

Surface Treatment

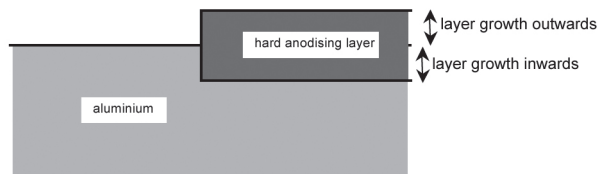
HARD ANODISING

Hard anodising provides thicker and particularly harder layers in comparison to sulphuric anodising. The coating tint is darker than in the case of 'normal' anodising. This depends, among other things, on layer thickness, various process parameters, alloying and heat treatment. Consequently, hard anodising with a uniform colour is extremely difficult. In view of the relatively high layer thickness, critical dimensions for hard anodising should be corrected.

Schematic representation

Reference values:

- ½ the layer thickness outwards
- ½ the layer thickness inwards



Possibilities

- Hard anodising with a limited layer thickness can be carried out dimensionally, so that dimension deviations can be avoided. If dimensional tolerances are smaller than 20 µm, masking will be required before hard anodising.
- The hard anodising layer can be coloured black.
- Hard anodising means greater surface roughness.
- A combination with Surlon® is possible. In the case of Surlon coatings, the oxide layer is integrated with a Teflon-like copolymer. This means that the layer has a non-stick character and the friction coefficient is reduced. The result is a very wear-proof, self-lubricating ceramic layer.

Applications

Automotive, machine construction, electrical engineering, copying industry, aircraft building, etc.

Characteristics

- Very high resistance to wear and high surface hardness
- High corrosion resistance (sealing is required)
- Excellent electro-insulating characteristics
- Heat resistance (brief)

Specification

MIL-A-8625 Type III; Class 1 or 2; layer thickness

Class 1 non-coloured coating

Class 2 coloured coating (further colour specification required)

Without a further specification, a hard anodising layer is not sealed as this influences the resistance to wear.

Recommended layer thickness 40 to 60 µm (30 to 120 µm is possible)

Certificates / approvals

NADCAP, Airbus, Boeing, McDonnell Douglas, Stork Fokker