

Selection and use of steel gutter, downpipe and fascia products

INTRODUCTION

This Technical Bulletin serves as a guide to selecting the most appropriate BlueScope product for your gutters, downpipes and fascia, considering its intended location and the environmental factors likely to be encountered during its service life.

The ability of next generation COLORBOND® prepainted steel and ZINCALUME® aluminium/zinc/magnesium alloy coated steel with Activate® 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 gutter, downpipe and fascia products.

ZINCALUME® steel with Activate® technology – for exterior applications.

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

COLORBOND® steel with Activate® technology

Combines a metallic coated steel substrate with a range of factory applied paint systems to cope with exposure to various environments.

- **COLORBOND® steel, COLORBOND® Coolmax® steel, COLORBOND® steel Matt** – for exterior applications.
- **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.

These products comply with Australian/ New Zealand Standard AS/NZS 4020:2005 – *Testing of products for use in contact with drinking water*, and the benefits can be maximised by correct product selection and proper treatment by all trades handling the products.

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 any given location.

Localised environmental conditions may change the corrosive nature of a particular site, which may alter recommendations. Such conditions include the proximity to salt marine influence or industrial pollution, the direction of prevailing winds, amount of rainfall, time of wetness, temperature range, shelter and areas not naturally washed by rainfall. Table 1 provides a general guide to product performance where the corrosive factor is a salt marine influence, the table is therefore intended to serve as a **GUIDE ONLY**. It is essential to consult with BlueScope Steel Direct for advice on the most suitable choice of COLORBOND® steel and ZINCALUME® steel product.

COLORBOND® steel and ZINCALUME® steel are suitable for gutters, downpipes and fascia in light industrial applications, providing they are not subject to severe environmental conditions. Where the gutters, downpipes and fascia are subject to heavy fallout, acid or alkali laden air, or other corrosive chemicals, consult BlueScope Steel Direct for

advice on the correct product for the conditions. For further information on environment conditions, refer to **Technical Bulletin 1a Steel Roofing Products - Selection Guide**

BlueScope Steel recommends the use of COLORBOND® steel and ZINCALUME® steel rather than zinc-coated steel in gutter, downpipe and fascia applications. Zinc-coated steel gutters, downpipes and fascia can suffer premature corrosion when used in conjunction with traditional roofing materials such as COLORBOND® steel and ZINCALUME® steel, glazed terracotta tiles, fibreglass, and aluminium decking, which are “inert catchments”. For further information refer to **Corrosion Technical Bulletin CTB-25 Inert Catchment**.

SITE STORAGE BEFORE BUILDING

Steel roofing and walling products must be kept dry during transit and storage. Failure to do so can result in moisture being drawn by capillary action into closely packed bundles that can cause irreparable damage and a significantly reduced service life.

This of course is not just confined to steel sheet but applies to other premium building products. Dry site storage must always be a consideration with most building materials.

For more complete details, refer to **Technical Bulletin TB-7 Care of BlueScope Coated Steel Products during transport and storage**.

Table 1: Recommended Gutter, Downpipe and Fascia products for marine environments

RECOMMENDED GUTTER, DOWNPIPE & FASCIA PRODUCT	DISTANCE FROM SALT MARINE INFLUENCE
ZINCALUME® steel COLORBOND® steel COLORBOND® Coolmax steel COLORBOND® steel Matt	>200m
COLORBOND® Ultra steel	>100M
COLORBOND® Stainless steel	>0m

HANDLING STEEL GUTTER, DOWNPIPE & FASCIA PRODUCTS ON SITE

Ensure appropriate safety precautions are taken when handling steel gutter, downpipe and fascia products on site.

Given the outdoor nature of these building applications, it is recommended that suitable precautions be taken to prevent personal sun damage. It has been found that sunscreens containing semi-conducting metal oxides such as titanium dioxide (TiO₂) and zinc oxide (ZnO) can accelerate the degradation of organic materials, including paint systems.

For personal safety, and to protect the surface of COLORBOND® steel, it is recommended to:

- wear clean, dry, cut-resistant gloves that are suitable for the task;
- take suitable precautions against personal sun damage; and
- prevent contact of the painted surface with sunscreens that contain titanium dioxide (TiO₂) and zinc oxide (ZnO).

INSTALLATION

Good gutter, downpipe and fascia performance requires adherence to the following simple guidelines during installation:

Acid Cleaning of Brickwork

Acid used for cleaning bricks can corrode gutters, downpipes and fascia as well as stain the painted finish.

Where possible, it is recommended that acid cleaning of brickwork be performed prior to the installation of gutters, downpipes and fascia. Where this is not possible, gutters, downpipes and fascia should be masked to prevent contact with acid. For more information, refer to [Corrosion Technical Bulletin CTB-15 Acid Cleaning Brickwork](#).

Fasteners and Accessories

Ensure correct fasteners and accessories are always used to avoid premature corrosion of gutters, downpipes and fascia.

It is recommended that fasteners and accessories are compatible with, and offer equivalent service life to, the gutter, downpipe and fascia components. Fasteners and accessories must comply with Australian/New Zealand Standard AS/NZS 2179.1:1994

Specifications for rainwater goods, accessories and fasteners – Metal shape or sheet rainwater goods, and metal accessories and fasteners. Where using rivets, BlueScope recommend the use of sealed blind rivets to ensure the system is watertight. Rivets should be manufactured from aluminium when fastening COLORBOND® Ultra steel, COLORBOND® steel and ZINCALUME® steel. However, in the case of COLORBOND® Stainless steel, compatible stainless steel rivets must be used. For more information, refer to [Technical Bulletin TB-16 Fasteners for Roofing, Walling and Accessory Product – Selection Guide](#).

COMPATABILITY

Stainless steel, lead, copper, and copper containing alloys (such as MONEL®) must not be used in conjunction with COLORBOND® steel, ZINCALUME® steel or zinc-coated steel. For more information, refer to [Corrosion Technical Bulletin CTB-12 Dissimilar Metals](#).

Avoid prolonged intimate contact with treated timber, green timber and other timber capable of retaining moisture as this will cause premature corrosion of COLORBOND® steel and ZINCALUME® steel due to corrosion mechanisms associated with the wet poultice held against the coated steel surface. For more information, refer to [Corrosion Technical Bulletin CTB-13 Contact with Timber](#).

Ponding

Gutters and downpipes must be installed in such a manner so as to avoid ponding, or pooling, of water which can cause accelerated corrosion and/or surface staining. Ensure that gutters are installed with sufficient pitch, or fall, and that water drains in the correct direction.

It is recommended that gutters and downpipes are designed and installed as specified for the particular product to allow water to easily flow through and away.

Sealing of Joints and Laps

Given the function of guttering and downpipes is to direct water run-off, joints and laps must be appropriately sealed to make the system watertight. Unsealed joints and laps may leak,

resulting in corrosion and unsightly staining of the gutter and downpipe.

It is recommended that:

- gutter joints be lapped and sealed as per Australian/New Zealand Standard AS/NZS 3500.3:2003 *Plumbing and drainage, Part 3: Stormwater drainage* (refer to sections 4.13 and 4.8) or Standards Australia Handbook HB 39-1997 *Installation code for metal roof and wall cladding* (refer to sections 2.9 and 5.8), and
- downpipe joints be lapped and sealed as per Standards Australia Handbook HB 39-1997 *Installation code for metal roof and wall cladding* (refer to sections 5.7.6 and 5.8)

BlueScope recommends the use of neutral cure silicone sealants. The use of incorrect sealants can result in corrosion at joints and laps or broken seals, refer to [Technical Bulletin TB-9 Sealants for Exterior Finishes](#).

Swarf and Metal Debris

Ensure that swarf and metal debris is removed from the gutter, downpipe and fascia to avoid surface corrosion and staining. This also includes metal filings, steel off-cuts and screws as well as, hot debris generated from disc cutting and drilling operations which may adhere to the finished surface.

It is recommended that all activities such as cutting and drilling be performed off-site or at ground level wherever possible, which is also advisable for safety.

Masking around areas where holes are to be drilled is a practical way to minimise problems with swarf and metal debris. At the end of the job thoroughly clean away all swarf and metal debris from the gutter surface, including inside surfaces. For more information, refer to [Technical Bulletin TB-5 Swarf Staining of Steel Profiles](#).

AFTER INSTALLATION

CORSTRIP® film

A clear laminate protective film called CORSTRIP® film is often applied to the decorative surface of gutters, downpipes and fascia made from COLORBOND® steel. This film protects the painted surface during forming, transport, handling, storage and erection. Ensure the CORSTRIP® film is removed from the gutter, downpipe and fascia immediately

after installation. Leaving the CORSTRIP® film attached to gutters, downpipes and fascia for an extended period can make it difficult to remove.

A knife should not be used to cut the CORSTRIP® film as this may scratch the painted surface. Where the product is seamed and it is not possible to remove the CORSTRIP® film by hand, special care must be taken not to damage the painted surface.

In the event of the painted surface being damaged during removal of the CORSTRIP® film, BlueScope does not recommend the use of touch-up paint to repair such damage or other scratches, refer to **Technical Bulletin TB-2** *Overpainting and Restoration of Exterior BlueScope Products*.

NOTE:

CORSTRIP® film is easily removable on installation and is plastics (4) recyclable. Check with your local council to find out whether plastics (4) can be recycled via regular kerb-side pickup or through your local waste management depot.

Following trades

It is important to protect against post-installation damage from following trades, which can lead to premature corrosion and staining of gutters, downpipes and fascia.

It is recommended that following trades take care to use correct fasteners, screws, accessories and sealants, and clean away any swarf and metal debris that may be generated as a result of their work.

When installing air conditioners, solar heaters or similar, the piping of condensate must be directed to the

ground and not along the roofing profile or into the gutter and downpipe system. Incorrect piping of condensate can result in premature corrosion or unsightly staining on steel products.

Care and maintenance

For simple care and maintenance tips that will help gutters, fascia and downpipes look newer for longer, refer to the Guttering, Fascia and Downpipes Maintenance Guide available from steel.com.au/brochures.

RELATED TECHNICAL BULLETINS

Technical Bulletin TB-2

Overpainting and Restoration of Exterior BlueScope Products

Technical Bulletin TB-5

Swarf Staining of Steel Profiles

Technical Bulletin TB-7

Care of BlueScope Coated Steel Products during transport and storage

Technical Bulletin TB-9

Sealants for Exterior Finishes

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*

Corrosion Technical Bulletin CTB-12

Dissimilar Metals

Corrosion Technical Bulletin CTB-13

Contact with Timber

Corrosion Technical Bulletin CTB-15

Acid Cleaning Brickwork

Corrosion Technical Bulletin CTB-25

Inert Catchment

REFERENCED AUSTRALIAN STANDARDS

- **AS1397-2011** – *Continuous hot-dip metallic coated steel sheet and strip – Coatings of zinc and zinc alloyed with aluminium and magnesium*
- **AS/NZS 2179.1:1994** *Specifications for rainwater goods, accessories and fasteners – Metal shape or sheet rainwater goods, and metal accessories and fasteners*
- **AS/NZS 3500.3:2003** *Plumbing and drainage, Part 3: Stormwater drainage*
- **AS/NZS 4020:2005** *Testing of products for use in contact with drinking water*
- **HB 39-1997** *Installation code for metal roof and wall cladding* (Standards Australia Handbook)

NOTE:

All Australian and Australian/New Zealand Standards should be read to incorporate any and all amendments to the most recently published version.

If you have any questions regarding this Bulletin contact BlueScope Steel Direct on 1800 800 789.

To ensure you have the most current Technical Bulletin, please go to steel.com.au



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®, CORSTRIP®, Activate® and BlueScope are registered trade marks of BlueScope Steel Limited. MONEL® is a registered trade mark of Special Metals Wiggin Ltd. Except where specific products are stated, this Technical Bulletin applies to all COLORBOND® prepainted steel products and ZINCALUME® steel products.

© 2017 BlueScope Steel Limited ABN 16 000 011 058. BlueScope Steel (AIS) Pty Ltd ABN 19 000 019 625. All rights reserved.