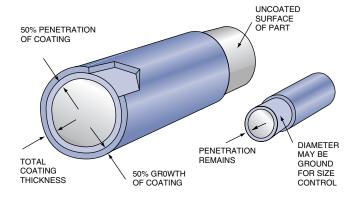


anodizing

## DIMENSIONAL CONSIDERATIONS FOR ALUMINUM

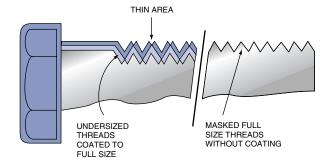
## Hard Anodized Coatings

Because most of our work is critical tolerance, a number of dimensional factors must be considered in order to achieve the desired end-result.

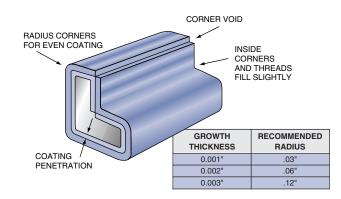


**1. ANODIZED THICKNESS..."THE 50/50 RULE"** — A hard anodized finish is divided approximately 50% as a coating above the base metal (called "growth"), and 50% penetration below the surface of the part. This principle tends to hold true for most alloys and coating thicknesses.

For example, this means that a .002" coating will add only .001" to each surface of the product.



**2. THREADS** — The build-up on each surface changes the pitch diameter faster than typical two-surface diameters. It may be desirable to machine the threads undersize before anodizing, or mask the thread area before processing.



- **3. CORNERS** Since the coating grows (and penetrates) perpendicular to the surface of the part, sharp corners, both outside and inside, and edges can be a problem. To obtain a uniform coating, they should have a .005" to .050" radius, depending on the anodized thickness desired.
- **4. TOLERANCE** Precise control can normally be maintained on thickness. Coating thickness can range from .0005" to .0035" as specified. (This is the combined surface and penetration thickness.) Tolerance is normally  $\pm$  10% of the total thickness, but not less than  $\pm$  .0001". Tighter tolerances may be possible through special tooling, or source inspection during processing.

## **Ordering Information Required**

- **1.** Blueprints are especially helpful for use in masking, and for determining critical areas that should be avoided during the racking process.
- **2.** Coating thickness, and tolerance required. Be sure to specify total thickness and all critical finished dimensions of the part.
- **3.** Type of alloy.
- 4. Any special handling instructions.

NOTE: Direct verbal communication with the Shop Supervisor or Foreman is also advisable.



ALUMINUM FINISHING AND ANODIZING FOR PROTECTION, WEAR AND APPEARANCE

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There are other factors which may affect the application of anodized coatings or the base product after anodizing. Please consult with our technical support staff.