

BRIEF INFORMATION

CompCote®

Aluminium Oxide Polymer Composite Layer



*Component with blue coloured
CompCote® layer*

- *Improved corrosion resistance*
- *High wear resistance*
- *Very good tribological properties*
- *Increased hardness*
- *High breaking strength*
- *Good adhesive properties*
- *High UV resistance*
- *Suitable for use with food products (FDA approved)*



***Innovative and highly functional
surface designs***

Why do we marvel at chameleons?
Veiled chameleons are robust and colourful, and are symbolic of our CompCote® layer.

CompCote®

CompCote® refers to aluminium oxide polymer composite layers for aluminium alloys. The layers are formed by anodic oxidation of the base material and simultaneous molecular compounding of the aluminum oxide layer with polymers.

Excellent adhesion to the base material results from the fact that the layer partially merges into the base material. Due to the molecular polymer content, CompCote® offers chemical bond bridges with a coordinated choice of top-coats, providing

very good adhesion results here too. In general, the cross-linked layer structure makes CompCote® a robust layer. CompCote® H, which is produced on the basis of a hard anodic oxidation (hard anodising), is harder and more wear and corrosion resistant.

CompCote® is excellent for colouring. Accelerated weathering tests with 200 hours of UV exposure show only 1/3 of the reduction in colour and

brightness in CompCote® compared to that of conventionally anodised layers (both layers 10 µm, coloured black and sealed).

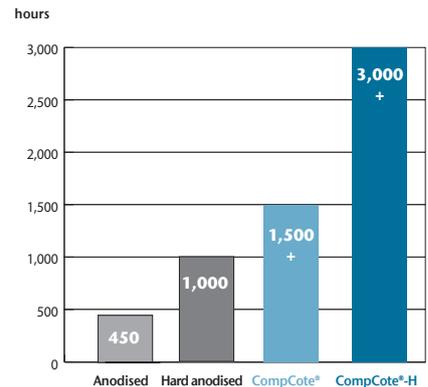
Standard colours: Black, Titanium Grey, Blue, Red, Gold, Green. Other colours on request.



Component with blue coloured CompCote® layer

Corrosion Resistance

CompCote® is corrosion resistant and outperforms normal anodic coatings due to the presence of molecular polymers.



Salt-spray Test (ASTM B117):
alloy 6061 T6, anodised (MIL Typ III) 10 µm /
hard anodised (MIL Typ III) 37.5 µm /
CompCote® 10 µm / CompCote®-H 37.5 µm

	Process details
Hardness	The layer hardness is usually measured as with normal, so called aparent hardness of anodic oxidation layers. Depending on the alloy and process, it is between 300 and 600 HV.
Wear resistance	In the Taber Abraser test (MIL A 8625F), CompCote® shows excellent wear resistance which can be even better than that of conventional anodising layers.
Flexural strength	CompCote® does not affect the flexural strength of the base material. This attribute makes the layer interesting for applications in aviation.
Fracture properties	CompCote® produces a fibre-like fracture pattern in notch impact tests. In contrast, conventional oxide layers, break in a brittle manner, like glass.
Tribological properties	CompCote® roughens the surface comparatively little and possesses an optimised microstructure. CompCote® displays very good anti-scuffing properties in various friction pairings and friction tests. In some cases, the coefficient of friction in repeated tests even decreases (self-smoothing effect). Stick-slip effects are reduced.
A selection of applications	Architecture, automotive industry, aviation, defense technology, domestic appliances, electrical engineering, food industry, hunting firearms, hydraulics, information technology, mechanical engineering, medical technology, packaging machines, photo and video technology, pneumatics, sporting goods.