

RUST-ANODE®

THE COLD GALVANISATION THAT FACES TIME

RUST-ANODE®: A FULL RUST-PREVENTION PROCESS

IT IS NOT A PAINT

The only resemblance Rust-Anode® has with a normal paint is its application, by brush, roller or spraying. Everything else is absolutely different from other types of anti-corrosion paints such as the composition and the protection technique.

Protection with the usual anti rust paint: they always decompose and crack in the end. The rust spreads under the paint layer and finally the rust will lift the paint layer up and will cause further rust forming.

IT IS A GALVANISATION

Rust-Anode® is a cold galvanisation and contains about 96% pure zinc dust in the dry layer. This zinc coating protects electro-chemically the steel surface. It offers the same cathodic protection as hot-dip galvanisation, metalisation or zinc coating by electrolysis. The Rust-Anode® protection is far better than the one offered by any other traditional anti rust paint.

Rust-Anode® acts as active coupling to the steel surface. A layer of iron hydroxide will be formed between the Rust-Anode® and the steel surface acting as an oxidation transformer (or inhibitor) preventing therefore any rust formation. Potential pre-existing rust cannot stretch out. In all cases the Rust-Anode® adhesion remains perfect.

THREE PROTECTIONS IN ONE PRODUCT

1. Rust-Anode® provides a cathodic protection. If the coating is damaged then the general cathodic action from the coating around will provide the required protection (up to 4 mm scratch).
2. Rust-Anode® neutralises and transforms the eventual remaining rust as a rust inhibitor, so rust cannot extend any more its destroying action.
3. Rust-Anode® contains a resin or binder material, which appears partially at the surface and provides a supplementary surface protection. It will delay the zinc oxidation and extends the lifetime expectation of the cold galvanisation.

TRIPLE ECONOMY

1. Rust-Anode[®] is at the same time a full active cathodic protection and a passive paint protection.
2. The lifetime expectation of Rust-Anode[®] is the same of the one of hot-dip galvanisation (10 to 50 years). By applying a topcoat on top of the Rust-Anode[®] one can increase the lifetime expectation by about 2,5 times!
3. Rust-Anode[®] can be applied on top of an older layer and any old hot-dip galvanisation and will renew itself. It has the property to reload the cathodic protection. The old and new layer of Rust-Anode[®] or hot-dip galvanisation will meld together. Surface maintenance of old hot-dip galvanised installations can be done without dismantling.

CAN BE APPLIED ON RUST

Rust-Anode[®] acts also as a rust inhibitor (transformer). A thin layer of dust (fly-dust) is acceptable. The remaining rust will be transformed to iron hydroxide and will form the electric connection trough the layer providing the required cathodic protection.

Rust-Anode[®] presents also the great advantage that it may be applied without any extensive chemical process such as pickling, passivation, phosphatation, etc. One only needs a mechanical cleaning: steel brushing or blasting. Of course all contamination e.g. oil, grease and dirt must be washed away.

TOTAL ADHESION

Rust-Anode[®] has a perfect adhesion with the steel surface and compared to hot-dip galvanisation shows also a new advantage: the Rust-Anode[®] layer follows the dilatation and deformations of the basic metal e.g. the temperature dilatation and eventual bending of the steel. The Rust-Anode[®] layer will neither crack nor come loose. Rust-Anode[®] can also be top coated with compatible paints without any surface preparation, except for a clean wash with water.

HIGH CORROSION RESISTANCE

Rust-Anode[®] has references from the Belgian Railroad Company dating from 1956 and has been sold ever since all over the world without problems. Rust-Anode[®] has resisted the lab salt spray test of 2.000 hours and the enforced aging tests during more than 1.300 hours without any damage.

Two practical surface protection comparison tests were done:

1. A comparative test was done in a very aggressive surrounding, wet and alternating acid - alkaline. The results were astonishing Rust-Anode[®] remained perfect after 3 years while all the other paints failed after 8 months.
2. Another comparative test gave the same astonishing results with 25 anti corrosion paints. Rust-Anode[®] remained the full test period 30 months perfect but the other 24 paints resisted only from 4 to 6 months.

ON HOT-DIP GALVANISATION OR METALLISATION

When hot dip galvanisation or metalisation starts to rust (the zinc layer is worn out) then the cathodic protection is not any longer active and only an extra cold galvanisation layer can help to restore the cathodic effect.

Rust-Anode[®] is, as a matter of fact, the only product able to “melt” properly to the old galvanisation or metalisation. It can be applied directly onto the old galvanisation after cleaning the surface with a brush and washing it with a high-pressure water jet to remove all dirt and zinc salts. The Rust-Anode[®] will “melt” together with the old layer and reload the cathodic protection. The installation or construction has not to be dismantled for a new hot dip galvanisation.

Rust-Anode[®] will never come loose or peel off.

New galvanised steel can be touched up by Rust-Anode[®] consequently the cathodic protection is restored. The product can be applied directly without any surface preparation. Damage from drilling, cutting or welding can thus be repaired in accordance with the ASTM A 780.

SPECIAL CASES: VERY CORROSIVE ENVIRONMENT

Rust-Anode[®] is used in several applications in the industry where very aggressive elements of corrosion prevail e.g. cement factories, paper mills, breweries, refrigerating halls, etc.

Rust-Anode[®] is used with a real success to protect ships, on and offshore platform, marine constructions and all harbour facilities.

Rust-Anode[®] can be over coated to increase the corrosive resistance without any surface preparation.

Rust-Anode[®] is preferred to hot-dip galvanisation process for all steel constructions in light profiles or thin plates because the hot-dip bath will deform these light structures.

REFERENCES

Since 1954 Rust-Anode[®] is known and used in more than 50 countries. Its high qualities have brought it at the leading place of all rust-prevention methods.

Rust-Anode[®] is approved and recommended by the most important official laboratories in Europe. In Belgium, Rust-Anode[®] has asserted itself in all industrial branches. Rust-Anode[®] is approved by the Belgian Railroad as well as by numerous public utility services and official bodies for various applications: electricity pylons, sewers, road signs, bridges, marine works, pipelines, harbour installations, the navy and the army.

PROPERTIES:

- Offers a perfect cathodic protection
- High resistance to corrosion and abrasion
- High resistance to heat (200/250 °C – 392/482 °F)

- High resistance to cold (-40°C)
- High resistance to soft water (up to 90/95 °C – 194/203 ° F)
- High resistance to sea water (exceptional good)
- High resistance to acids (Perfect up to pH 4/5.5)
- High resistance to alkaline (Perfect up to pH 9/12.5)
- High plasticity without cracks by bending of the steel.
- Allows the dilatation of the metal support
- Only available in one colour: zinc grey

APPLICATION:

Can be applied with a brush, roller, by spraying or dipping.

Rust-Anode[®] must be applied directly onto the steel surface.

Best applied in two layers of each 40µm.

To be applied on clean steel surface or rusted surface brushed and free from all rust fragments or contamination.

Can be applied on previously hot-dip galvanised new or presenting rust after washing with water.

It can be used as well as primer with or without a decorative compatible top coating.

It is a perfect primer for all compatible paints

Never apply in presence of red lead or petrol derivatives e.g. tarred products.

PACKAGING:

Cans of 3.5 kg – 7 kg (7.7 lbs – 15.4 lbs)

~~Cans of 1 kg (2.2 lbs) on special request~~

APPLICATION PROCEDURE:

1. Brush or grit blast the steel surface to remove the laminating skin, rust and old paint best to Sa 2 ½ standard and roughness standard Ra 12.5µm.
2. Rust-Anode[®] can be applied on a damp surface but better is a dry surface.
3. Standard one can apply two layers of 40µm each (one layer by brush = 40µm) in an interval of 12 to 24 hours.

Brush: Never thin out Rust-Anode[®] - It is ready for use – Covers 5 m²/kg for 40µm

Air brush: Thin out with Rust Suspension Fluid (2 to 4% volume) – Covers 4.35 m²/kg for 40µm

Drying: Dust free within 10 minutes – Dry after 12 hours (24 hours)

Application of a compatible topcoat can be done after 24 hours (48h) depending weather conditions.

Cleaning brushes and equipment with Rust-Anode Suspension Fluid or white-spirit

CHARACTERISTICS:

Zinc content: around 96% pure zinc (purity 99,995%)

One component and ready for use

Colour: zinc grey

Safety: non toxic – non flammable when dry

See also the technical and safety data sheet on the website www.rustanode.com

Rust-Anode[®] is a trademark of Bio-Protect

Made in Belgium since 1954