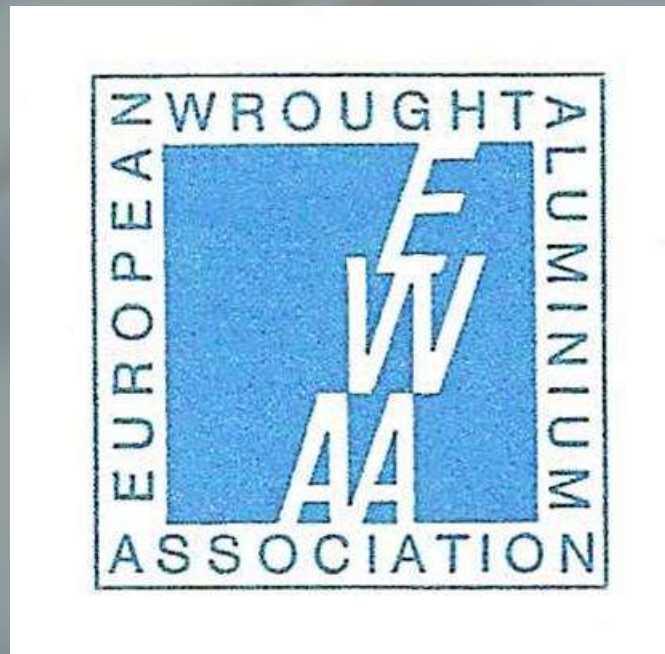


Qualanod - 2017 Specifications

Edition 1st January 2017

Fore-runner of Qualanod



1969 – The EWAA quality label for anodized aluminium

Foundation of Qualanod



- In 1974 several national associations in ESTAL and EWAA formed Qualanod.
- The goal was to raise and standardize the quality level of anodized aluminium for architectural applications.
- The Qualanod Specifications defined the required standard
- Firms in many European countries joined Qualanod.
- The aluminium industry was represented ensuring information sharing among wrought aluminium producers and anodizers.
- Today, 35% of licensees are outside the EU.

The Qualanod Specifications



- The scope of the Specifications has evolved
- Pre-2004
 - “Specifications for the quality label for anodic oxide coatings on wrought aluminium for architectural purposes”
- 2004 onwards
 - “Specifications for the QUALANOD Quality Label for Sulfuric Acid-Based Anodizing of Aluminium”

Goals and mission statement (2010)



- The mission of Qualanod is to promote the use and secure the quality, of anodized aluminium, through the design and management of a product and process certification adapted to end-market needs.
- Objectives
 - To safeguard and develop the standard of quality of the anodic oxidation of aluminium and its alloys.
 - To promote the QUALANOD quality label internationally
 - Proactively act on sustainability (environmentally, socially *and* economically).

Qualanod's competencies

Qualanod has two basic competencies

1. Anodizing technology

- Anodizing solutions containing sulfuric acid
- All processes in the anodizing line
- Testing the characteristics and performance of anodized aluminium.

2. Licence system for the quality label

- The Specifications
- Infrastructure for regular inspection of anodizing plants to verify that they are maintaining compliance



Specifications – 2017 edition



To correspond with the mission, objectives and competencies of Qualanod and the title of the Specifications

extend the scope of the Specifications beyond architectural anodizing to include other sulfuric acid-based anodizing.

Scope of 2017 Specifications

“These Specifications specify requirements for sulfuric acid anodizing and products produced by sulfuric acid anodizing.

These Specifications are not applicable to:

- anodizing in the production of lithographic plates;
- anodizing used as a pretreatment before the application of a powder coating, a paint or an adhesive;
- anodizing in the production of a combined coating.”

Original concept

Originally, it was conceived that the 2017 Specifications would cover three types of anodizing which produce products where:

1. both appearance and protection are important.
2. appearance is secondary or of no importance
3. protection is secondary or of no importance



Types of anodizing

Now, the 2017 Specifications covers four types of anodizing

1. architectural anodizing
2. industrial anodizing
3. decorative anodizing
4. hard anodizing



Scope of architectural anodizing



Anodizing and products where both appearance and protection are important.

ISO 7583 defines architectural anodizing as “anodizing to produce an architectural finish to be used in permanent, exterior and static situations where both appearance and long life are important.”

The specifications of “architectural anodizing” may be applied to anodizing and products that are used in other outdoor applications where both appearance and long life are important. Such applications can include automotive ones.



Scope of industrial anodizing



Anodizing and products produced by industrial anodizing where appearance is secondary or of no importance.

Industrial anodizing produces anodic oxidation coatings that are mainly used to obtain:

- resistance to wear through abrasion or erosion;
- electrical insulation;
- thermal insulation;
- build-up (to repair parts out of tolerance on machining or worn parts);
- resistance to corrosion (when sealed).

Where appearance and protection are of comparable importance, the provisions for architectural anodizing apply.

Where high quality wear resistance is the primary characteristic, the provisions for hard anodizing apply.

Examples of industrial anodizing products

Industrial anodizing products include: valves, sliding parts, hinge mechanisms, cams, gears, swivel joints, pistons, pulleys, valve blocks, rod ends and food chutes.

Also, medical or kitchen applications where appearance is not wholly insignificant but much more important are resistance to wear and/or cleaning using aggressive chemical agents.



Scope of decorative anodizing



Decorative anodizing is defined in ISO 7583 as “anodizing to produce a decorative finish with a uniform or aesthetically pleasing appearance as the primary characteristic”.

Examples are shower screens, lipstick holders and lighting reflectors.



Scope of hard anodizing



Hard anodizing is defined in ISO 7583 as “anodizing to produce a coating where high wear resistance or microhardness is its primary characteristic”.

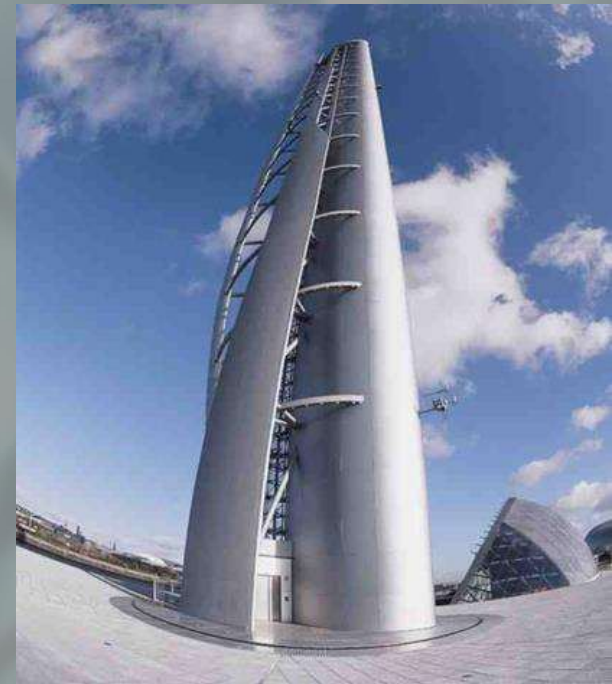
Examples of hard anodized products are similar to those of industrial anodizing but the quality requirements, particularly wear resistance, are higher.



Content of the 2017 Specifications

The 2017 Specifications are written aimed at the anodizer and include the following sections

6. Licensing anodizers
7. Regulations for the use of the quality label
8. Inspections
9. Test methods for products
11. Guidance on products and processes
12. Appendix – Architectural anodizing
13. Appendix – Industrial anodizing
14. Appendix – Decorative anodizing
15. Appendix – Hard anodizing



Licensing and inspections



Anodizers may be licensed for one or more types of anodizing

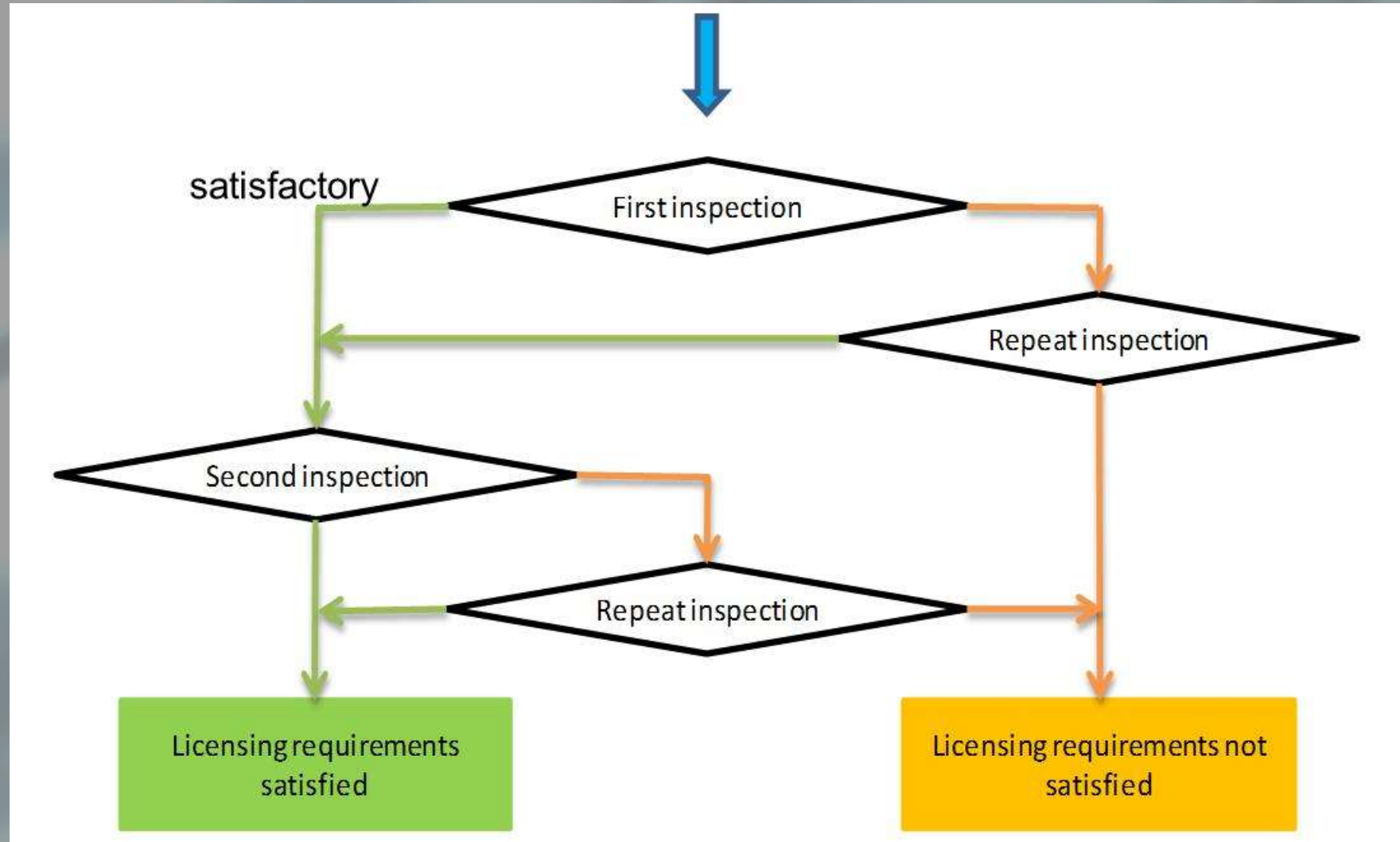
There is only one licence and only one licence fee irrespective of the number of anodizing types covered by the licence.

There is no need for separate inspections for the different anodizing types.

All licensees have to satisfy requirements for:

- the use of the quality label
- the laboratory and testing apparatus
- processes - particularly sealing
- process control methods and production control records.

Inspection procedure for each licensable product



Architectural anodizing



The requirements are those of the previous edition of the Specifications.

This can be regarded as the “classic” Qualanod.

Required product tests

- Thickness
- Mass loss test
- Either the dye spot test or the admittance test or both
- Visible defects, surface texture and, if appropriate, colour
- Surface abrasion resistance

Also conformity to a light fastness criterion

Industrial anodizing

Required product tests

- Thickness
- Mass loss test
- Dye spot test
- Visible defects

Other tests such as wear and corrosion resistance, and microhardness as required by the customer

The customer may derogate the sealing tests



Decorative anodizing



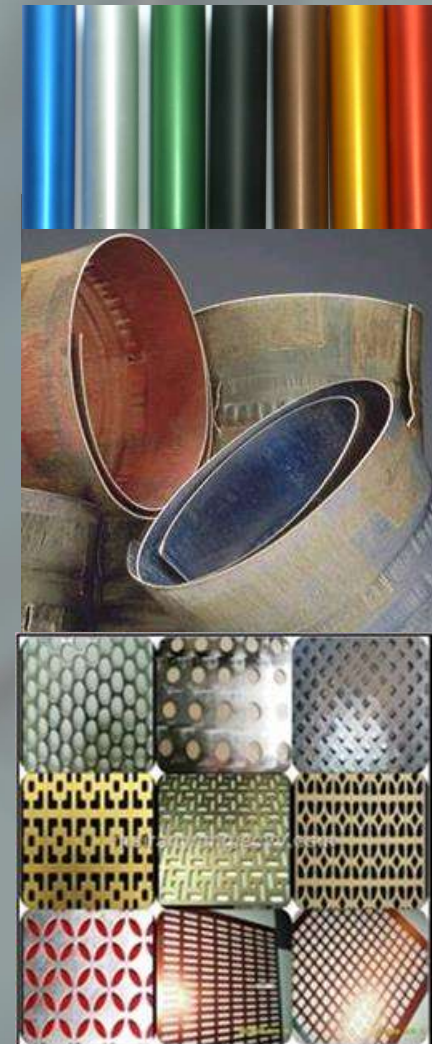
Required product tests

- Thickness
- Mass loss test (with or without predip)
- Either the dye spot test or the admittance test or both
- Visible defects, surface texture and, if appropriate, colour

Distance for visual examination of anodized parts shall be agreed by the anodizer and customer. Otherwise, the viewing distances shall be:

- 2 m for internal architectural applications
- 0,5 m for decorative articles

Other tests such as light fastness and resistance to UV radiation, wear resistance and those for light reflection properties as required by the customer.



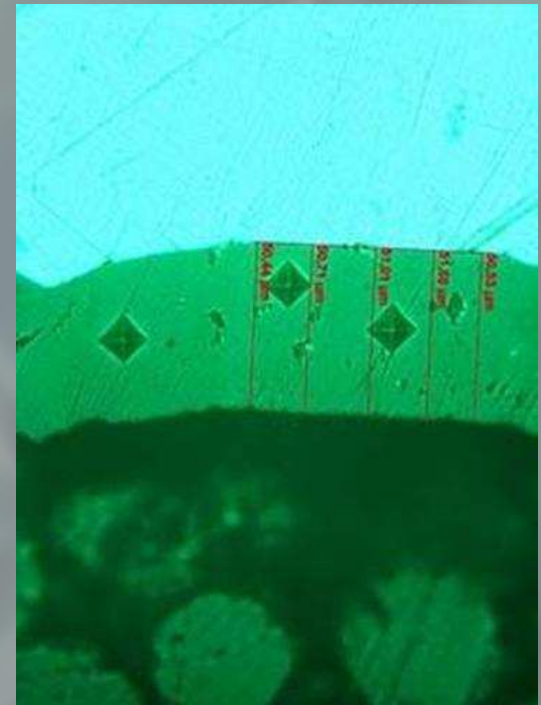
Hard anodizing

The requirements largely follow those of ISO 10074 “Specification for hard anodic oxidation coatings”

Required product tests

- Thickness
- Visible defects
- Wear resistance
- Final dimensional tolerances

Other tests such as microhardness, corrosion resistance, electrical breakdown potential and surface density as required by the customer



Logos



Licensees are being encouraged to replace the old logo as soon as possible but at the latest by the end of 2018.

The generic logo will be used by the Qualanod secretariat.

The logos may be used in black and white

