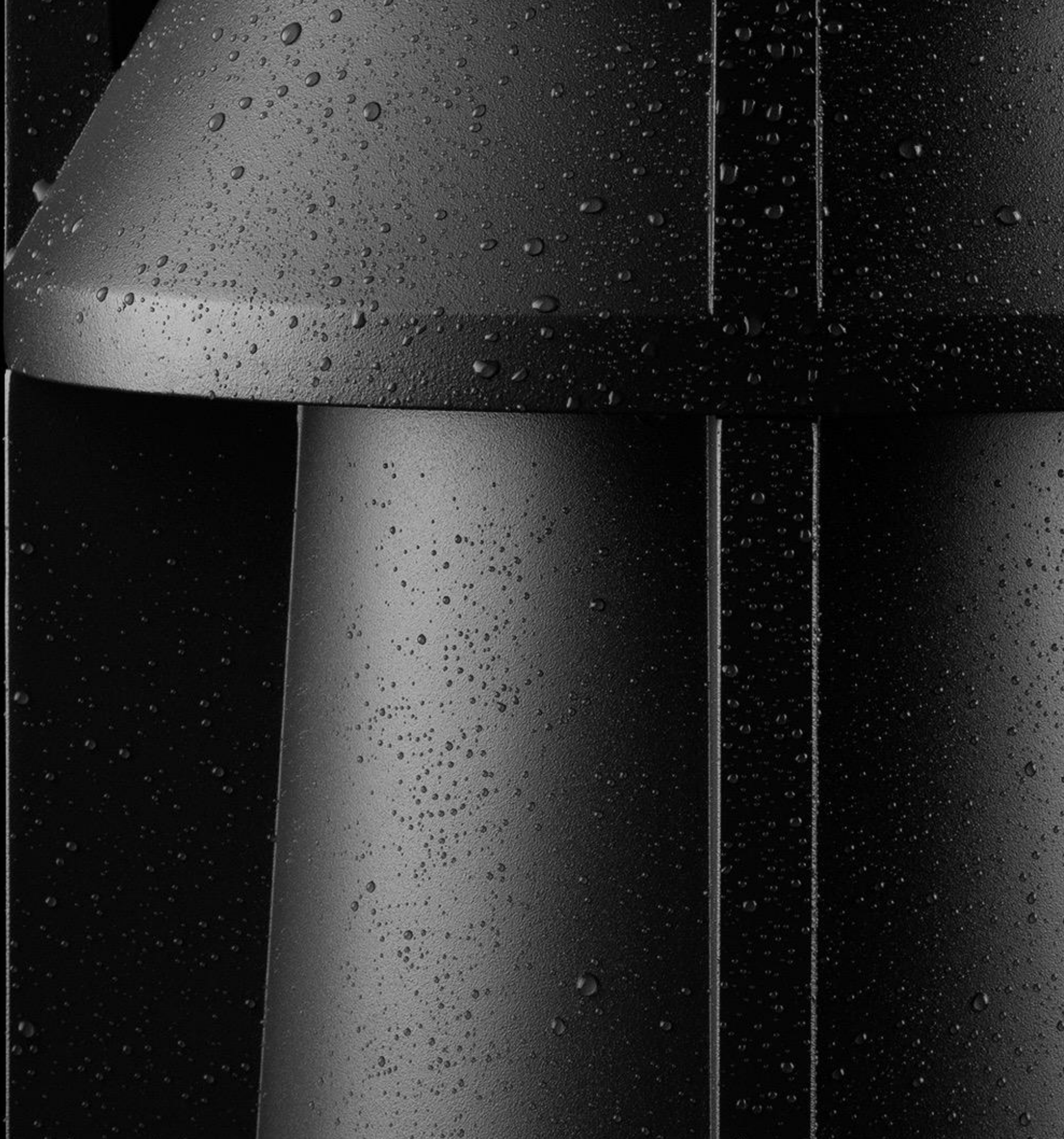


MATERIALS USED IN PRODUCTION  
SURFACE PROTECTION  
(AGAINST CORROSION)

 **NORLYS**





# SURFACE PROTECTION

NORLYS uses **solid and long proven technology processes** to assure best possible **anti-corrosion properties** for its product surfaces.

We possess **laboratory base**, which enables performing various tests (material composition, density, thickness of chemical pretreatment, zinc and polymer paint layers) along with **the final ageing and salt chamber tests** of performance of applied material and technology.





# LIST OF MATERIALS

- **ALUMINIUM** - alloys, extruded, plates
- **STEEL** - plates, pipes – either painted or galvanized
- **STAINLESS STEEL** - plates, screws, extras
- **COPPER** - plates, screws, extras
- **WOOD** - Scandinavian pine



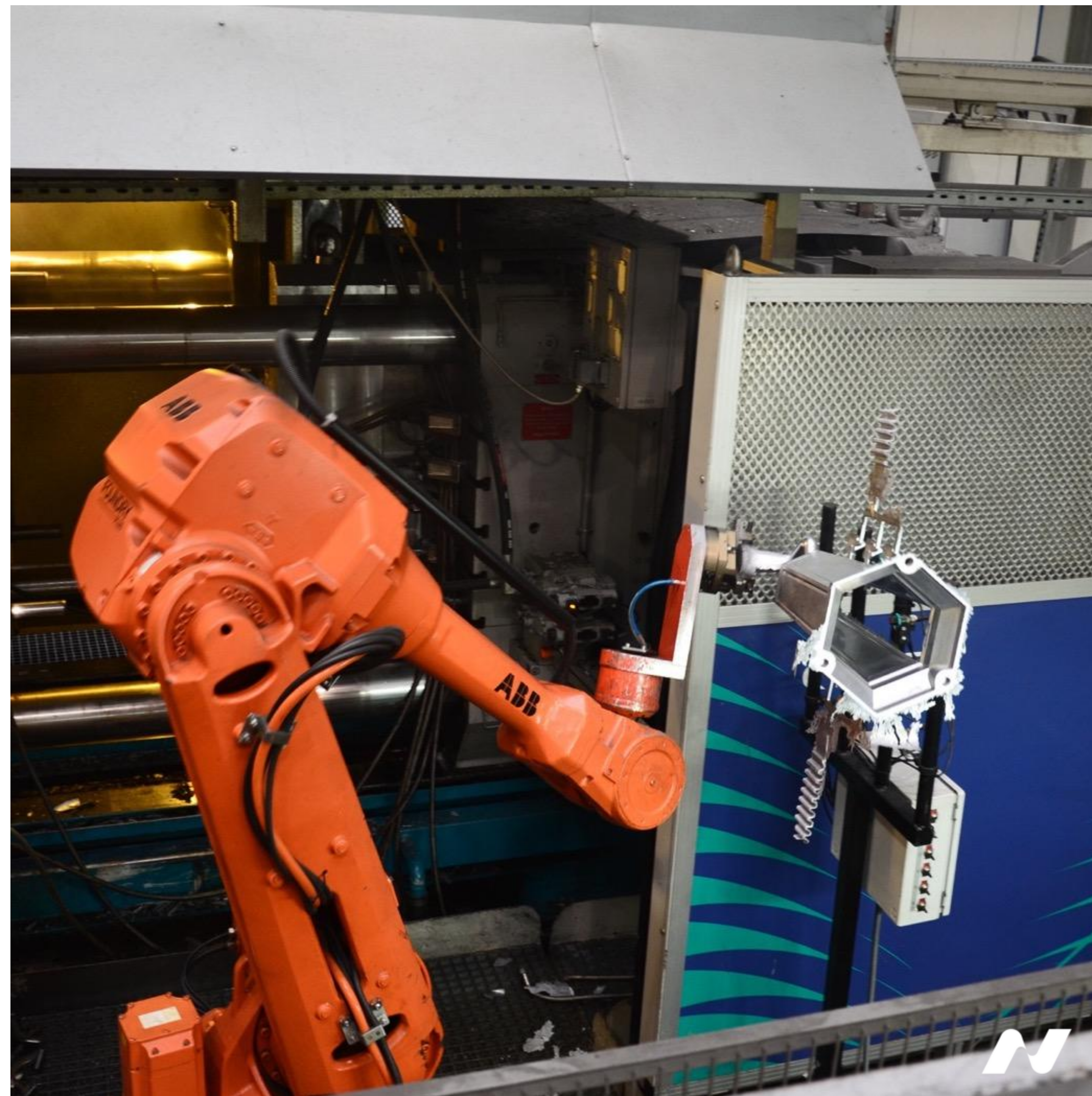


# ALUMINIUM

NORYLS possess its **own tooling shop** which is used for production and constant maintenance of **high precision moulds for aluminium**. In our **own die cast foundry** we are able to keep full control over whole die casting process.

We use mainly three types of aluminium in our products:

- **aluminium alloy DIN 231**, with lowered copper content, which provides automotive grade anti-corrosion properties.
- **aluminium alloy DIN 230**, which provide excellent anti-corrosion properties and is used for critical elements.
- for aluminium pipes and profiles – **PA38 and PA11**, which provides excellent anti-corrosion properties.





# STEEL

NORLYS uses, **European sourced, basic steel plates, pipes and profiles** in its production process.

Apart from regular steel plates, we use **highest quality deep-drawn steel plates** for some of our products.

In order to assure long lasting anti-corrosion protection for steel, NORLYS performs a **multi stage physical and chemical surface treatment process**, before finally painting it into a desired finish.

For some of the steel elements, NORLYS uses another method of surface treatment - **hot dip galvanizing**.





## WHY WE USE ALUMINIUM AND STEEL

A centuries - old tradition of processing steel, which is an extremely durable yet formable material. Well-known technology and methods of surface protection.

The introduction of aluminium castings has provided the opportunity to produce lightweight and highly durable luminaire structures of virtually any shape.

Both steel and aluminium provide very good heat transmission from electronic components, which plastics (synthetic materials) will not provide.





## PAINT SHOP

Majority of **steel and aluminium elements** are **painted** in order to assure long lasting corrosion protection.

Our paint workshop uses powder paints applied by **TRIBO method**.

Right after applying the powder, elements undergo **polymerization process** in specialized ovens.





# COLOUR PALETTE

Current palette consists:

- **BLACK** RAL9005
- **GRAPHITE** RAL7016
- **ALUMINIUM** RAL9006
- **WHITE** RAL9003
- **CORTEN STEEL** (CLOSE TO RAL8011)
- **COPPER BROWN** RAL8004
- **CEMENT GREY** RAL7033
- **BEIGE GREY** RAL 7006

There is a possibility of painting in RAL colour selected by client.





## HOT DIP GALVANIZED STEEL

One of the best ways of providing very long lasting anti-corrosion protection for steel made elements, is using the **hot dip galvanizing process** of surface protection. It can be applied either as the final step of surface treatment, or as a one of the steps before final powder painting.

**The process is performed 'in house'**, using one of the smallest **hot dip bath of molten zinc**, which enables us precise tuning and controlling surface quality of individual products.

In harsh North sea (Atlantic) coast environment, hot dip galvanized lanterns can survive 20+ years with no visible rust.





# STAINLESS STEEL

Very good, **natural corrosion resistance**, if maintained regularly.

Limited, but visually appealing usage

- BASEL
- RENA
- MOSS
- BERN





# COPPER

Norlys uses copper in several families of products as an optional finish.

- BERN
- BASEL
- PARIS
- KARLSTAD
- VANSBRO
- WHOLE CHELSEA RANGE





## (SCANDINAVIAN) WOOD

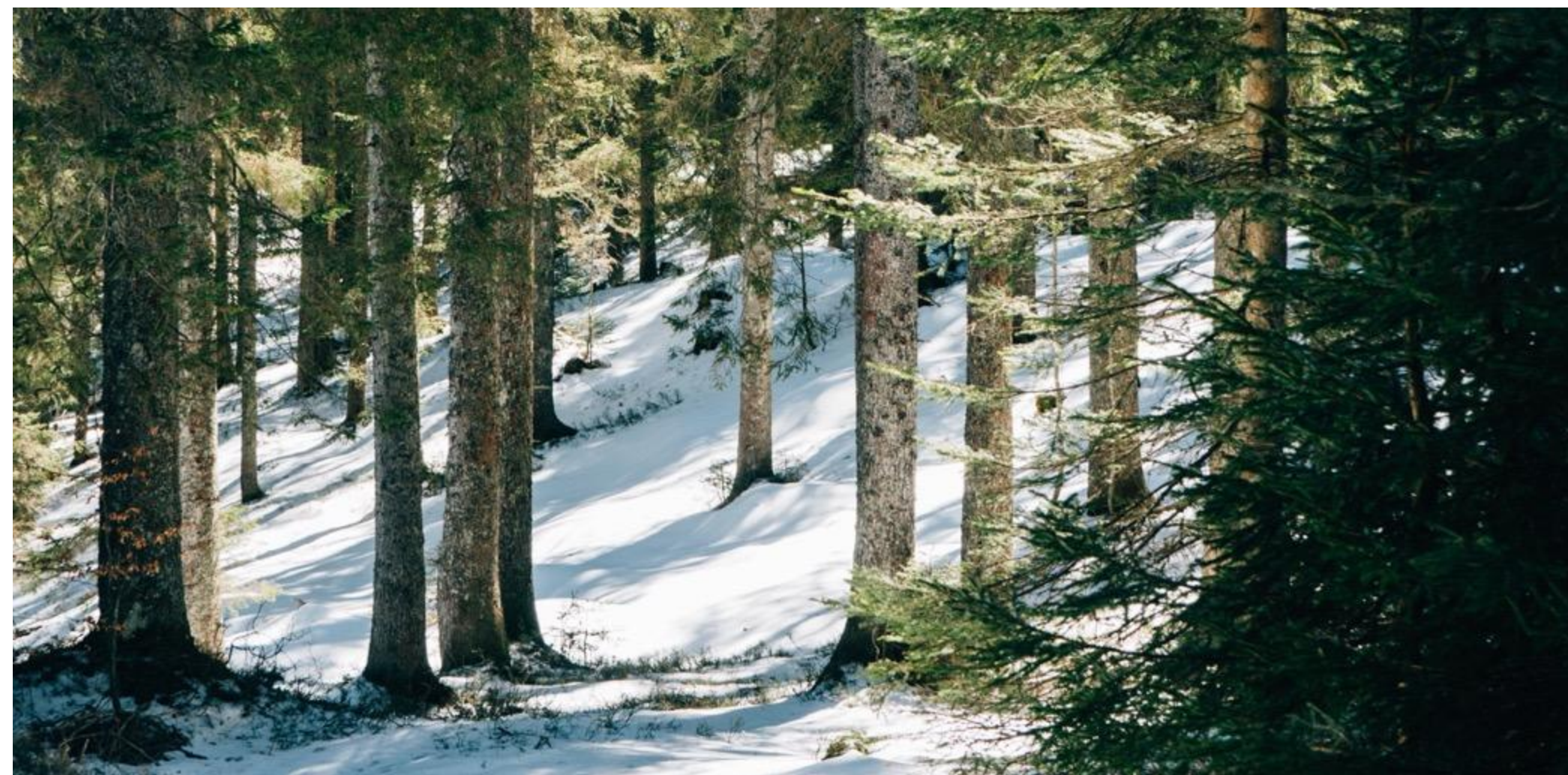
NORLYS uses natural wood in many families of its bollards.

We buy wooden lantern elements only from **one Swedish supplier**, who selects for us the best **Scandinavian pine**, sourced from **North Europe forests**.

As a standard, we provide two types of wood surface finish:

- **initially protected**, transparent wood finish, which turns grey in time,
- **fully protected**, distinctive brown lacquer finish, which can last years, if maintained regularly.

For larger project, we are able to provide **bespoke wood finish** – either colour or used technology wise.





**Thank You**

A decorative graphic element consisting of a series of overlapping, wavy, light gray shapes that resemble stylized waves or a zigzag pattern, located in the bottom right corner of the slide.





# Contact

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