

# Hardcoat Anodizing/Teflon®

Hardcoat Anodizing/Teflon® is a special application of a controlled oxide film on aluminum with the inclusion of PTFE molecules, more commonly known by the brand name Dupont™ Teflon®. The resultant coating offers the dense, hard protection of Type III coupled with the excellent dry lubrication for which Teflon® is so well known. Hardcoat Anodizing/Teflon® provides a very good surface for aluminum molds, as the lubricity of the surface translates into superior release characteristics, and the coating remains stable at high temperatures. The mechanical synergy between the crystalline formation of the oxide film and the molecular structure of the PTFE yield very good wear characteristics, also important in for molds, and a critical engineering property in many industrial applications. Hardcoat Anodizing/Teflon® is highly resistant to atmospheric and marine corrosion and serves as an electrically insulating coating.

## **Chem Processing Inc. Hardcoat Anodizing/Teflon® Capabilities:**

- **Typical Formed Thickness is 0.0001 to 0.0030 inches** (50% build, 50% penetration)
- **Relatively Uniform Thickness Across Part Geometry**
- **Masking for Selective Surface Anodizing**
- **Salt Spray Corrosion Testing**
- **Thickness Analysis**
- **Coating Weight Analysis**
- **Taber Abrasion Testing**
- **Dielectric Testing**

## **Typical Hardcoat Anodizing/Teflon® Applications:**

- **Machinery:** excellent abrasion resistance for high-speed machine parts
- **Electronics:** provides uniform emissivity and a high dielectric
- **Marine/Navel:** long-lasting corrosion resistance and lubricity in salt-water environments
- **Oil and Petrochemical:** excellent chemical, corrosion and wear resistance
- **Aviation and Space:** durability and longevity, dry lubrication, electrical resistivity
- **Firearms/Ordnance:** corrosion protection, and abrasion and wear resistance
- **Molds and Dies:** release and abrasion resistance
- **Food & Agriculture:** long service life and easy-to-clean surface
- **Chemical Industry:** corrosion resistance in extreme environments

*All processes comply with industry specifications including ASTM, SAE, MIL, etc., as applicable for the particular process involved and are performed under ISO 9001:2000/AS9100B standards. Specific company approvals may also apply.*



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