

Surface Treatment

TECHNICAL ANODISING

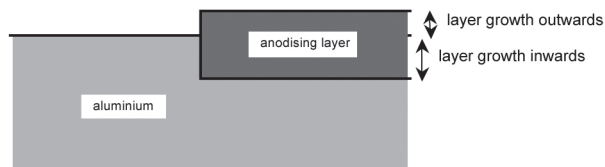
Anodising is the electro-chemical conversion of aluminium into aluminium oxide. This results in the best possible adhesion. This oxide layer grows partly on the base material, but also grows to some extent within the base material. The anodising layer is much harder than the base material. The risk of surface damage is therefore minimal and resistance to wear is far greater than in the case of untreated aluminium.

A large number of fine pores occur in the oxide layer during the treatment. Under normal circumstances, these pores are sealed after the anodising. As a result, the pores are closed, which means a high resistance to corrosion is achieved.

Schematic representation

Reference values:

- 1/3 of the layer thickness outwards
- 2/3 of the layer thickness inwards



Possibilities

- Anodising can be carried out dimensionally, so that dimensional deviations can be avoided. If tolerances are smaller than $\pm 20 \mu\text{m}$, masking will be required before anodising.
- The anodising layer can be coloured black.
- A combination with Surlon® is possible. In the case of Surlon coatings, the anodising 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 wear-proof, self-lubricating ceramic layer.

Applications

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

Characteristics

- High corrosion resistance
- Increases surface hardness
- Improves wear resistance
- Improves resistance to aggressive substances (particularly in the 5 to 9 pH range)
- Excellent electro-insulating characteristics
- Conserves decorative surfaces
- Layer thickness 5 to 25 μm

Specification

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

Class 1 non-coloured coating

Class 2 coloured coating (further colour specification required)

If there is no further specification, a sulphuric anodising layer will be sealed.

Certificates / approvals

NADCAP, Airbus, Boeing, McDonnell Douglas, Stork Fokker