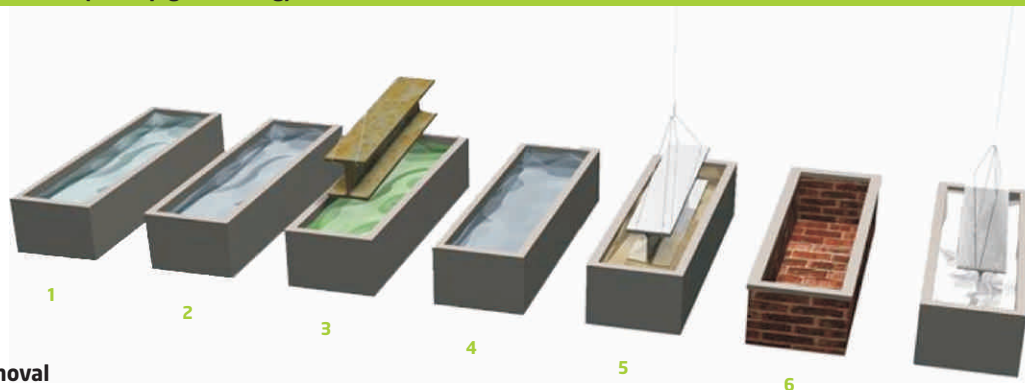


Treatment processes

Galvanization and Polyester Powder Coating



Galvanization Process (Hot-tip galvanizing)



1. Grease Removal

A hot alkaline solution is used to remove grease, oils and soluble impurities.

2. Water Rinse

This special step is taken to avoid the contamination of the remaining dips.

3. Pickling

A solution of sulphuric acid (H_2SO_4) is used to remove surface rust and mill scale.

4. Water Rinse

This special step is taken to avoid the contamination of the remaining dips.

5. Fluxing

The steel is dipped in a solution of Zinc Chlorite ($ZnCl$) and ammonium, thus preventing oxidation prior to the dip in molten Zinc and remove oxides.

6. Pre-Drying

The steel is now left to dry at $60^\circ C$ in order to increase the thermal energy yields of the Galvanizing process.

7. Galvanizing

The article in question is then immersed in a bath of molten Zinc between the temperatures of 440° and 460° , in order to let the Zinc metallurgically bond to the steel, thus creating the final protective coating.

Phosphating Process:

The process involves utilizing an acid solution that creates a protective iron phosphate coating over metallic surfaces, which, in turn, provides rust resistance and an excellent base in which to apply any other coating. The Iron Phosphate can be applied either through dipping the product or spraying it.

In specific materials (3 to 4 stages), a special acid solution should also be used as a Grease Removal agent that will allow the cleaning process do be done in one dip. When added to the Sulphuric or Chloridric Acid solutions, it also allows to clean the metal of grease, oils and soluble impurities during Pickling.

Done according to the EN 10244-2 Standard

Polyester Powder Coating:

DESCRIPTION Thermoset powder coating made with Polyester TGCI resins. Gloss finishing, great colour resistance and stability. Recommended in architectural metals and other scenarios where high resistance is preferred.

APPLICATION TYPE Cover

APPROVAL Standardized by Qualicoat (License number 60)

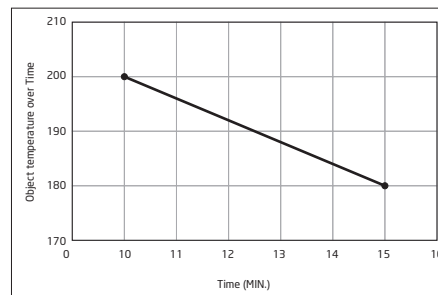
FEATURES **Gloss:** 60°

Density: 1,3 to 1,9 (depends on colour choice)

Particle Size: Average Diameter of 35x50 µm (NICN 010)

Theoretical Energy Yield: 9 at 13m²/kg with a thickness of 60 µm

Drying:



FINAL PRODUCT Polyester Coating 100 microns to 180 microns.

TEST CONDITIONS All tests were performed in proper laboratory conditions, utilizing ECCS 0.8mm aluminium plates (AA 2005) 60 m thick, steam dried for 10 minutes at 200°C.

TEST Magnetic Resistance

Properties :

Adherence: EN ISO 2406

Flexibility: EN ISO1519

Shock Resistance: ASTM D2794

Mounting: EN ISO 1520

Hardness: EN ISO 2815

Ensaio:

1 mm grid and adhesive tape

Mandril 5 mm

1kg at 25 cm

Erichsen

Buchholz

Resultado:

GT 0

No damage

Good resistance (front/back)

5 mm

80 at Min.

Done according to the EN 10244-2 Standard



TEST Corrosion resistance

Kesternich
EN ISO 3231

1mm Corrosion spread starting from the incision, after 24 cycles

Acid Mist
ISO 9227

16mm² max. Infiltration after 10cm incision with each infiltration reaching a max. of 4mm after 1000h of exposure

Condensation Chamber
EN ISO 6227-2

1mm Corrosion spread starting from the incision after 1000h of exposure

Boiling Water/ Pressure Cooker

No damage at all after 2/1 hour/s

Mortar Testing
ASTMD 3260

Easy removal, no residue after 24h

Aging

Natural Aging
Florida 5° south
(EN ISO 2810)

50% Gloss retention after 12 months of exposure. Colour alteration according to Qualicor chart

Accelerated Aging
Suntest
(EN ISO 11341)

50% Gloss retention after 1000 hours of exposure. Colour alteration according to Qualicor chart

Treatment Process:

