

# Aluzinc® Product Catalogue



**LIBERTY Liège-Dudelange**  
[www.libertysteelgroup.com](http://www.libertysteelgroup.com)

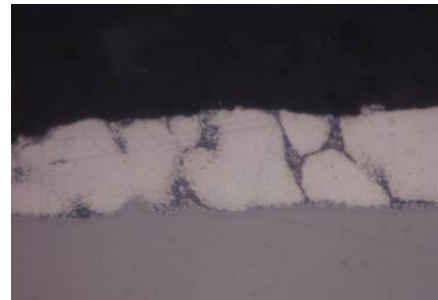
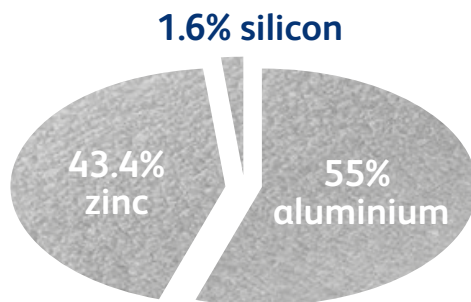


MEMBER OF



# What is Aluzinc®?

Aluzinc® is steel covered by an aluminium and zinc coating, providing a unique combination of the strength of steel, the anti-corrosion properties of zinc and the stability of aluminium. The Aluzinc® coating is composed of aluminium (55 %), zinc (43.4 %) and a touch of silicon (1.6 %) to achieve perfect protection of the steel, while giving it a unique silvery spangle.



## The result

Aluzinc® provides outstanding corrosion resistance in every way, while respecting both the environment and the natural beauty of steel. Thanks to the thin, transparent layer of aluminium oxide on its upper surface, Aluzinc® does not tarnish over time as with other hot dip coatings such as pure zinc or zinc-aluminium-magnesium (Zn-Al-Mg). The silver metallic spangle is a natural characteristic of the product.



## 30 year warranty

Over 30 years of manufacturing experience and monitoring at test sites, together with continuous research and improvement have enabled us to give Aluzinc® coating AZ185 (with a 25-micron coating on each side) a 30-year warranty against perforation due to corrosion.

# Applications

Aluzinc® is widely used in both indoor and outdoor applications:

- **Construction: façades:** cladding, composite panels, sun protection, structural sections, roofing (standing seam roofs, tiles, gutters).
- **Domestic appliances:** tumble dryers.
- **General industry:** Heating, ventilation, and air conditioning (HVAC) systems, electrical cabinets.
- **Automotive:** trailers, tubes, windscreen wipers, gear parts, clamps (as a replacement for stainless steel).
- **Agriculture:** silos.
- **Petrochemical industry:** pipework jacketing / cladding for insulation protection applications.

## Aluzinc® Superior Corrosion protection

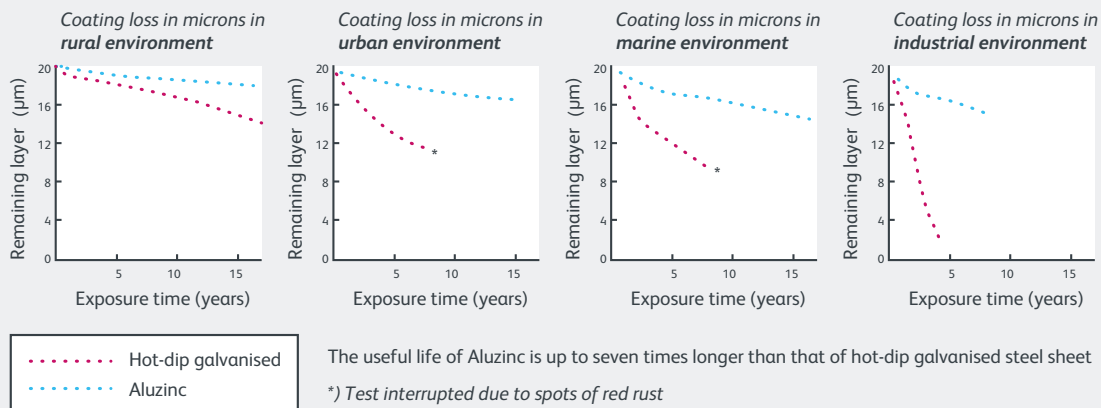
Aluzinc® remarkable corrosion resistance is the result of the combined action of aluminium and zinc.

The aluminium protects the steel substrate, creating a shield between the surface and the atmosphere. This aluminium barrier is very stable, as the aluminium oxide coating which forms on the surface is insoluble in most environments, thus ensuring a long-lasting resistance to corrosion.

The zinc provides the same protection as it does for galvanized steels. Whenever the steel substrate is exposed, by accidental cuts or scratches, the zinc corrodes instead of the steel. This phenomenon is known as sacrificial cathodic protection.

The combined effect of these two protective mechanisms ensures that Aluzinc® performs better than steel sheets protected with either pure zinc or pure aluminium, or Zn-Al-Mg in many different environments:

### Development of the corrosion process in different environments



In accelerated corrosion tests such as salt spray test, Aluzinc shows a superior performance compared to Zn-Al-Mg coatings and almost 10 times better than hot dip galvanized steel.

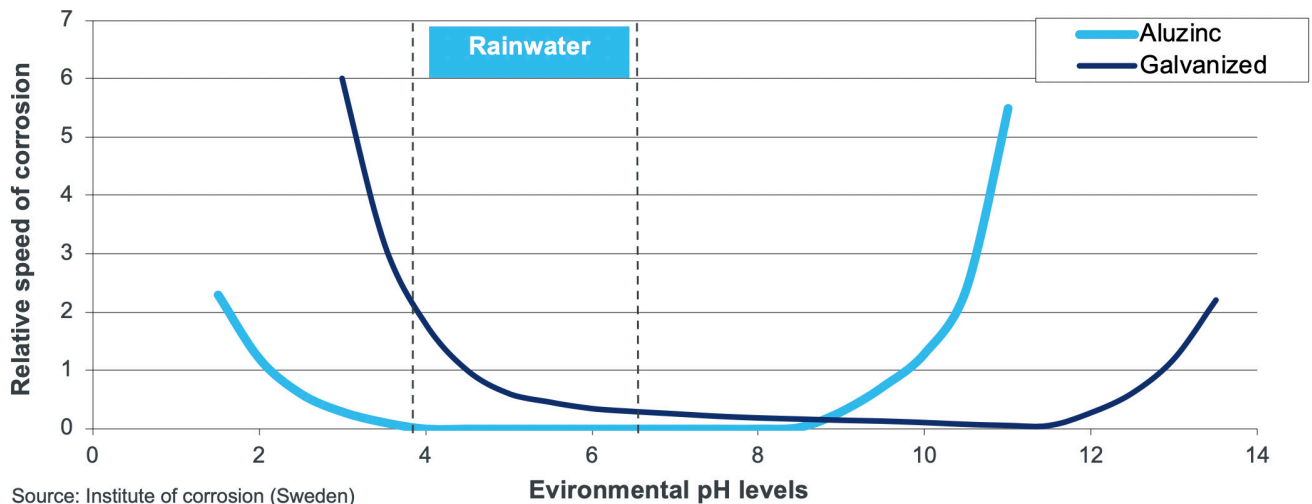
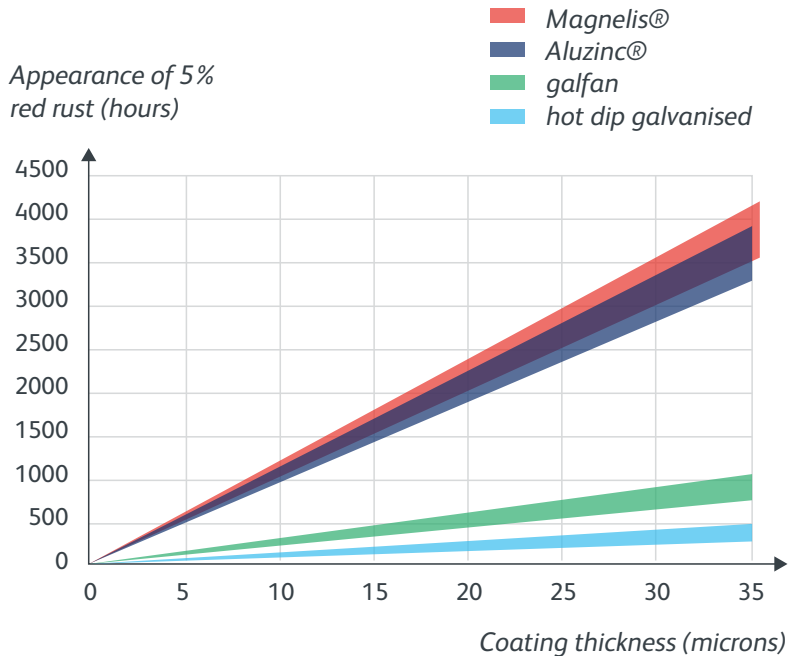
## Highly effective for the petrochemical industry

Aluzinc® has a very high resistance to sulphur (SO<sub>2</sub>) as shown by the Kesternich test, while Zn-Al-Mg coatings exhibit poorer results. This makes Aluzinc® the best product to be used in the petrochemical industry.

Although Aluzinc® corrosion resistance is particularly efficient in acidic environments, its use is not recommended in alkaline ones.

**Source:** ArcelorMittal Metallic Coated Steel  
– User Manuel (2013)

Appearance of 5%  
red rust (hours)



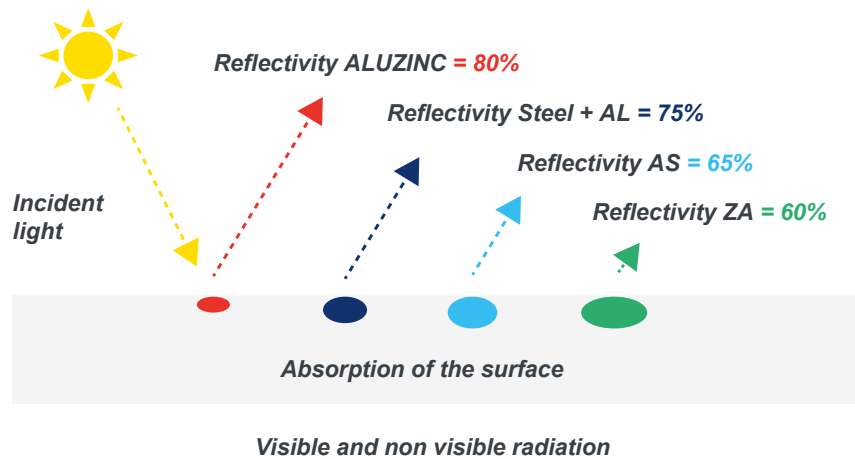
Source: Institute of corrosion (Sweden)

# Excellent protection for construction customers

## Efficient and sustainable roofing

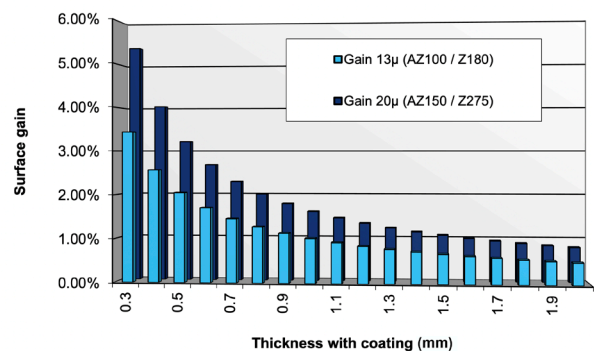
Aluzinc®'s sustainable design optimizes a roof's thermal efficiency. Its long-lasting shine provides excellent and durable reflective properties. An Aluzinc® roof acts as a built-in climate control system and is superior to other zinc-containing coating materials.

Aluzinc® can be used as a heat and sunlight reflector and has got the Energy Star label. The shiny coating appearance doesn't change, even when temperatures reach up to 350°C.



## Yield gain for the same tonnage

Due to the difference in density of the coating (3.75 kg/dm<sup>3</sup> for Aluzinc compared to 7.15 kg/dm<sup>3</sup> for pure zinc coating), customers are able to benefit from more square/linear metres for each purchased ton with the same coating thickness. Moreover, the corrosion resistance is strongly improved.



## Other advantages for construction applications

- Excellent fire resistance without toxic fumes (meets European standard EN 13501-1 A1)
- Surface recommended for use in food storage areas (NF A 36-712-6).
- Highly suitable for bonding, cold forming, cutting, deep drawing, stamping and welding operations.
- 100 % chromium-free and environmentally friendly surface treatments.
- Aluzinc® can be fully recycled.

# Prestigious construction projects need prestigious steel

## Aluzinc® Florelis

Modern architecture demands homogeneity and uniformity, and only the Aluzinc® Florelis range offers the aesthetical effect, combined with exceptional light- and heat-reflecting characteristics needed to create outstanding projects. Aluzinc® Florelis adds a creative touch which transforms a unique building into a remarkable one.

Aluzinc® Florelis guarantees a uniform spangle aspect within a single production batch, ranging between 1,000 and 1,800 spangles per dm<sup>2</sup>.

Creative options for all your roofing needs

## Aluzinc® HFX (High Formability Extended)

HFX, targeted at standing seam roofs and rainwater systems, combines extreme formability with Aluzinc®'s outstanding corrosion resistance. The result is a new standard in roofing, replacing pure-zinc sheets and offering a cost-effective alternative to other metallic solutions.

Furthermore, with this product, our customers can play a more active part in the market for ultra-deep-drawn parts requiring high corrosion resistance such as automotive, household appliances and general industry.



**Sophisa Plant in Besançon (F)**  
Architects : Brigitte Métra and associates



**Galién school in Toulouse (F)**  
Architect : Claude Vasconi



**Standing seam roof and rainwater systems**  
©Lindab & Liberty Dudelange

# General industrial applications

## Zoom on Aluzinc® NSB-Spangle

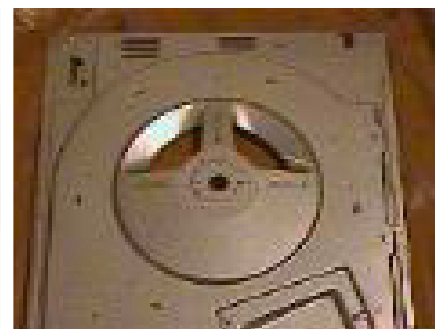
Aluzinc® NSB-spangle is a new range for applications in industry, such as the HVAC market where the silvery spangle aesthetic of Aluzinc® is appreciated. This non-skinpassed product has a guaranteed spangle count of 800 – 2000 spangles/dm<sup>2</sup>.



## Aluzinc® with Sealing Thin Organic Coating

Sealing is an environmentally friendly, transparent chromium-VI free thin organic coating (TOC) continuously applied double-sided on Aluzinc®. Its major role is to:

- Provides a temporary protection during transport and storage against black corrosion for up to six months.
- Withstands fingerprint marks, due to its anti-fingerprint properties.
- Improves forming aptitudes, even without the use of lubricating oils, and helps reduce pick-up on tooling.
- Allows painting, with most paints, without pre-treatment.



# Technical Specification - Metallic Coating Performances Comparison

|                                                  | HDG ZN    | ZA | ZM  | ALUZINC®         |
|--------------------------------------------------|-----------|----|-----|------------------|
| <b>Protection Performance</b>                    |           |    |     |                  |
| SO2 environment (petrochemical environment)      | reference | +  | +   | +++              |
| Acidic environment                               | reference | +  | +   | ++               |
| Chloride environment (marine site)               | reference | +  | +++ | ++               |
| Ammonia environment (industry, farm, greenhouse) | reference | +  | ++  | -                |
| Temporary protection (storage, transport)        | reference | +  | +++ | +++              |
| <b>Aspect And Sustainability</b>                 |           |    |     |                  |
| Long-lasting shiny appearance                    | reference | -  | -   | ++               |
| Spangle                                          | reference | -  | =   | ++               |
| Heat reflectivity                                | reference | +  | =   | ++               |
| Light reflectivity                               | reference | +  | =   | ++               |
| Temperature resistance                           | reference | =  | =   | ++               |
| <b>Processability</b>                            |           |    |     |                  |
| Abrasion resistance                              | reference | =  | =   | +                |
| Aptitude to bending and profiling                | reference | +  | +   | = (with Sealing) |
| Deep drawing                                     | reference | +  | +   | = for HFX        |
| Spot welding                                     | reference | -  | =   | =                |

## Product range

|                                 |                                                                                                                                                                                                 |       |       |       |       |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|
| <b>Aluzinc® coating range</b>   | AZ100                                                                                                                                                                                           | AZ150 | AZ165 | AZ185 | AZ200 |
| Coating thickness (µm per side) | 13                                                                                                                                                                                              | 20    | 23    | 25    | 26    |
| Steel grades                    | DX51D - DX52D - DX53D - DX54D - DX56D - DX54D HFX – DX56D HFX<br>S220GD - S250GD - S280GD - S320GD - S350GD - S390GD - S550GD<br>HX220YD – HX260LAD – HX300LAD – HX340LAD – HX380LAD – HX420LAD |       |       |       |       |
| Surface Aspect                  | A normal spangle - B skin passed – Florelis - NSB controlled spangle                                                                                                                            |       |       |       |       |
| Surface treatment               | C (C-passivation Cr-free) - O (oiled) - CO (passivated + oiled) - S (Sealing – thin organic coating)                                                                                            |       |       |       |       |
| Thickness range                 | From 0,23 to 2mm      For Florelis and NSB, from 0,60 to 1.5mm, to consult                                                                                                                      |       |       |       |       |
| Width range                     | 750 – 1500 mm or slit coils available                                                                                                                                                           |       |       |       |       |

## Contact us

### **LIBERTY Liège-Dudelange**

Rue de la Digue, 22 B-4400 Flémalle  
Belgium

**E:** [ld.sales@libertysteelgroup.com](mailto:ld.sales@libertysteelgroup.com)

For further information visit [www.libertysteelgroup.com](http://www.libertysteelgroup.com)

