

Surface treatments for aluminium

Powder coating

The quality label for powder coating: QUALICOAT

To provide the aluminium with a decorative and protective layer, a powder coating can be opted for. After a number of pre-treatments, which include degreasing and rinsing, the powder coating is applied by means of an electrostatic process. The negatively charged powder is hereby applied to the aluminium object, which is positively charged. The subsequent electrostatic effect creates a temporary adhesion of the coating. The object is then heated in a cure oven so that the coating melts and flows, forming a continuous liquid film. Once it is cured, a solid connection is formed between the coating and the aluminium.

Because, unlike with wet paint, no solvents are used when applying the powder coating, it is also a more environmentally friendly alternative. On the other hand, the end result following powder coating is slightly rougher, as the texture of the granules used remains somewhat visible.

Aluminium profiles with wood grain effect

The quality label for sublimation: QUALIDECO



Now you can combine the benefits of aluminium with the appearance of wood. Comhan can supply aluminium profiles in various wood-effect sublimation finishes.

For example: recently we supplied sublimated profiles with an oak finish to a customer for making an aluminium terrace screen (see picture).

Ask for advice from our specialists!

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Anodising

The quality label for anodising: QUALANOD

When anodising aluminium, an electrochemical process is used to form an oxide layer in/on the material. As such, this oxide film forms a protective layer in/on the aluminium. What's interesting about this, is that no additional layer is applied to the aluminium when anodising. This is because anodising provides a protective layer that is built up from the already existing aluminium. The oxide film is fully integrated into the aluminium, thanks to a strong molecular connection.

The main reason for anodising is to protect the aluminium. Thanks to the anodising process, corrosion resistance increases and the material retains its appearance for longer. The hard, wear-resistant anodising layer that is created protects the underlying aluminium, making it a more durable end product.

The oxide layer can also have great decorative value. Anodisation also makes it possible for aluminium to take on various attractive colours. While the unique metal character of the appearance is retained, it also acquires a nice look. The aluminium is therefore not only better protected, but also embellished.



When coding anodising, a letter-number combination is used, consisting of three groups, separated by a slash.

Anodising coding:

- First group: Pre-treatment (table I)
- Second group: Thickness of the oxide layer (table II).
- Third group: Colour codes (table III).

Example: E4/A20/C32

This means grinded and brushed, average layer thickness 20 µm, colour middle light bronze

TABLE I Pre-treatment

No pre-treatment	E0	VB 0
Grinded	E1	VB 1
Brushed	E2	VB 2
Polished	E3	VB 3
Grinded and brushed	E4	VB 4
Grinded and polished	E5	VB 5
Chemically matt etched	E6	VB 6
Chemically or electrochemically polished without mechanical pre-processing		VB 7
Chemically or electrochemically polished after mechanical pre-processing		VB 8

TABLE II Thickness of oxide layer

Average layer thickness 5 micrometre	A5
Average layer thickness 10 micrometre	A10
Average layer thickness 15	A15
Average layer thickness 20 micrometre	A20
Average layer thickness 25 micrometre	A25

Tabel III Colour codes

Natural	C0	VOM 1	EV1
Light gold		VOM 2	EV2
Middle gold		VOM 3	EV3
Middle light bronze	C32	VOM 4	
Middle bronze	C33	VOM 5	
Dark bronze	C34	VOM 6	
Black	C35	VOM 7	