

Surface protection
N NORLYS



Surface protection as a crucial process during production

NORLYS possess a vast, distinctive selection of products, which are perfectly suitable for either **costal zone** territories (North Sea, Baltic Sea, Mediterranean Sea), or for **dry and sandy** environments of Middle east and Northern Africa.

From our own experience we know, that a lot of effort has to be applied for **proper preparation of products in order to provide their long and seamless operation** in these, very different environments.

Apart from using best electrical components and raw materials, during over 30 years of operation NORLYS has adapted and perfected state of the art. processes **of aluminium and steel surface protection.**

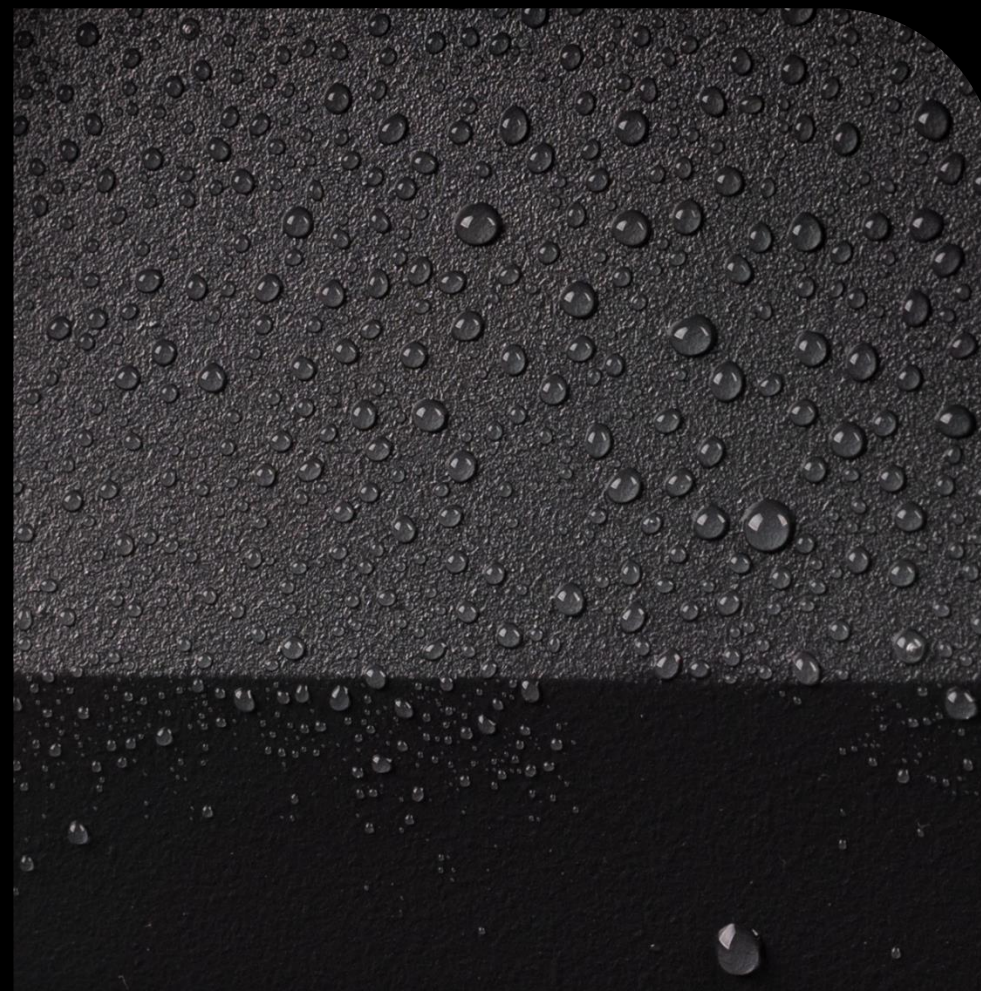


Types of surface protection.

Hot-Dip Galvanization

Provides a **long-lasting anti-corrosion and kinetic force** protection for steel components. It can be used as a final surface treatment or as an intermediate stage before further powder coating.

Our process utilizes one of the **smallest immersion baths** with molten zinc, allowing precise control and fine-tuning of the galvanization process, ensuring the highest quality and durability of surface protection.



Powder Coating

Most steel and aluminium components are coated to ensure long-lasting anti-corrosion protection.

Before painting, elements undergo a multi-stage physico-chemical treatment, enhancing their corrosion resistance.

Our paint-shop uses **TRIBO powder coating technology** for precise application of powder paint.

Immediately after powder application, components undergo a polymerization process in specialized ovens, ensuring a durable and flawless finish.



Steel – why we've chosen it?

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

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

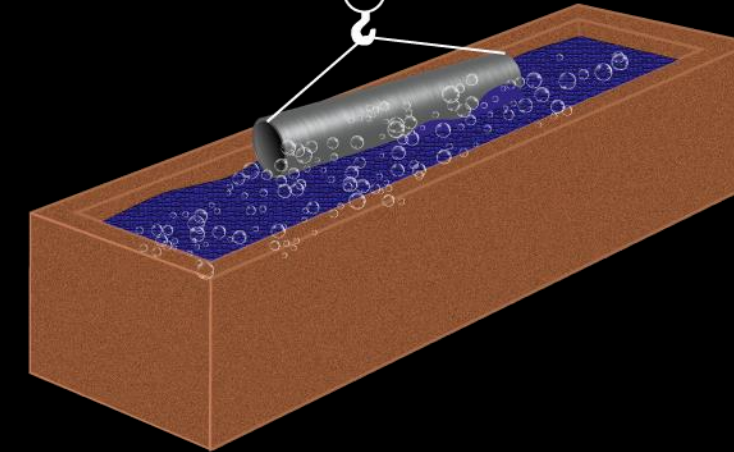
In order to assure long lasting anti-corrosion protection, NORLYS performs a **multi stage physical and chemical surface treatment process**, before finally painting it into a desired finish.



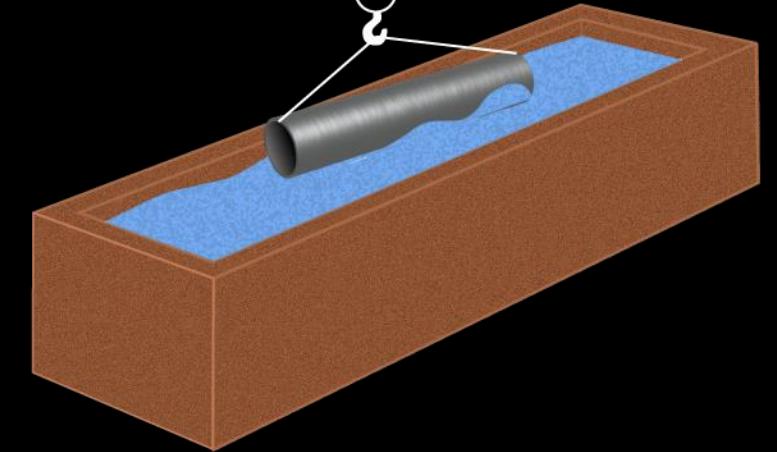
Protection of steel surface the process.

1. **Cleaning** (physico-chemical, using base solution along with strong detergents)- around 10 minutes in temp. 50C deg. Bath is in constant flow (pumps).
2. **Rinsing**

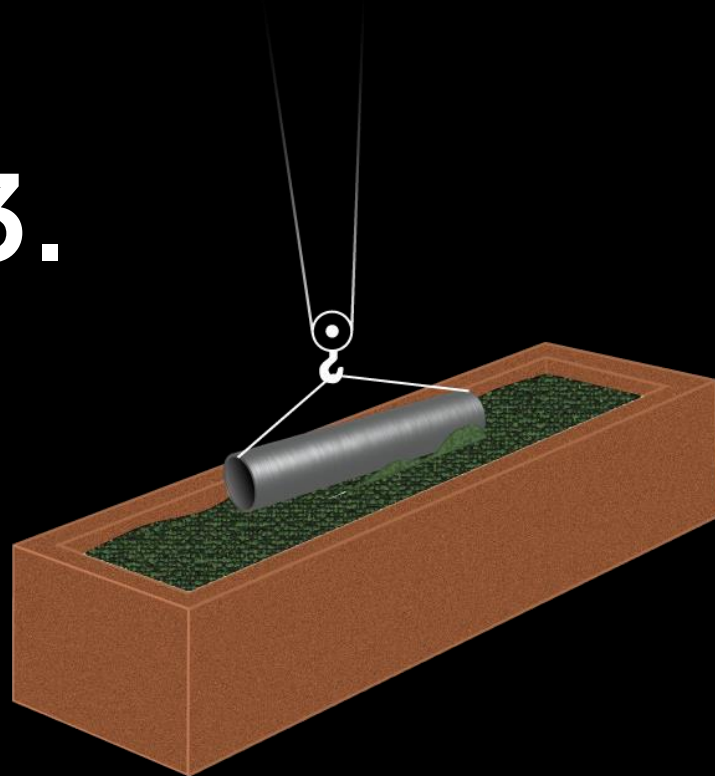
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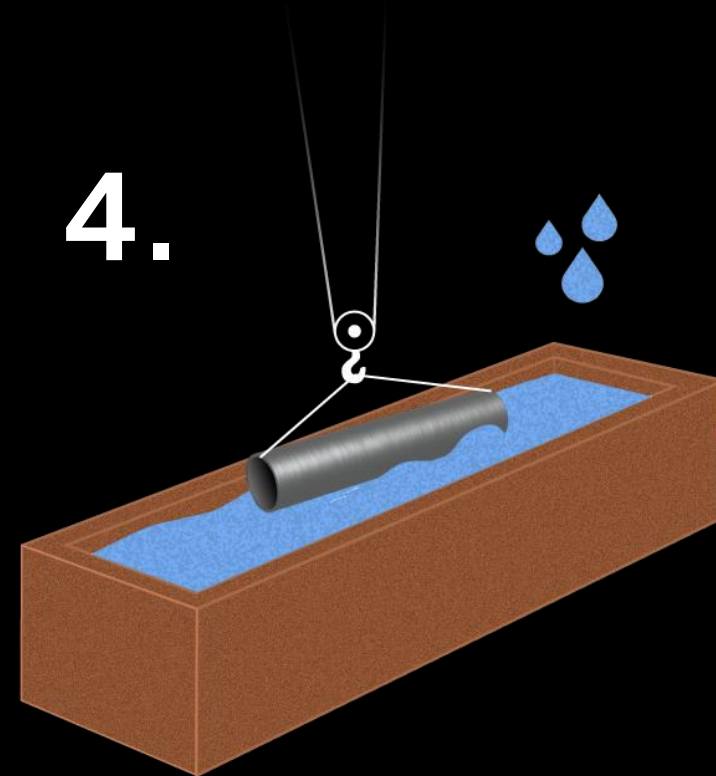
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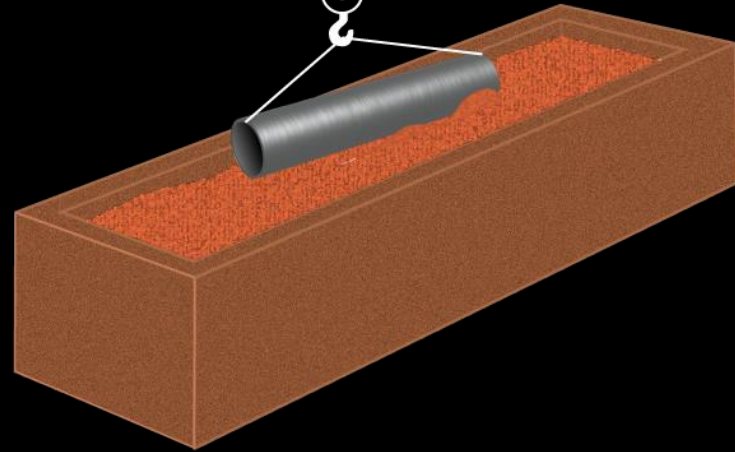
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Chemical activation before phosphating. Around 1 minute in a special acidic solution. It gives better phosphorus salts penetration and further paint adhesion.

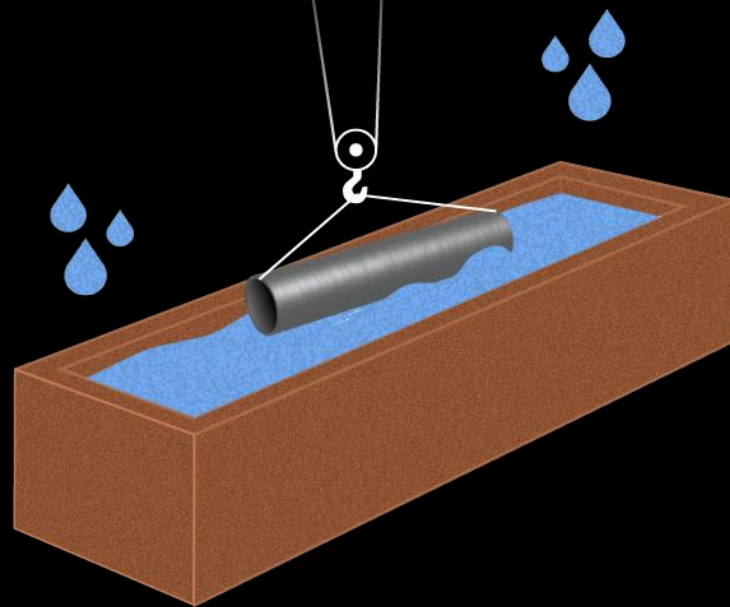
4.

Rinsing

5.



6.



5.

Phosphating. It gives excellent corrosion protection along with very good paint adhesion. This process is the set of the most complex chemical reactions used in the operation. It requires very strict control of chemical and physical parameters.

6.

Double Rinsing

7.

Dryer treatment

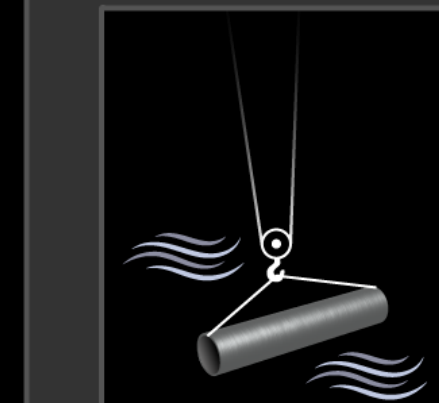
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Powder painting (coating)

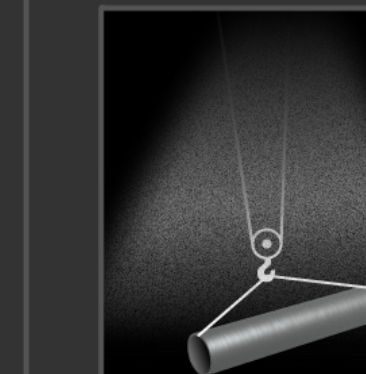
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Paint polymerization in a special oven.

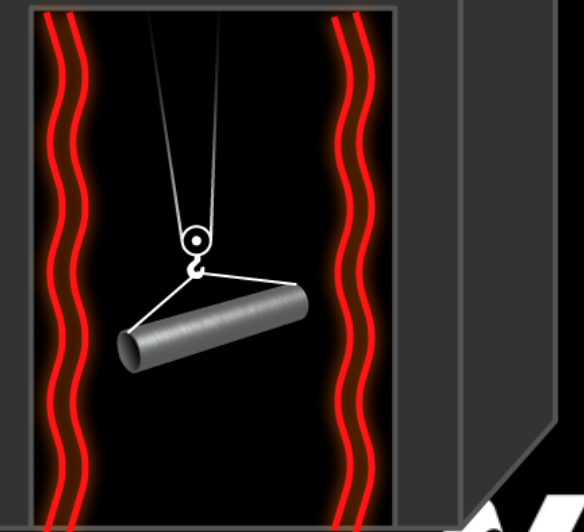
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8.



9.



Aluminium – why we've chosen it?

Aluminium (alloys) are one of the most popular raw materials used for production of lantern 'cages'. Aluminium provides an excellent heat transfers from within lantern body. Die casting processes enables producers to propose various shapes and clever technical solutions, which could be either very hard or impossible to obtain if these products are made of steel only.

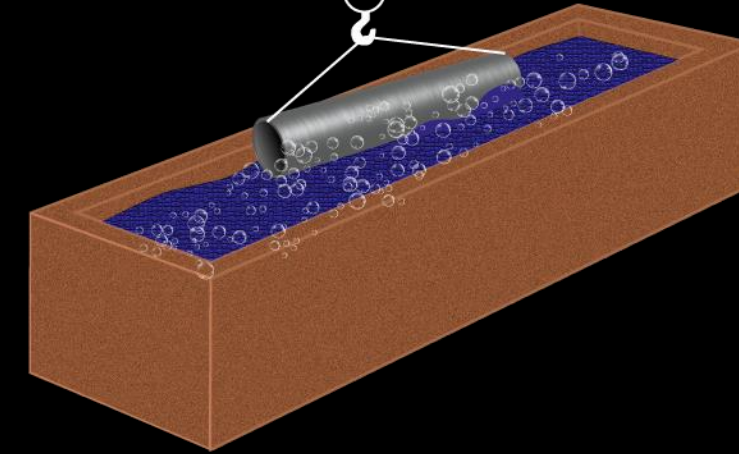
As in case of steel, NORLYS uses **European sourced aluminium** and performs **a multi stage physical and chemical surface treatment preparation process** for it, in order to assure long lasting anti-corrosion protection.



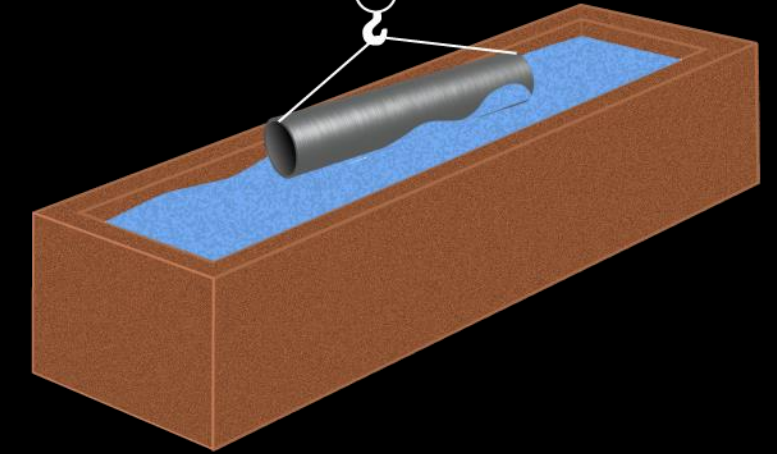
Protection of aluminium surface – the process.

- 1. Cleaning** Cleaning (chemical, using base solution along with strong detergents) - around 15 minutes in temp. 40C deg. Bath is in constant flow (pumps).
- 2. Rinsing**

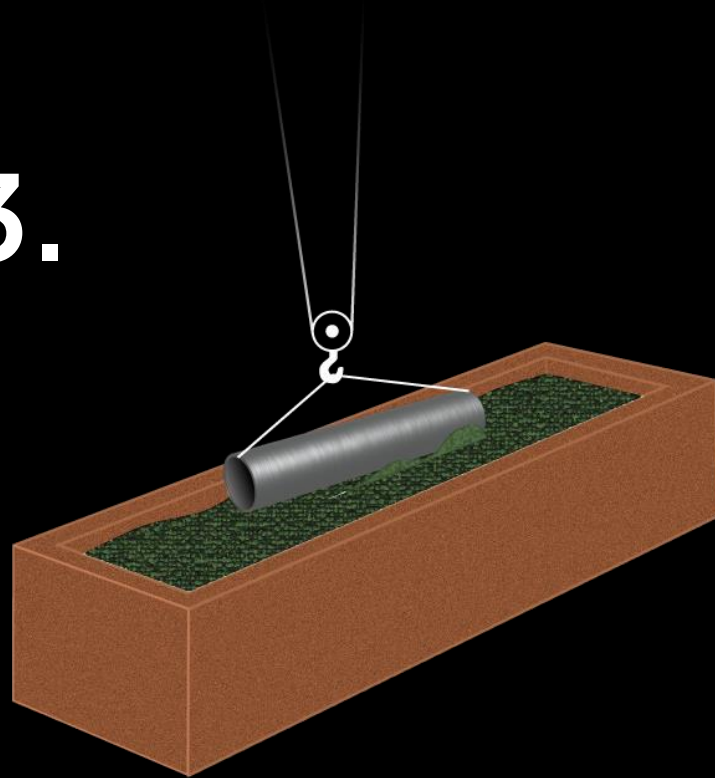
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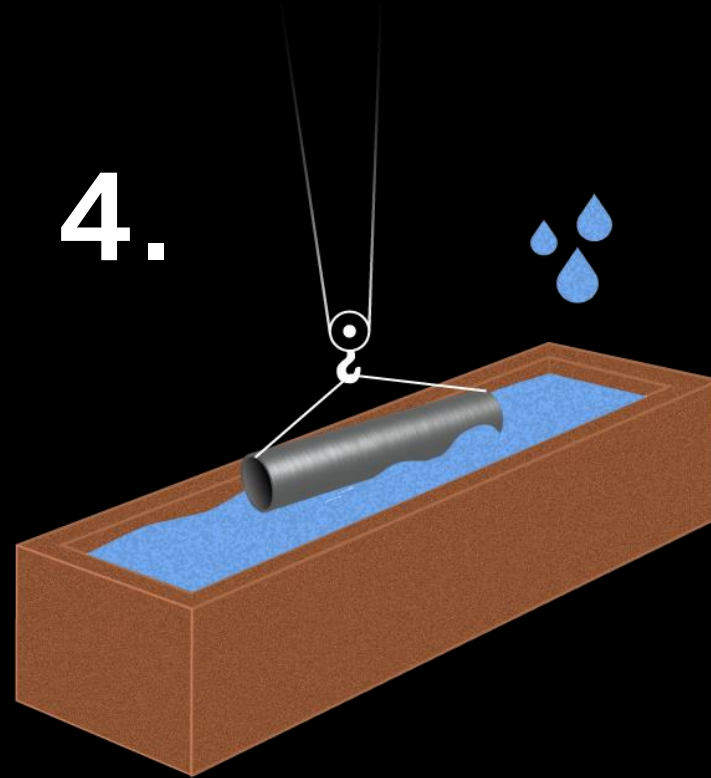
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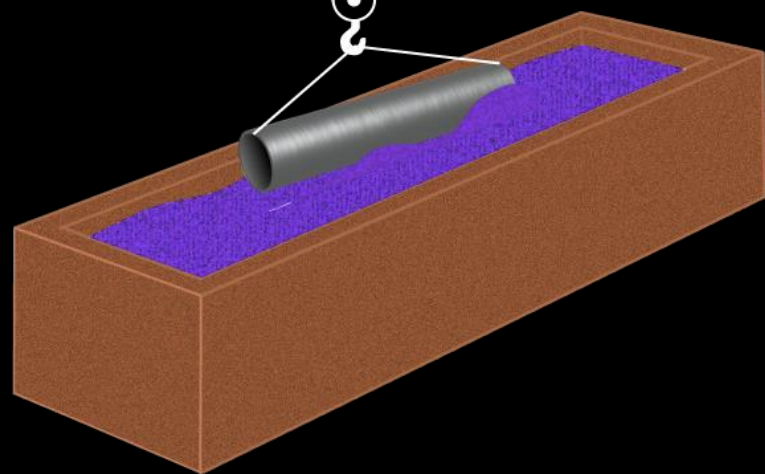
3.

Chemical activation Chemical activation before chromating. Around 1 minute in special acidic solution. It gives better chrome polymer penetration and further paint adhesion.

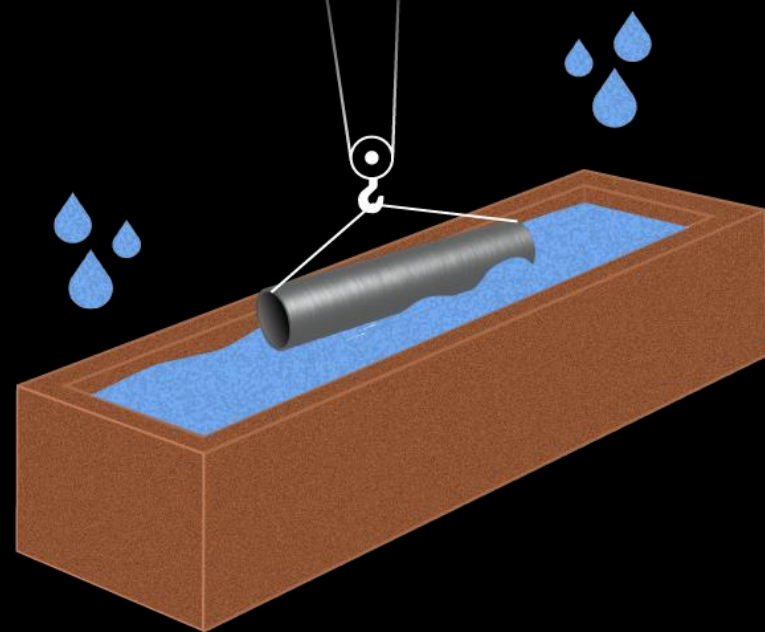
4.

Rinsing

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5.

Chromating (polymer based). It gives excellent corrosion protection. Polymer formula gives very good paint adhesion.

6.

Double Rinsing

7.

Dryer treatment

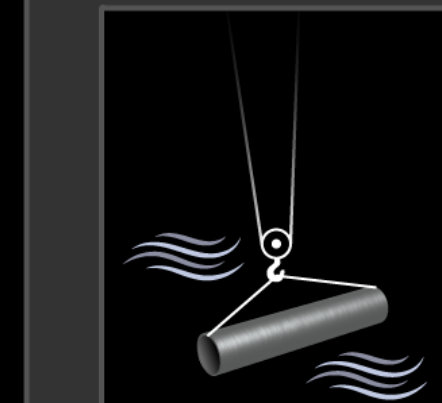
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Powder painting (coating)

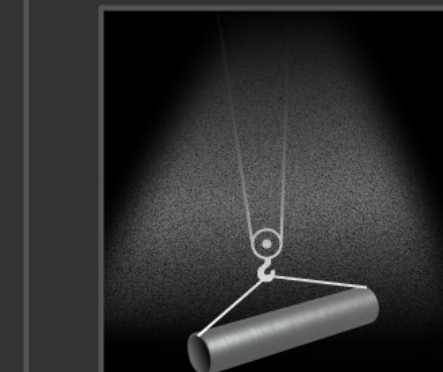
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Paint polymerization in special oven.

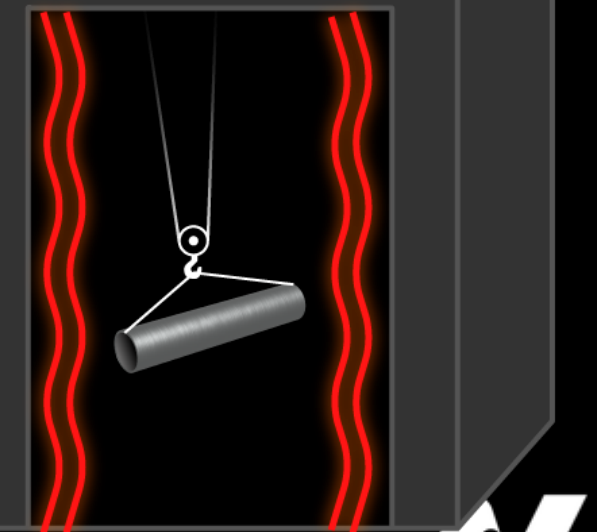
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Contact

Norlys AS
Hovfaret 4B, NO-0275 Oslo
P.B 1014 Hoff, NO-0218 Oslo – Norway
info@norlys.com