

elvial



**INNOVATIVE TECHNOLOGIES_
ELVIAL PRE-ANODIZING 2IN1_
ELVIAL I² INSULATION TECHNOLOGY_
BE DIFFERENT.**



WELL BEING

THE CHOICE OF ALUMINIUM SYSTEMS
TODAY PROVIDES SAFETY AND ENERGY
EFFICIENCY, IMPROVING EVERYDAY LIVING.

THE RIGHT COLOR MAY UPLIFT THE
AESTHETIC RESULT AND ADD VALUE TO THE
BUILDING IMAGE. IT ALSO CONTRIBUTES TO
THE WELL BEING OF EVERYDAY USERS.



ALUMINIUM = COLOR

NO OTHER ARCHITECTURAL BUILDING MATERIAL OFFERS
THE ALMOST UNLIMITED COLOR RANGE OF ALUMINIUM.

There are 2 basic technologies developed for surface treatment:

- I POWDER COATING
- I ANODIZING

AT A GLANCE THE PROCEDURES

POWDER COATING

During powder coating, the aluminium surface is “passivated” through the application of a chemical pretreatment process with chrome free chemicals.

Coating with a layer of polyester powder then follows, giving the final color hue and texture to the aluminium.

Powder Coating allows for full creative freedom, offering an unlimited color palette in hue and texture.



ANODIZING

Anodizing is an electrochemical process during which, the aluminium surface transforms into a layer of inactive, cohesive and hard oxide.

As a result, the “passivated” surface of the aluminium functions as an impenetrable protective shield, over adverse environmental conditions. The anodic coating is transparent and its structure allows the incorporation of pigments for the coloring, however, in limited color hues.

Anodizing can safeguard the metal but it tempers the coloring options and is rather costly.



THE
ISSUE

Filiform corrosion is the corrosion appearing on the metal surface and under the coating [EP].

It is caused by the reaction of the aluminium material in acid environment conditions, such as:

- I **Coastal areas**, up to 25 km from the shore.
- I **Areas neighboring to highways**, which during the winter season “accept” quantities of sodium chlorides to prevent icing.
- I **High humidity environment**, like spaces with a pool, sauna etc.



Filiform corrosion usually appears in the form of “bubbles” and starts most of the times from the frame corners.

IF APPEARING

IT DOES NOT STOP, AND IT GRADUALLY ATTACKS THE WHOLE METAL SURFACE.

THERE IS NO TREATMENT AND FULL FRAME REPLACEMENT IS NEEDED!



PRE-ANODIZING

THE SOLUTION TO THE FILIFORM CORROSION IS GIVEN BY THE PRE-ANODISING.

It is, actually, the creation of a firm 3-8 mm oxide coating, which is produced under controlled conditions, similar to those of a typical anodizing, but without the final finishing phase.

This coating penetrates the aluminium surface and works as an ideal foundation layer for the powder grid that will follow with the Powder Coating, offering maximum anti-corrosion protection.



Microscope picture with pre-anodizing on aluminium

This way, choosing Pre-anodizing over the classic preliminary work methods, we achieve the absolute combination of both 2 different surface treatment methods:

- I **Total freedom** in color hue and texture choice
- I **Maximum Anti-corrosion Protection**



THEREFORE, THE TIME BETWEEN THE COMPLETION OF THE PRE-ANODIZING AND THE POWDER COATING APPLICATION, IS DETERMINING FOR THE ACHIEVEMENT OF MAXIMUM ANTI-CORROSIVE PROTECTION. HOWEVER, THE AVOIDANCE OF CONTACT WITH THE HUMAN SKIN AND THE ENVIRONMENT WHERE THE PRODUCTS ARE BEING PROCESSED UNTIL THE PAINTING ARE EVEN MORE VITAL.

THE RESTRICTIONS

- Pre-anodizing, as a preprocessing procedure, shows excellent results ONLY if:
- I The **Powder Coating is IMMEDIATELY** applied after the preliminary process of pre-anodizing
 - I **WITHOUT human intervention**, as pre-anodizing DOES NOT block porous materials and
 - I We ensure in a **STERILE ENVIRONMENT**, free of suspended or other particles that diminish the result..

Traditionally, until today, the Pre-anodizing process - wherever applied - takes place in Anodizing facilities and, then, the products have to move to Powder Coating facilities...

..however, this process demands thorough movements' coordination while unpredictable factors may arise, burdening the waiting time until the POWDER COATING application:

- I **Delay on the products' removal** from the Anodizing facilities.
- I **Long products' standby (queue)** at the Powder Coating.
- II **Exposure of the Pre-anodized products** to dust and humidity during the transfer.
- II **Increased risk of corruption of the pre-anodizing advantages** due to contact with trimmings and human skin.

ELVIAL PRE-ANODIZING 2IN1

THIS IS WHAT ELVIAL PRE-ANODIZING 2IN1 IS ALL ABOUT.

- I Zero Waiting Time
- I Spotless Environment
- I Robotic Handling

ELVIAL owns the first in Greece and one out of seven worldwide, fully automated serial pre-anodizing and powder coating lines according to Qualicoat standards and has been received the SEASIDE (PRE-OX) label, following successful laboratory testing and inspections.

ELVIAL Pre-Anodizing 2in1 facility is robotic. No human hand meddles with the materials; the production environment is free of dust and other aggravating factors.

The profiles are subdued to an electrochemical procedure identical to that of anodizing. The aluminium profiles are placed in an underground tunnel and submerged in a sulfuric acid solution.

Pre-anodizing produces an anodic substrate on the surface of the aluminium profile that protects it from corrosion. Then the profiles are serially painted, eliminating waiting time, whilst the pores on the aluminium surface of the profile are completely sealed.



*THANKS TO THE ROBOTIC
HANDLING OF THE PRODUCTS
AND THE ELIMINATED
WAITING TIMES, WITH THE
2IN1 ELVIAL PRE-ANODIZING,
YOU ARE NOW SURE.*



IN BRIEF, ELVIAL PRE-ANODIZING 2IN1:

- I Is the sole method that ensures maximum protection from filiform corrosion.
- I Offers countless color choices and a wide range of texture, polishing and effects.
- I Is factory quality assured.

Pre-anodizing 2IN1 from ELVIAL is uniquely combined with Class 2 [Super Durable] powder coatings.

WATCH THE VIDEO HERE!



THE
ADVANTAGES

ELVIAL
PRE - ANODIZING
2IN1

✓ Robotic profile handling	✗ Manual profile transfer
✓ Integrated in-house pre-anodizing unit	✗ Transport to external pre-anodizing units
✓ Clean , controlled environment	✗ Exposure to various environmental conditions
✓ Zero waiting times	✗ Delays between pre-anodizing stages
✓ Optimal timing between pre-anodizing and powder coating	✗ Delays between pre-anodizing and final coating

OUR
COLOR COLLECTION

The world is not black and white. It's full of shades, textures and combinations that evoke emotion, build character, and express the unique identity of every space. Color is much more than a simple choice. It's a statement. It's the detail that makes the difference.

With this vision in mind, we created the new **ELVIAL OUR COLOR COLLECTION.**

A collection that doesn't just follow trends - it shapes them.



CLASS 2
SUPER DURABLE
DO THE RIGHT CHOICE.

Combine pre-anodizing with Class 2 powder coating colors. Achieve maximum anti-corosion and radiance resistance, even under extreme sun light.

The super durable powder coatings are 3 times more resistant to sun radiation and render the profiles practically indestructible.

ELVIAL SOLUTION SOLUTION FOR YOU

LOOK FOR THE BEST ELVIAL SOLUTION TODAY.

#ELVIAL PRE-ANODIZING 2IN1
#ELVIAL I² INSULATION TECHNOLOGY
#ELVIAL WINDOW.ID

AT ELVIAL, WE WORK FOR YOU.
BECAUSE WE KNOW THAT THE CHOICE
OF YOUR FRAMES IS A LIFE CHOICE.

- That is why we constantly invest.
Always in innovative production
technologies.
- That is why we carefully choose our raw
materials and we cooperate with the
best around the world.
- Our people are professionals with high
technical know-how and, above all, they
work with dedication and love for what
they do. They are here to ensure the
best quality for you.



**STRONGER THAN TIME
STRONGER THAN ELEMENTS**

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