

# ACA TECHNICAL BULLETIN

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## Crazing on Anodized Aluminum

### What is Crazing?

Crazing is micro-cracks in the anodic layer of anodized aluminum. It usually occurs from bending and forming due to the fact that aluminum oxide is not flexible and will split when bent. The cracking occurs on a microscopic level and therefore appears as very fine spidery cracks, with the discrete cracks barely visible to the naked eye. It does not produce major cracks, nor does it flake or delaminate.

### Effects of Crazing

The effects of crazing are primarily cosmetic. While the crazing may go down all the way to the aluminum base layer, exposed aluminum will quickly oxidize and form a protective layer. Sometimes crazing seen at initial forming will disappear and the oxide layer "self-heals".

The Crazing does not impact the protective characteristics of the anodized surface.

### Minimizing Crazing

Crazing can be minimized by the application of a thinner anodic layer, where possible. Minimizing the bend radius will also reduce the visual effects of crazing, as will minimizing the working of the metal, meaning limiting how many times the metal is bent when forming.

### Heat Crazing

Anodized aluminum will craze from heat at temperatures above 350 F. heat crazing is also minimized by using the thinnest anodize layer possible for the application.

### Crazing is not a Defect

Crazing is not considered a defect, rather an intrinsic property of pre-anodized aluminum, as well as post anodized aluminum that may be bent or heat stressed.