

Steel walling products – selection guide

INTRODUCTION

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

The ability of COLORBOND® prepainted steel and ZINCALUME® aluminium/ zinc/magnesium alloy coated steel with Activate® metallic coating technology¹ 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 walling 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 walling.
- COLORBOND® Metallic steel – for superior aesthetic qualities.
- COLORBOND® Ultra steel – for severe exterior environments.

Table 1: Suitable BlueScope product guide for walling in marine environments

RECOMMENDED WALLING PRODUCTS	DISTANCE FROM MARINE INFLUENCE
ZINCALUME® steel	>1km (for commercial and industrial applications)
COLORBOND® steel	>1km
COLORBOND® Metallic steel	>1km (for commercial and industrial applications) >2km (for residential applications)
COLORBOND® Ultra steel	>500m
COLORBOND® Stainless steel	>0m

NOTE:

- 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.

COLORBOND® Stainless steel

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

PERFORMANCE OF STEEL WALLING

Like steel roofing (please refer to: [Technical Bulletin TB-1A](#)

Steel roofing products - selection guide) the performance of steel walling can be influenced by a number of factors, including the environment, particularly its proximity to a salt marine influence. Typically, walling experiences less natural washing by rainfall when compared to roofing, which has influenced product recommendations.

Table 1 serves as a GUIDE ONLY for the selection of a walling product for your location. In combination with a REGULAR 6 MONTHLY MAINTENANCE PROGRAM, this should provide optimum performance and longevity.

UNWASHED AREAS

A common issue in the case of walling is in areas not naturally washed by rainfall, known as "unwashed areas". Since walls are vertical surfaces, they can be sheltered from general rain washing, particularly towards the top of the wall, adjacent to overhanging eaves. In these regions dust and dirt, that would otherwise be washed away by rain, tends to build up. Condensation can be absorbed by the dust and dirt leading to an increase in the time that the material is in contact with sufficient moisture to initiate corrosion (i.e. time of wetness). The associated effects of these unwashed areas

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can be accelerated in the vicinity of a salt marine influence, when the build-up of dust and dirt includes marine salts, and/or other pollutants (e.g. industrial fall out), unwashed area corrosion is further exacerbated. The potential for corrosion to occur in unwashed areas can be reduced by regular washing with fresh clean water.

DESIGN

To improve the thermal efficiency of a building, modern building design often incorporates large overhanging eaves, verandas and walkways in combination with walling made with COLORBOND® steel and/or ZINCALUME® steel. It is important for a designer to recognise that the inclusion of such overhanging features will create unwashed areas. Where unwashed areas are created, selecting a suitable product (refer to Table 1) and implementing a regular maintenance regime will aid in the longevity of the walling product. Wall cladding installed with the formed profile in a horizontal orientation creates inherent unwashed areas which may hold dust and dirt. Accordingly, a more regular maintenance program than quoted may be required.

Consideration also needs to be given to ensuring that the wall cladding is installed in such a way that it is not immersed in concrete, dirt, soil or other moisture retaining substances. Ensuring a free drip edge is achieved on the bottom edge of the walling so that water is allowed to drain freely away from the entire walling surface is also important. More information can be found on the above topics in the following Technical Bulletins:

Technical Bulletin TB-13

General guide to good practice in the use of steel roofing and walling products

Corrosion Technical Bulletin CTB-16 Immersion

MAINTENANCE, FASTENERS AND ACCESSORIES

Maintenance, in the form of regular washing with clean fresh water, should be performed at 6-month intervals. 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-4

Maintenance of COLORBOND® steel and ZINCALUME® steel

Technical Bulletin TB-7

Care of BlueScope coated steel products during transport and storage

Technical Bulletin TB-13

General guide to good practice in the use of steel roofing and walling products

Technical Bulletin TB-16

Fasteners for roofing, walling and accessory product – selection guide

THERMAL EFFICIENCY OF STEEL WALLING

Properly insulated steel walling has inherent thermal efficiency benefits due to its low thermal mass.

Thermatech® solar reflectance technology² 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.

This technology is designed to reflect more of the sun's heat on hot, sunny days.

For more information on Thermatech® solar reflectance technology, as well as other notes on thermal efficiency, please refer to:

Technical Bulletin TB-28

Building materials, thermal efficiency and reflectivity

RELATED BLUESCOPE TECHNICAL BULLETINS

Technical Bulletin TB-1A

Steel roofing products – selection guide

Technical Bulletin TB-4

Maintenance of COLORBOND® steel and ZINCALUME® steel

Technical Bulletin TB-7

Care of BlueScope coated steel products during transport and storage

Technical Bulletin TB-13

General guide to good practice in the use of steel roofing and walling products

Technical Bulletin TB-14

Professional's guide to Australian Standards for steel sheet and strip products

Technical Bulletin TB-16

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Technical Bulletin TB-28

Building materials, thermal efficiency and reflectivity

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Immersion

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If you have any questions regarding this Bulletin, contact Steel Direct



1. Activate® technology is not available for COLORBOND® Stainless steel or COLORBOND® steel products with a galvanised substrate. 2. Thermatech® technology is not available in Night Sky®, or non-standard colours, and is not available in COLORBOND® Stainless steel or COLORBOND® Metallic 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 Steel Limited 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 Steel Limited 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®, Activate®, BlueScope and the BlueScope brand mark are registered trademarks of BlueScope Steel Limited. © 2019 BlueScope Steel Limited ABN 16 000 011 058. All rights reserved.