



# Aluzinc<sup>®</sup>: corrosion resistance

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ArcelorMittal Dudelange

# Summary

- Aluzinc coating composition
- Aluzinc: corrosion resistance & salt spray test
- 25 year warranty in building (AZ185)
- Typical examples of buildings
- DIN norms (Germany & Sweden)
- Contacts



## ***Aluzinc & Corrosion resistance***

More than 30 years experience in the building sector, with buildings constructed in nearly all the environments from rural, through industrial to coastal areas, the Aluzinc product has shown and proved its outstanding anti-corrosion properties.

This very long-term corrosion resistance is due to the combined action of the aluminium and the zinc.

**The Aluminium protects the steel substrate** by forming a stable barrier between the surface and the atmosphere. The aluminium oxide layer which forms on the surface is insoluble in most environments.

**The Zinc acts in the same way as on galvanized steel**, where the steel is exposed on the edges or through accidental scratching. It corrodes instead of the steel and creates sacrificial cathodic protection.



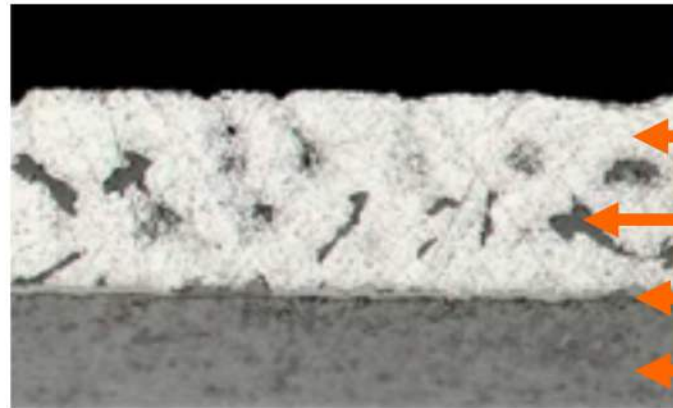
# Aluzinc coating composition

A thin carbon steel sheet coated with an alloy containing:

- 55.0% Aluminium
- 43.4% Zinc
- 1.6% Silicon

**Aluzinc combines:**

- Stability of Aluminium
- Protection of Zinc
- Strength of steel



Aluminium-rich phase

Zinc-rich phase

Intermetallic layer

Steel

# Aluzinc: corrosion resistance

## Salt spray test

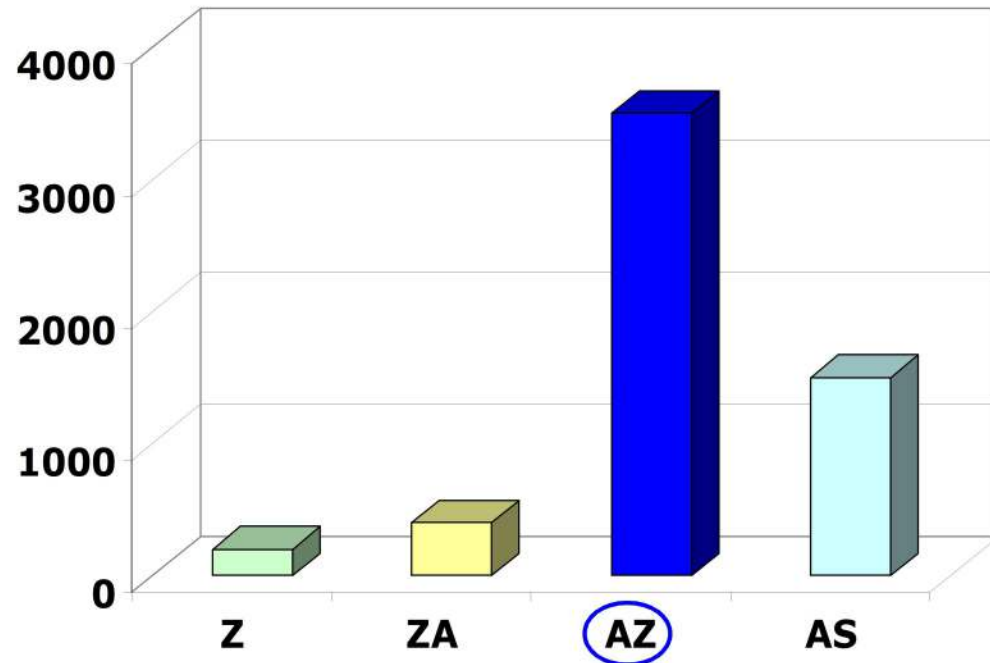
Number of hours for 5% red rust

(Reference standard: ASTM B-117, equivalent DIN 53.167)

### Comparison of the performances of different products

25  $\mu$  coating for the test:

- Z = HDG
- ZA = Galfan
- **AZ = Aluzinc**
- AS = Type1 Aluminized



**25 YEAR WARRANTY FOR NON PERFORATION IN BUILDING APPLICATIONS**

# Aluzinc performance: 25 year warranty in building

The only metallic-coated product to offer a long-term warranty !



The image shows a warranty certificate template with an orange header and a white body. The header contains the text 'Valid for AZ185' and the ArcelorMittal logo. The body contains the Aluzinc logo, a paragraph of text, and a signature line with the text '25 year warranty'.

**Valid for AZ185**  **ArcelorMittal**

**Aluzinc®**

ArcelorMittal Flat Carbon Europe S.A. provides this warranty to

\_\_\_\_\_

hereafter referred to as the "Client"  
relating to the quality of its Aluzinc® AZ185-type coated sheets.  
Subject to the conditions of this document, this warranty covers  
the structural integrity, in other words the non-perforation and  
non-rupture due to corrosion, of Aluzinc® steel sheet coated with  
185 g/m<sup>2</sup> on both sides, used for building purposes both indoors  
and outdoors, for a period of 25 years, from the date of shipping by  
ArcelorMittal Dudelange.

ArcelorMittal Flat Carbon Europe S.A. \_\_\_\_\_ The Client

**25 year warranty**

Aluzinc® - Date \_\_\_\_\_

Warranty automatically provided for building applications.

# Examples of Standards classification: DIN (D) and SITAC (SWE)



**GERMANY**

Norm	DIN 55928-8			
	Klasse I	Klasse II	Klasse III	Klasse IV
Galvanized (20 ou 25 µ)	***	-	-	-
Galfan (20 ou 25 µ)	***	-	-	-
Aluzinc (20 µ)	***	-	-	-
Aluzinc (25 µ)	***	***	***	-
Prelaquered polyester	***	***	***	-



Swedish Institute for Technical  
Approval in Construction

**SWEDEN**

Norm	SITAC EN ISO 12944-2				
	Class 1	Class 2	Class 3	Class 4	Class 5
Galvanized (20 µ)	***	***	-	-	-
Aluzinc (20 µ)	***	***	***	-	-
Aluzinc (25 µ)	***	***	***	***	-
Aluminium	***	***	***	***	-
Stainless	***	***	***	***	***

