

Fabrication Guidelines and Techniques

Pre-anodized aluminum coil can be used in nearly all fabricating operations with exceptions of deep drawing and extruding.

Stamping and Blanking

- No major modifications in tool design are necessary.
- Reduce male-female die clearance to 2%-8%
- Keep dies sharp
- A looping pit ahead of the press allows for smooth coil feeding
- Synthetic grippers on feed work best.
- Lubricants may be eliminated, depending on the process.
- Use lintless gloves when handling pre-anodized stock.
- Anodized blanks are protected and stackable.

Rollforming

- Often, no change in tooling is necessary when converting from another metal.
- Pre-anodized aluminum will take all minimum bend radii as specified by the Aluminum Association.
- Just as with stainless steel, keep tooling polished
- Chrome-plated rolls often perform best.
- Using polyfilm will sometimes eliminate the need for lubricants.

Laminating

- Polyfilm protection is helpful. Leave it on through the process.
- Clean the substrate with a clean brush.
- Cut the sheet to size with shears or saw. Be sure they are sharp.
- Experiment with saw and feed speed on scrap.
- Cut into the sheet so that rough edges are on the back of the sheet.
- Spray-grade contact adhesives work best. Apply them on the aluminum first, then on the substrate

Bending (Break Press)

- Handle pre-anodized stock similar to other metals
- Various dies can be used.
- Half hard tempers are most often used because of their formability and structural integrity
- Where possible, use a scrap of anodized sheet to adjust the depth of stroke required to accomplish the desired bend.
- Gradual bending will help to minimize crazing.
- Strippable polyvinyl films will help protect the surface during the bending process.

Quality Assurance and Testing

Through various process controls coil anodizers are able to monitor and control the correct anodized coating for your application.

Quality Criteria

- Anodize film thickness
- Anodize film uniformity
- Anodize film density
- Abrasion resistance
- Corrosion resistance
- Fade resistance
- Reflectivity
- Image clarity
- Insulative properties
- Adhesion
- Sealing

Applicable Tests

- G.M.C. Cass Test
- Ford fact test
- Salt spray
- Weatherometer
- Fadometer
- U.V. Con
- Acid dissolution (ASTM B136-63T)
- Weight test
- Microscopic test
- Dielectric test
- Light section microscope
- Colorimeter
- Dorigon