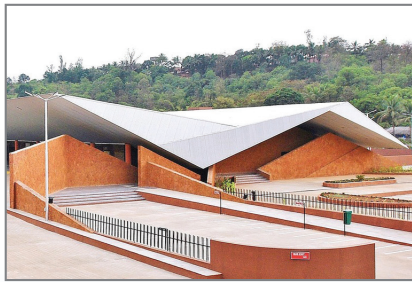


Zincalume®



7 Good Reasons

to believe in ZINCALUME® steel for
Roof & Wall Cladding Application




**TATA BLUESCOPE
STEEL**

Zincalume®

ZINCALUME® steel is one of the world's leading Al-Zn alloy coated steel ideal for roofing, wall cladding and manufacturing alternate applications. Metallic coating of ZINCALUME® steel combines the corrosion protection of aluminium with sacrificial protection of zinc that enhances corrosion resistance. It gives significantly longer service life than the galvanized coating.



Our process accreditations

7 Reasons To Believe So:

1

State-of-the-art Manufacturing Facility

ZINCALUME® steel is one of the world's leading 55% Al-Zn alloy coated steel product, manufactured at Jamshedpur facility with plant capacity of 250,000 tpa. The facility is accredited with ISO9001, ISO14001, ISO45001 certifications- a testimony to its quality and performance. Consistent and superior performance is achieved through the highest degree of automation, process control, an online inspection & testing facility- supported with well-equipped laboratory. Our coating mass control technology is amongst the most advanced in the world. A sophisticated coating mass gauge is linked to a computer in a closed loop control system ensuring accurate control and consistency of coating mass. The consistency in mechanical properties is achieved through precise control in input steel chemistry and in-process parameters.

ZINCALUME® steel has 150 g/m² or 200 g/m² metallic coating distributed equally on both surfaces. It is available in Base Metal Thickness (BMT) ranging between 0.30mm to 1.30 mm and coil widths of 900 to 1250 mm.

It is offered with yield strength of minimum 300 MPa to minimum 550 MPa depending on the application. ZINCALUME® steel complies with AS1397, ASTM A792M, IS 15961 and ISO 9364 standards.



Metallic Coating Line



Molten Bath - Coating Control Systems



Jamshedpur Manufacturing Facility

2

Decades of Proven Performance

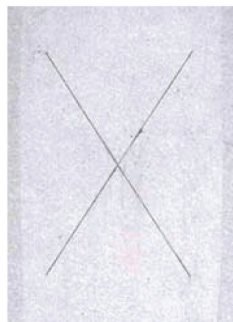
The performance of ZINCLAUME® steel has been rigorously tested at various climatic conditions. Actual performance is known to be better in real world exposure tests than laboratory tests. In fact, for over three decades BlueScope steel (JV partner) company has monitored the product performance across a wide range of climatic conditions using exposure test sites and infield inspections. There are more than thousands of test samples undergoing exposure tests at many test sites in Australia, New Zealand, Asia and now in India (that are more than 2 year old sites).

Tests have demonstrated that corrosion protection of ZINCLAUME® steel can last up to four times longer than corrosion protection provided by traditional Zinc coated steel with similar coating thickness in roofing and wall cladding applications in similar environments conditions.

Salt Spray Test



Galvanised steel
Z275 @ 240 hours
of salt spray testing.



ZINCALUME® steel
AZ150 @ 240 hours
of salt spray testing



ZINCALUME® steel
AZ150 @ 2000 hours
of salt spray testing

Outdoor Exposure Test



Exposure site : Bellambi Point
Australia (Marine)

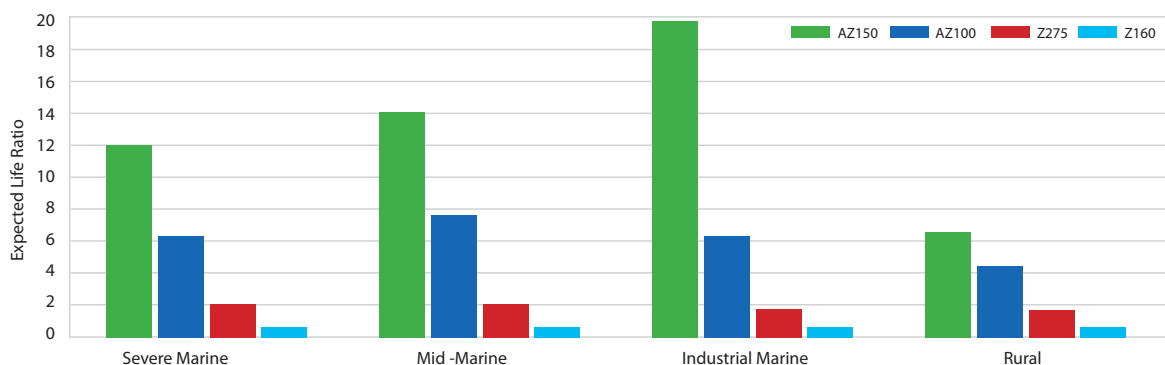
3

A Significantly Longer Lifespan

Launched in 1976, ZINCALUME® steel, was developed after extensive research into improving the traditional performance of galvanised steel. By blending 55% Aluminium with 43.4% zinc & 1.6% Si in an alloy coating, greatly enhance corrosion resistance. As a result, our extensive testing programme indicates that life span of ZINCALUME® steel's with AZ150 is up to four times that of ordinary galvanized steel (Z275) in similar environmental conditions. **ZINCALUME® steel add Extra Life to your Buildings as compared to Z275, Z160 & AZ100.**

Resistance to Atmospheric Corrosion

Expected Life Ratio Comparison of ZINCALUME® AZ150 steel, AZ100 55% Al-Zn Alloy coated steel, Z275 galvanised steel and Z160 galvanised steel



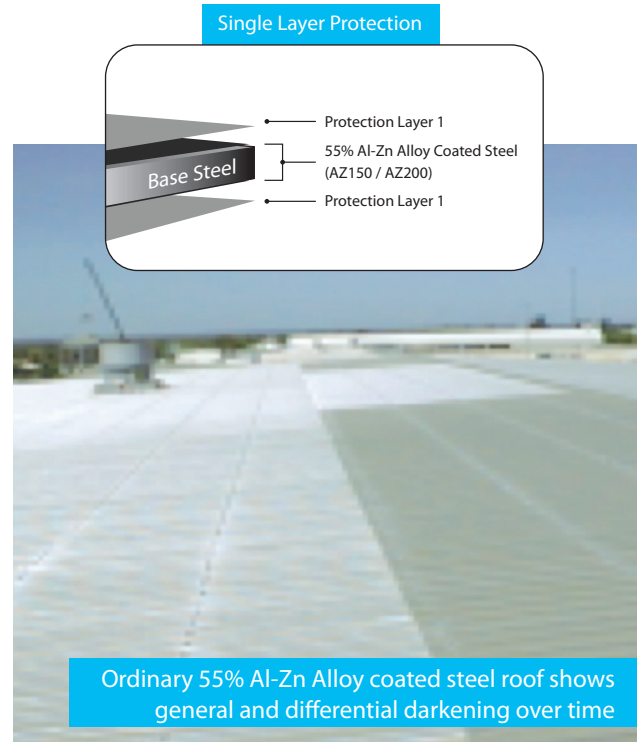
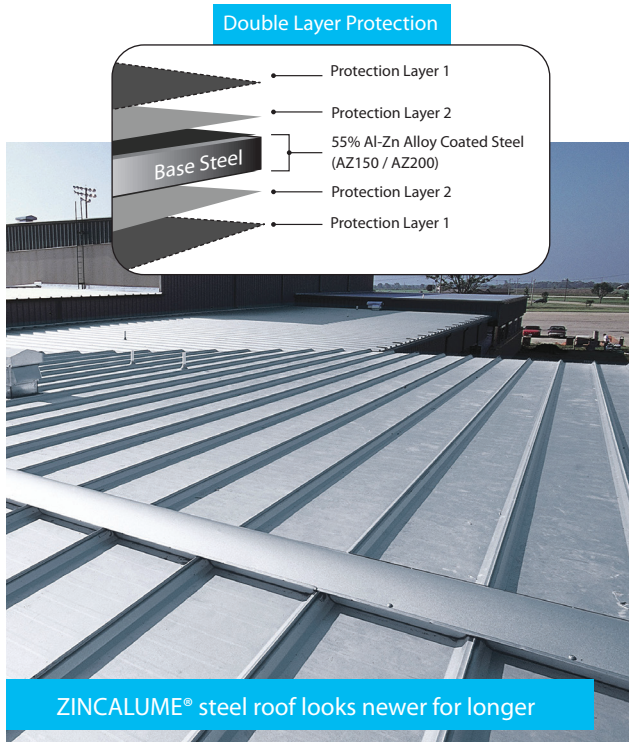
A comparison across various environments highlights -

- ZINCALUME® AZ150 steel has at least 8 times the life of Z160 galvanised steel
- ZINCALUME® AZ150 steel has at least 4 times the life of Z275 galvanised steel
- ZINCALUME® AZ150 steel has at least 2 times the life of AZ100-Al Zn Alloy coated steel (50% increase in coating but 100% increase in life)

4

Anti-Darkening Property helps Aesthetics

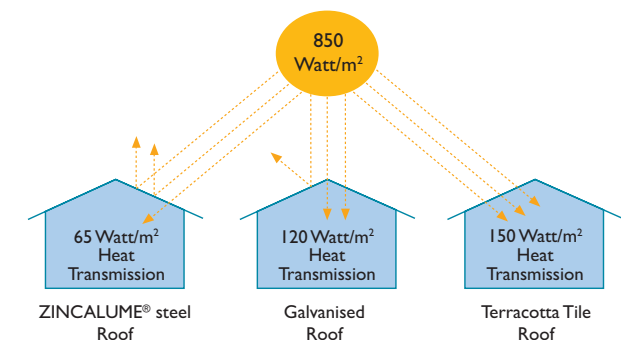
ZINCALUME® steel is manufactured using proven technology and durable surface treatment (coated with special passivation and resin as a separate layer). Excellent long-term exposure performance (rigorously tested in demanding conditions) and thermal reflectivity ensures that your roof and wall cladding looks newer for a longer period of time.



5

Higher Solar Reflectivity

ZINCALUME® steel and galvanised steel perform equally, when new. But as the products weather, the thermal performance of ZINCALUME® steel is far more superior than that of identically weathered galvanised steel. When compared with fibre cement or asbestos, research has revealed an even more comprehensive performance of ZINCALUME® steel from the very first day of roof installation as ZINCALUME® steel is much more effective in keeping the heat out and offering greater thermal comfort in a new building. (SRI Value-57).

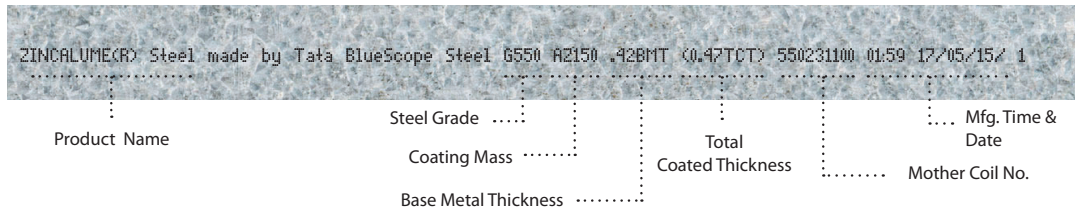


Based on a weather-worn roof where the level of reflectivity had stabilised and which were exposed to solar radiation of 850 W/m²

6

Genuine Product

ZINCALUME® steel is supplied with a brand mark at regular intervals on one reverse of the strip. This assures highest quality, backed by the team of qualified, experienced personnel at Tata BlueScope Steel.



Brandmark on the reverse of ZINCALUME® steel

7

Peace of Mind

When you specify ZINCALUME® steel from Tata BlueScope Steel you can be rest assured that required support is just around the corner. Our team of Technical experts ensure constant support for the correct use and maintenance of our products. ZINCALUME® steel is also backed by a Tata BlueScope Steel Warranty*. With up to four times the lifespan of ordinary galvanised steel, you can be confident that ZINCALUME® steel provides peace of mind for years to come.

*Subject to terms and conditions



Valpoi Bus Stand, Goa

Zincalume®



GE Industrial India Pvt. Ltd., Chakan, Maharashtra

ZINCALUME® steel is recognised by CII Indian Green Building Council (IGBC) as Green Product in Green Building Ratings



Durability



Higher Solar Reflectivity



Assured Performance



A surety of Genuineness



Environment Friendly



Note:

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Technical Data Sheet

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This literature supersedes all previous issues.

Product

ZINCALUME® G550 steel is a hot-dipped Al-Zn alloy coated structural steel with a regular spangle surface and guaranteed minimum yield strength of 550 MPa with limited ductility. Suitable for roll forming to a minimum internal diameter of 4t.

Typical Uses

Roofing, Cladding, Structural sections

Standard*

Certified Standard: IS 15961

Reference Standard : ASTM A 792M, ISO 9364, AS1397

Properties of Steel Base

Mechanical Properties	Guaranteed Minimum
Logitudinal Tensile	
Yield Strength, MPa	550
Tensile Strength, MPa	550
Elongation on 80 mm, %	-

For thickness \geq 0.60 mm

Chemical Composition of Steel Base

Element	Guaranteed Max# (%)
Carbon (C)	0.25
Manganese (Mn)	1.7
Phosphorus (P)	0.050
Sulphur (S)	0.045

Values shown refer to relevant standard unless specifically agreed to

Other elements that are not harmful for the application may be present

Coating Class

Coating Class*	Minimum Coating - Total Both Surfaces, g/m ²	
	Triple Spot Test	Single Spot Test
AZ150	150	135
AZ200	200	180

Coating Adhesion - 180° Bend Test

Coating Class	Guaranteed Minimum
AZ150 / AZ200	2t

Dimension Range & Tolerances

Base Metal Thickness (mm)		
Range	Tolerance	
	Width \leq 1200	Width $>$ 1200
0.30 - 0.50	\pm 0.03	\pm 0.04
0.51 - 0.80	\pm 0.04	\pm 0.05
0.81 - 1.20	\pm 0.05	\pm 0.06
$>$ 1.20	\pm 0.06	\pm 0.07

Width (mm)	
Range	Tolerance
$<$ 900 (in slit edge)	+1 / -0
914 - 1000	+ 4 / - 0
1001 - 1250	+ 5 / - 0

**For requirements beyond the standard product range & tolerance, please contact Tata BlueScope Steel Office

Fire Hazard Properties (AS/NZS 1530.3)

Index	Range	Rating
Ignitability Index	0-20	0
Spread of Flame Index	0-10	0
Heat Evolved Index	0-10	0
Smoke Developed Index	0-10	0-1

Supply Conditions

Supply Condition	Normal	Optional
Coating Class	AZ150*#	AZ200*##
Surface Condition	Spangled	-
Surface Treatment	Passivated and Resin coated	Passivated and Resin coated
Branding	Branded	Branded
Flatness Tolerance***	A Class	A Class

* Metallic coating of minimum 150 g/m², ** Metallic coating of minimum 200 g/m², *** Dimensional and shape tolerances as per IS/ISO 16163
where 1 = limited to 5 = excellent, NR = not recommended

Fabrication Performance

Method	Rating#	Method	Rating#
Drawing	-	Lock Forming/ Seaming	NR
Pressing	-	Welding	4
Bending	1	Painting	NR
Roll-forming	3		

where 1 = limited to 5 = excellent, NR = not recommended

Material should be used promptly (within 6 months) to avoid the possibility of improper storage related corrosion & change in performance due to ageing

Typical Property Ranges (For Normal Supply Product)

	Yield Strength (MPa)	
	Minimum	Maximum
0.35	580	710
0.42	570	700
0.60	560	700
1.00	550	670
1.20	550	650
	Tensile Strength (MPa)	
0.35	600	790
0.42	590	770
0.60	590	760
1.00	580	700
1.20	580	680
	Total Elongation on 80 mm (%)	
0.35	1	3
0.42	1	4
0.60	2	7
1.00	2	8
1.20	4	11

Note:

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