

Anodizing

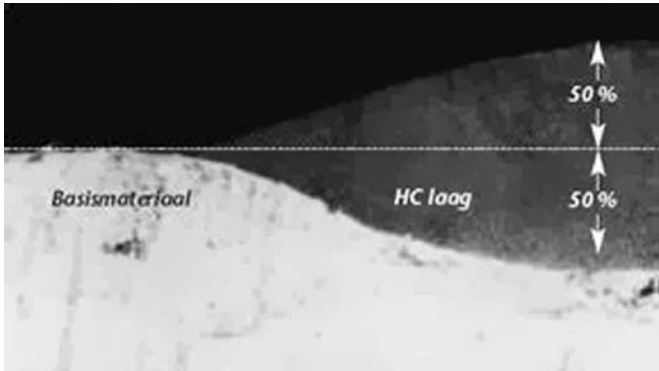


HART-COAT®

We add value to your parts

Hard Anodizing (HART-COAT®)

The HART-COAT® or process of HC is an electrolytic treatment for aluminum materials which results in the forming of a hard and thick aluminum oxide layer. Basically, the purpose of this process is to protect a wide array of components against wearing and corrosion, but it also provides in a whole series of other functional improvements.



Cross-cut of HC-layer with a typical layer build-up

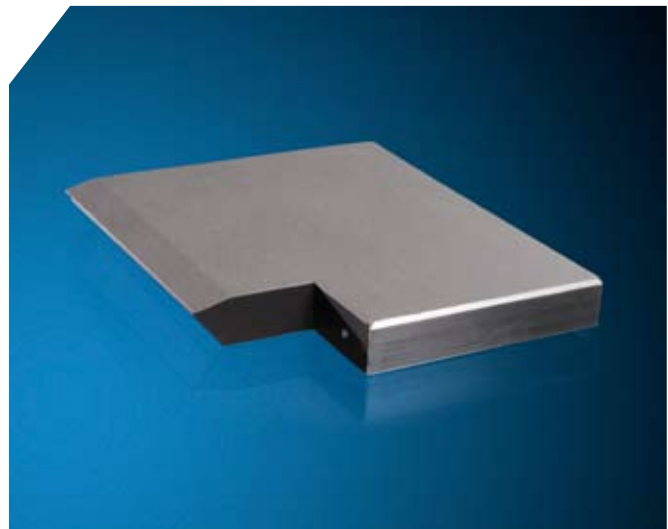
HART-COAT® industrial coatings are obtained by the anodic oxidation in a specially formulated cold, acid electrolyte. The parts are connected with the anode and, in the course of the treatment, the parts surface is converted into an Aluminum oxide layer.

This Aluminum oxide layer is composed mainly of amorphous γ -Aluminum oxide, it takes the shape of regular cells vertical to the parts surface. Each cell contains a pore, the volume and diameter of which are considerably lower compared with layers performed through common anodizing processes. HART-COAT® layer are, comparing with common anodizing are thicker and more wear resistance. Half of the oxide layer is build-up, the rest growth into the substrate. This must be taken into consideration during design phase.

Nearly all wrought, cast and die-cast Aluminum alloys destined for industrial can be treated with HART-COAT®. However, the alloy has great influence on the colour of the anodized part. An alloy out of the 3.000 series has grey colour, a 7.000 alloy has more gold appearance. For more information please consult your AHC contact. HART-COAT® is characterized by its high wear and corrosion resistance as well as hardness. The layer has a low thermal and electrical insulation and an excellent dimensional stability.

Available colours

Clear, black and orange. Others on request.



Layer properties

Max. layer thickness	Up to 100 μm depending on the alloy
Corrosion resistance	Max. 2.000 hours salt spray according to DIN 50021 ESS
Hardness	Up to 500 HV 0,025, depending on the alloy
Wear resistance	42 mg Taber Abrasion (sealed)
General specifications	MIL-8625 Type III

Process Variants

HC	For wrought aluminum alloys as well as sand and permanent mold cast
HC-CU	For aluminum alloys with 2-6% Cu
HC-GD	For die-cast aluminum alloys with high copper and/or silicon content