Steel roofing products – selection guide

INTRODUCTION
This Technical Bulletin serves as a guide to selecting the most appropriate BlueScope product for your roofing needs considering its intended location and the environmental factors likely to be encountered during its service life. Selecting the correct product for the location will contribute to ensure that your roof achieves a long service life.

The ability of COLORBOND® prepainted steel and ZINCALUME® aluminium/zinc/magnesium alloy-coated steel with Activate® metallic coating technology to excel in the climatic conditions of Australia is the result of the advanced coating technologies applied to the base steel strip. Below is a brief description of BlueScope’s roofing products.

**ZINCALUME® steel**
Aluminium/zinc/magnesium alloy-coated steel strip (Type AM as per AS1397-2011: Continuous hot-dip metallic coated steel sheet and strip – Coatings of zinc and zinc alloyed with aluminium and magnesium).

**COLORBOND® steel**
Combines an aluminium/zinc/magnesium alloy-coated steel substrate with a range of factory applied paint systems to cope with exposure to various environments.

**COLORBOND® steel – for exterior roofing.**
**COLORBOND® Coolmax® steel** – for superior thermal efficiency.

**COLORBOND® Metallic steel** – for an aesthetically distinctive ‘metallic’ effect.

**COLORBOND® Ultra steel** – for severe exterior environments.

**COLORBOND® Stainless steel**
Incorporates a stainless steel substrate with factory applied paint systems and is suited to very severe exterior environments.

**ATMOSPHERIC EXPOSURE CONDITIONS**
BlueScope has strategically positioned long term exposure test facilities across a range of climatic conditions that have allowed decades of testing and monitoring of our products in some of the harshest environments. The wealth of data accumulated from these sites has allowed BlueScope to develop products and provide product recommendations suitable for a given location. Localised environmental conditions will impact the corrosive nature of a particular site which may alter recommendations. Such conditions include the direction of prevailing winds, amount of rainfall, time of wetness, temperature, shelter and areas not naturally washed by rainfall. The following environmental descriptions and Table 1 (below) are therefore intended to serve as a GUIDE ONLY and it is essential to consult with Steel Direct for advice on the most suitable choice of product.

**MARINE INFLUENCE**
Table 1 provides an indication of suitable products where the corrosive factor is a marine influence e.g. breaking surf, exposed marine or calm marine.

### Table 1: Recommended BlueScope product guide for roofing in marine environments

<table>
<thead>
<tr>
<th>RECOMMENDED ROOFING PRODUCTS</th>
<th>DISTANCE FROM BREAKING SURF OR EXPOSED MARINE</th>
<th>DISTANCE FROM CALM MARINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZINCALUME® steel</td>
<td>&gt; 200m</td>
<td>&gt; 100m</td>
</tr>
<tr>
<td>COLORBOND® steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COLORBOND® Coolmax® steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COLORBOND® Metallic steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COLORBOND® Ultra steel</td>
<td>&gt; 100m</td>
<td>&gt; 0m</td>
</tr>
<tr>
<td>COLORBOND® Stainless steel</td>
<td>&gt; 0m</td>
<td>&gt; 0m</td>
</tr>
</tbody>
</table>

i. Absolute performance is subject to local conditions including, but not limited to, prevailing winds, and presence of unwashed areas.

ii. Distance is as measured from the high water/tide mark.

iii. Table 1 applies to salt marine influences only. For installations subject to severe or heavy industrial conditions or internal humidity, it is essential to contact Steel Direct for advice on suitable products.

INDUSTRIAL INFLUENCE
The range of COLORBOND® steel and ZINCALUME® steel products quoted in Table 1 are suitable for light industrial applications. For industrial buildings the internal activities and external environment of the building must be considered. Where the roof sheeting, either internally and/or externally, is subject to heavy dust, emissions fallout, contact with heat, moisture, corrosive chemicals or acids etc, it is essential to consult Steel Direct for advice on suitable products to use. Likewise, any site immediately adjacent to such activity should also be referred to Steel Direct for specific recommendations on suitable products. In addition, the concentration and nature of industrial activity and the effects of the combustion of fossil fuels must also be considered in some localities, whilst the direction, intensity and nature of prevailing winds will also exert an influence.

UNUSUALLY HARSH INTERNAL SERVICE CONDITIONS
There are many activities carried out in sheds and industrial buildings that have a severe impact on metals and steel products. In some instances, COLORBOND® steel and ZINCALUME® steel products are unsuitable due to the micro environment within the building. Information on some common applications can be found in the following Corrosion Technical Bulletins:
- Corrosion Technical Bulletin CTB-21
- Corrosion Technical Bulletin CTB-22
- Corrosion Technical Bulletin CTB-28

FASTENERS AND ACCESSORIES
To support product longevity, information should be sought on the correct choice of fasteners, accessories, and good storage and handling practice. Please refer to:
- Technical Bulletin TB-7
- Technical Bulletin TB-13
- Technical Bulletin TB-16
- Technical Bulletin TB-28

THERMAL EFFICIENCY
Properly insulated steel roofing has inherent thermal efficiency benefits due to its low thermal mass. ThermaTech® solar reflectance technology provides further thermal efficiency benefits and is incorporated in COLORBOND® steel standard and matt finish colours (except for Night Sky®) and COLORBOND® Ultra steel standard colours. COLORBOND® Coolmax® steel has also been developed specifically for high solar reflectance. These technologies are designed to reflect more of the sun’s heat on hot, sunny days and may help reduce cooling costs.

For more information please refer to:
- Technical Bulletin TB-28 Building materials, thermal efficiency and reflectivity

RELATED BLUESCOPE TECHNICAL BULLETINS
- Technical Bulletin TB-7
- Technical Bulletin TB-13
- Technical Bulletin TB-16
- Technical Bulletin TB-28

To ensure you have the most current Technical Bulletin steel.com.au
1800 800 789
steeldirect@bluescopesteel.com
If you have any questions regarding this Bulletin, contact Steel Direct

1. Activator® technology is not available for COLORBOND® Stainless steel or COLORBOND® steel products with a galvanised substrate. 2. COLORBOND® Coolmax® steel is only available in the colour Whitehaven®. 3. ThermaTech® technology is not available in Night Sky®, or non-standard colours, and is not available in COLORBOND® Stainless steel, COLORBOND® Metallic steel, or COLORBOND® Coolmax® steel. Results will depend on roof colour, level and location of insulation, type and location of building shape and function. * Warranties are subject to exclusions, application and eligibility criteria. For full terms and conditions and to determine the eligibility of your product for the warranty visit www.bluescopesteel.com.au/warranties or contact Steel Direct. The information and advice contained in this Technical Bulletin (‘Bulletin’) is of a general nature only and has not been prepared with your specific needs in mind. You should always obtain specialist advice to ensure that the materials, approach and techniques referred to in this Bulletin meet your specific requirements. BlueScope makes no warranty as to the accuracy, completeness or reliability of any estimates, opinions or other information contained in this Bulletin and to the maximum extent permitted by law, BlueScope disclaims all liability and responsibility for any loss or damage, direct or indirect, which may be suffered by any person acting in reliance on anything contained in or omitted from this Bulletin. COLORBOND®, ZINCALUME®, ThermaTech®, Coolmax®, Whitehaven®, Activator®, BlueScope and the BlueScope brand mark are registered trademarks of BlueScope Limited. © 2020 BlueScope Limited ABN 16 000 011 058. All rights reserved.