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Aluzinc®: corrosion resistance

July 2010

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 aereas, 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.

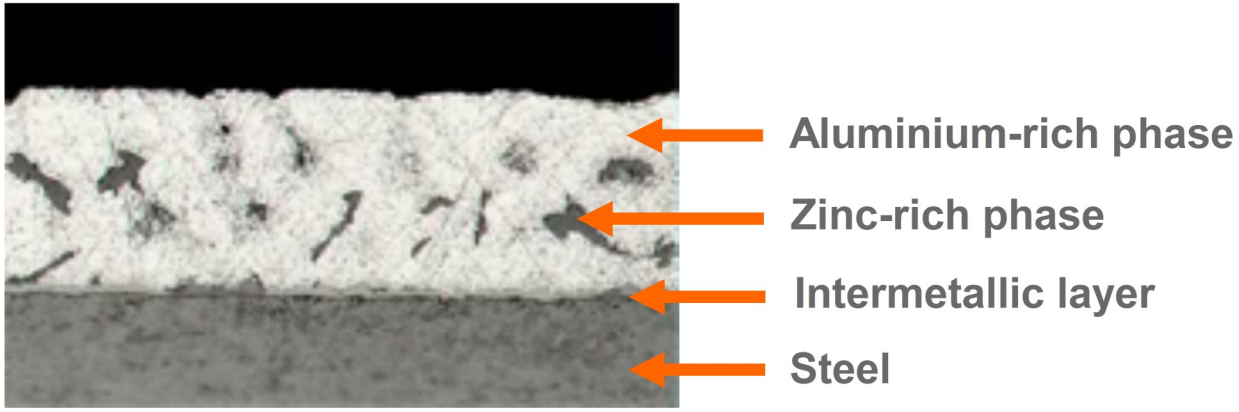
Aluzinc coating composition

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



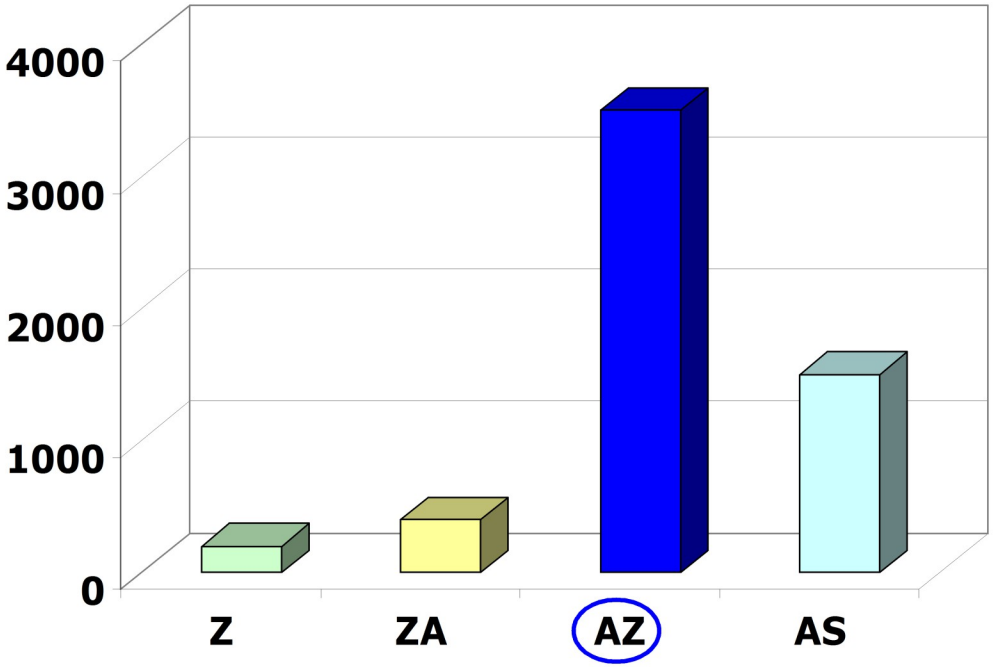
Aluzinc: corrosion resistance
Salt spray test

Number of hours for 5% red rust
(Reference standard: ASTM B-117, equivalent DIN 53.167)

Comparison of the performances of different products

25 µ coating for the test:

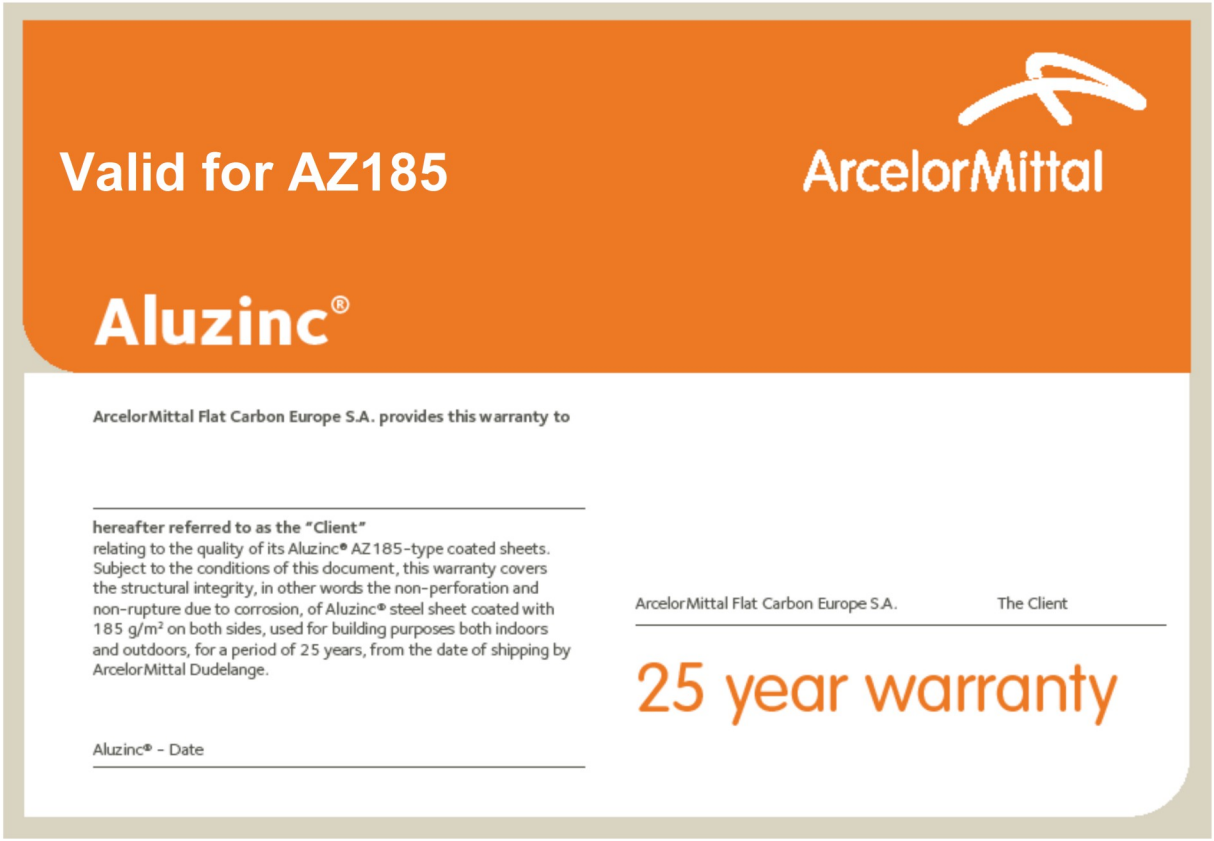
- Z = HDG
- ZA = Galfan
- AZ = Aluzinc
- AS = Type1 Aluminized



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 !



Valid for AZ185

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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/m² 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.

Aluzinc® - Date

ArcelorMittal Flat Carbon Europe S.A. The Client

25 year warranty

Warranty automatically provided for building applications.

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

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DIN

GERMANY

Norm	DIN 55928-8			
Corrosion resistance	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	***	***	***	-

SITAC
Swedish Institute for Technical Approval in Construction

SWEDEN

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

aluzinc