

# STEEL Fact File

An information source for design professionals

## FF3 – Clean COLORBOND™ steel vs prepainted galvanised

CC Version 1 July 2008

### Fast Facts

- Both products have a high degree of formability
- ZINCALUME® steel typically provides up to four times the service life of galvanised steel
- Galvanised steel relies mainly on sacrificial protection to resist corrosion
- ZINCALUME® steel employs a combination of both barrier and sacrificial protection

### Behind the Facts

#### Q. What is prepainted steel?

A. A prepainted metallic coated steel product consists of several components. Each of these components contributes a key role to the overall performance of the product. In simple terms, a prepainted metallic product's three key components are the steel substrate, the metallic coating and the paint coating.

The principal function of the steel substrate is to provide the product's strength and the principal function of the metallic coating is to provide the product's corrosion resistance.

The principal function of the paint applied to the product is to provide aesthetic appeal.

#### Q. What is Clean COLORBOND™ steel?

A. Clean COLORBOND™ prepainted steel combines the best of modern steel making technologies, developed over decades by BlueScope Steel. Its ZINCALUME® steel base has a zinc/aluminium alloy coating that delivers outstanding anti-corrosion performance. A conversion layer applied to the surface of the steel improves adhesion for a polyester primer baked onto the surface before a specially developed, exterior grade top coat is also baked on to ensure maximum resistance to chipping, peeling and cracking.

The latest Clean COLORBOND™ steel innovation is BlueScope steel's own I.P protected super polyester formulation, ensuring the painted finish retains its "as new" look for longer.



#### Q. What impact does the paint have on the overall life of a prepainted metallic coated product?

A. While it is generally recognised that the paint applied to metallic coated steel will offer a further barrier coating on top of the metallic coating, the key driver of the prepainted steel's overall product life is the type and quantity of metallic coating.

#### Q. How does Clean COLORBOND™ steel compare to prepainted galvanised steel?

A. As explained in Steel Fact File No. 2, the two most common metallic coating types are galvanised and ZINCALUME® steel's zinc-aluminium alloy coating. It is the combination of the coating type and the quantity applied to the steel substrate that determines the overall life of a prepainted steel product in any given environment.



The superior corrosion resistance of Clean COLORBOND™ steel's zinc/aluminium alloy coating is derived from both the nature of the protective film which forms on the surface, and having sufficient zinc available in active form to provide sacrificial protection to cut edges – especially in the lighter thicknesses common in building applications.

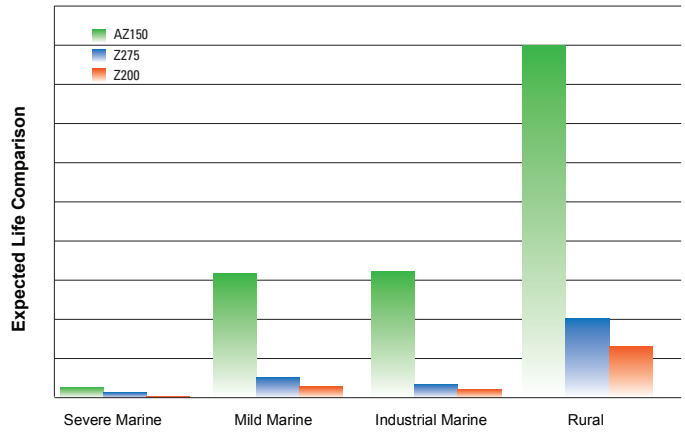
Tests have demonstrated that ZINCALUME® steel corrosion protection can last up to four times longer than corrosion protection provided by traditional zinc coated steels in roofing and walling applications in identical environments.

Coupled with the latest enhancements in prepainted coating technology, Clean COLORBOND™ steel's new Super Polyester, proven by extensive exposure testing, will help keep your buildings looking newer for longer.

Only BlueScope Steel makes Clean COLORBOND™ steel. Other products may look the same, but they don't always match the performance of genuine Clean COLORBOND™ steel.

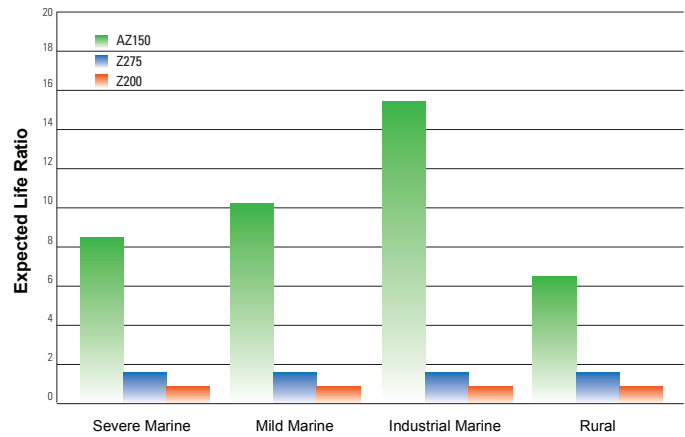
### Resistance to Atmospheric Corrosion

Expected Life Comparison of :- ZINCALUME® AZ150, with galvanised Z275, and Z200 Coating Mass



The coating life expectancy of ZINCALUME® AZ150 steel compared to Z275 galvanised and Z200 galvanised steel after exposure at East Coast Australia test sites ranging from rural to severe marine.

Expected Life Ratio Comparison of :- ZINCALUME® AZ150, and galvanised Z275, and Z200 Coating Mass



This graph shows the relative differences in expected life of three products. Namely, ZINCALUME® AZ150 steel as well as a Z275 galvanised steel and a Z200 galvanised steel.

A comparison across the various test sites shows that :-

- ZINCALUME® AZ150 steel has at least 6 times the life of Z200 galvanised steel
- ZINCALUME® AZ150 steel has at least 4 times the life of Z275 galvanised steel

### BlueScope Steel

Copyright 2008 BlueScope Steel Limited  
 BlueScope Steel Limited ABN 16 000 011 058  
 BlueScope Steel (AIS) Pty Ltd ABN 19 000 019 625

BlueScope Steel Southern Africa (Pty) Ltd  
 Phone: +27 21 442 5420  
 Fax: +27 21 448 9132