are numerous but extremely narrow. Factors that can make the crazing more noticeable are finish color and material thickness. Darker finishes and thicker sheet material both make crazing increasingly more noticeable. Crazing on a bent sheet of 0.030" thick with a clear anodized finish is much harder to see than that on a 0.090" thick sheet with a black anodized finish.

Crazing also can affect the long-term weatherability of an anodized finish. When a coating crazes, the exposed aluminum at the bottom of the cracks oxidized immediately upon exposure to oxygen. This natural oxidation provides some protection, but nearly to the degree of the anodized coating. Crazed coating hold up well under interior or light commercial exterior applications, but are not recommended for areas of high traffic, adverse climate, costal environments, industrial settings or multi-story buildings.

It is recommended that anodizing takes place after an aluminum component has been formed in order to avoid these potential problems.

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