

Fasteners for roofing, walling and accessory product – selection guide

Introduction

Fasteners used to fix roofing, walling and accessory products manufactured from coated steel sheet and strip are required to give long, trouble-free service. They must do so in environments which range from mild to very severe in terms of corrosive effect.

The purpose of this Technical Bulletin is to provide recommendations of compatible fasteners, most commonly self-drilling screws, for use with roofing, walling and accessory products made from BlueScope coated steel.

Choice of fastener for long life

The correct selection of fastener for fixing roof and wall cladding and accessories is of paramount importance for long term fastening integrity and aesthetics.

When fasteners are selected to fix coated steel building products, it is vital that the fasteners have the same or superior service life as the material with which they are to be used. Table 1 below provides a general guide to the fastener type recommended for various BlueScope products. In areas of uncertainty, it is advisable to use fasteners with a higher corrosion resistance rating.

BlueScope does not manufacture fasteners and does not control the quality of any given fastener type. Consumers should obtain written confirmation from suppliers that their fasteners are suitable for the intended application and service environment.

To assist in cladding selection please refer to the list of related BlueScope Technical Bulletins at the end of this document.

Fastener types and compatibility

Materials that are incompatible and must not be used with COLORBOND® steel and ZINCALUME® steel include stainless steel, copper and copper containing alloys.

Similarly, copper and copper containing alloys are incompatible with SUPERDURA® Stainless steel and are not to be used. Use only stainless steel fasteners with SUPERDURA® Stainless steel.

For more information, please refer to:

[Corrosion Technical Bulletin CTB-12 Dissimilar metals.](#)

There are two fastener designs to be considered for use with BlueScope products:

1. Self-drilling screws

- Used for fastening cladding to a building structure.
- Use only compatible metallic coated steel screws with COLORBOND® steel, COLORBOND® Ultra steel, COLORBOND® Coolmax® steel, ZINCALUME® steel and zinc-coated steel (as per Table 1).
- Use only stainless steel screws with SUPERDURA® Stainless steel (as per Table 1).

2. Accessory fasteners

- Used for fastening accessory items such as flashings.
- Use only compatible metallic coated steel self-drilling stitching screws with COLORBOND® steel, COLORBOND® Ultra steel, COLORBOND® Coolmax® steel, ZINCALUME® steel and zinc-coated steel (as per Table 1).
- Use only compatible sealed aluminium rivets with COLORBOND® steel, COLORBOND® Ultra steel, COLORBOND® Coolmax® steel, ZINCALUME® steel and zinc-coated steel.
- Use only sealed stainless steel rivets or stitching screws with SUPERDURA® Stainless steel.

The coated steel strip supplied by BlueScope for manufacturing into roofing, walling and accessory products is made to the highest standard and conforms to all relevant Australian Standards.

BlueScope will not accept any liability for performance concerns resulting from the use of inappropriate and/or incompatible materials.

In addition, BlueScope accepts no liability in relation to the durability performance of any fastener or fastener coating.

Table 1. Fastener materials for use with products manufactured from BlueScope coated strip and sheet products

Minimum recommended fastener type (ISO 9223:2012 / AS 4312:2019 corrosivity category)	Environment severity	Distance from marine influence
Metallic coated screws suitable for corrosivity category 3	Mild / Moderate	> 1 km
Metallic coated screws suitable for corrosivity category 4	Moderate / Industrial / Severe Marine	0 – 1 km
Stainless steel screws (for use with SUPERDURA® Stainless steel only)	Very Severe Marine / Industrial	0 km

- This table is to be considered in conjunction with ISO 9223:2012 and AS 4312:2019
- The correct selection of product and fastener combination should be made with respect to the intended application of the product and its location.
- All fasteners used should have an equivalent, or superior, service life and must be compatible with the selected BlueScope product.

Washers used with fasteners

The washer component of self-drilling screws must be manufactured from materials compatible with the roofing, walling and accessory material.

Washers containing significant levels of conductive carbon black fillers are **NOT** suitable for use with COLORBOND® prepainted steel, SUPERDURA® Stainless steel or ZINCALUME® aluminium/zinc/magnesium alloy coated steel products. Therefore, fasteners must be assembled with washers substantially free of carbon black fillers i.e. non-conductive.

It is advisable to ask for a certificate of compliance from your fastener supplier, or similar statement, regarding washer conductivity.

Fixing the sheeting

In accordance with Section 4.7 of Australian Standard AS 1562.1:2018 *Design and installation of sheet roof and wall cladding – PART 1: Metal*, unless otherwise specified, all fasteners shall be installed normal to the plane of the roof or wall, and all fasteners that pierce the cladding shall be provided with adequate sealing to prevent leakage.

- Crest fasteners: shall be tightened no more than is necessary to form a weatherproof seal without deformation of the sheet profile or damage to the sealing systems (refer Figure 1 below).
- Valley fasteners: care shall be taken to ensure an adequate seal to prevent leakage, particularly where valley fasteners are used in roofing applications.
- Fastener length selection should be appropriate for the profile and insulation detail to ensure the correct screw setting depth is achieved for the relevant batten material.

Figure 1. Correct tightening (driving) of fastener



Fastener shank corrosion

In certain environments the fastener may be exposed to a greater risk of corrosion as a result of location, building design or specific internal environments (e.g. high condensation, intensive animal farming etc.). In such cases, consideration should also be given to corrosion protection of the exposed fastener shanks.

Related BlueScope Technical Bulletins

[Technical Bulletin TB-1A](#) Steel roofing – product selection guide

[Technical Bulletin TB-1B](#) Steel walling – product selection guide

[Technical Bulletin TB-8](#) Flashing materials for exterior BlueScope coated steel products

[Technical Bulletin TB-13](#) General guide to good practice in the use of exterior BlueScope coated steel products

[Technical Bulletin TB-14](#) Professionals' Guide to Australian Standards for steel sheet and strip products

[Technical Bulletin TB-15](#) Selection and use of steel eave, gutter, downpipe and fascia products

[Technical Bulletin TB-35](#) Australian salt marine classifications

[Corrosion Technical Bulletin CTB-12](#) Dissimilar metals

Referenced Australian Standards

AS 1562.1:2018 *Design and installation of sheet roof and wall cladding – Metal*

AS 4312:2019 *Atmospheric corrosivity zones in Australia*

Referenced International Standards

ISO 9223:2012 *Corrosion of metals and alloys – Corrosivity of atmospheres - Classification, determination and estimation*

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