

SELECTION AND USE OF STEEL GUTTER, DOWNPIPE AND FASCIA PRODUCTS

TECHNICAL BULLETIN TB-15

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INTRODUCTION

Designers, builders and homeowners can enjoy substantial benefits by specifying gutters, downpipes and fascia made from COLORBOND® steel, ZINCALUME® steel, COLORBOND® Ultra steel and COLORBOND® Stainless steel. These products comply with AS/NZS 4020:2005, and the benefits can be maximised by correct product selection and proper treatment by all trades handling the products.

ENVIRONMENT

The performance of steel gutters, downpipes and fascia is affected by many factors, most of which are controllable. The main factor that is not controllable is the environment, but its effect can be minimised by choosing a material appropriate to the conditions under which it must perform.

The environment of a specific location is dependent on humidity, wind direction, land contours, proximity to the sea and industrial pollution. Although it is not possible in a brief document to cover all possibilities in detail, there are some simple rules that provide a useful guide.

Table 1 provides a general guide to product performance where the corrosive factor is a marine influence.

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

a BlueScope Steel Sales Office for advice on the correct product for the conditions.

BlueScope Steel recommends the use of COLORBOND® steel, ZINCALUME® steel, COLORBOND® Ultra steel and COLORBOND® Stainless steel rather than galvanized steel in gutter, downpipe and fascia applications. Galvanized steel gutters and downpipes 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 more information refer to CTB-25 Inert Catchment.

HANDLING AND SITE STORAGE

As with all building materials, care should be exercised when handling and storing gutters, downpipes and fascia made from COLORBOND® steel, ZINCALUME® steel, COLORBOND® Ultra steel and COLORBOND® Stainless steel.

Appropriate safety precautions must always be taken when handling steel gutter, downpipe and fascia products on site, and personal sunscreen products require special attention.

Given the outdoor nature of gutter, downpipe and fascia installation, personal sun protection is recommended, but some sunscreens can damage the painted surface of COLORBOND® steel, COLORBOND® Ultra steel and COLORBOND® Stainless steel. Those 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.

Table 1: Recommended Gutter, Downpipe and Fascia Products for Marine Environments

DISTANCE FROM MARINE ENVIRONMENT	RECOMMENDED GUTTER DOWNPIPE AND FASCIA PRODUCT
0m – 100m	COLORBOND® Stainless steel
101m - 200m	COLORBOND® Ultra steel
> 201m	COLORBOND® steel ZINCALUME® steel

Note: • Table 1 applies to gutter downpipe and fascia products only.

• Table 1 applies to salt marine influences only. For installations subject to severe, heavy industrial conditions, consult a BlueScope Steel Sales Office for advice on the appropriate product.

For personal safety, and to protect the painted surface, it is recommended to:

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

Gutters, downpipes and fascia made from COLORBOND® steel, ZINCALUME® steel, COLORBOND® Ultra steel and COLORBOND® Stainless steel stored on site must be kept dry. Minor amounts of moisture such as overnight condensation should simply evaporate. Gutters, downpipes and fascia must be stored clear of the ground and other loads not placed on top

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 staining the painted finish.

It is recommended that acid cleaning of brickwork be performed prior to the installation of gutters, downpipes and fascia where possible. Where this is not possible, gutters, downpipes and fascia should be masked to prevent contact with acid. Refer to CTB-15 Acid Cleaning Brickwork.

Ponding

Gutters and downpipes must be installed with sufficient pitch, or fall, in the correct direction, to avoid ponding, or pooling, of water, which can cause accelerated corrosion and/or surface staining of the gutter and downpipe.

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.

Swarf and Metal Debris

Swarf and metal debris, such as metal filings, off-cuts and screws, shall be kept off the gutter and downpipe to avoid surface corrosion and staining. Hot debris generated from cutting and drilling must also be kept clear, as it can stick to the surface of the gutter.

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, all swarf and metal debris shall be thoroughly cleaned

away from the gutter surface, including inside surfaces. Refer to TB-5 Swarf Staining of Steel Roofing and Walling Profiles.

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 AS/NZS 3500.3:2003 (section 4.13 and 4.8) or HB 39-1997 (section 2.9 and 5.8), and
- downpipe joints be lapped and sealed as per HB 39-1997 (section 5.7.6 and 5.8)

BlueScope Steel recommends the use of neutral cure silicone sealants with BlueScope Steel products. The use of incorrect sealants can result in corrosion at joints and laps or broken seals. Refer to TB-9 Sealants for Exterior Finishes.

Fasteners and Accessories

Correct fasteners and accessories must always be used to avoid accelerated corrosion of the 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. Where using rivets, BlueScope Steel recommend the use of blind or sealed aluminium rivets. Fasteners and accessories shall comply with AS/NZS 2179.1:1994.

Materials to be avoided with COLORBOND® steel, ZINCALUME® steel, COLORBOND® Ultra steel and COLORBOND® Stainless steel products include:

- copper
- lead
- brass
- stainless steel (unless used with COLORBOND® Stainless steel)
- treated timber, green timber and other timber capable of retaining moisture
- conductive washers (with readings >0.5x10⁻⁶ Amps) – for further information check with the fastener supplier

More details can be found in CTB-12 Dissimilar Metals, CTB-13 Contact with Timber, and TB-16 Fasteners for Roofing and Walling Product – Selection Guide.

CORSTRIP® film

A clear laminate protective film called CORSTRIP® is often applied to the decorative surface of gutters, downpipes and fascia made from COLORBOND® steel, COLORBOND®



Ultra steel and COLORBOND® Stainless steel. This film protects the painted surface during forming, transport, handling, storage and erection, but should not be left on permanently.

Leaving the CORSTRIP® film on the gutter, downpipe and fascia for an extended period can make it difficult to remove, so it should be peeled off by hand immediately after installation. Where possible, a knife should not be used as this may result in scratching of the painted surface. However, 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. BlueScope Steel does not recommend the use of touch-up paint to repair damage or scratches to the painted surface.

Refer to TB-2 Overpaint and Restoration of COLORBOND® Prepainted Steel Sheet.

NOTE: CORSTRIP® 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 kerbside pickup or through your local waste management depot.

AFTER INSTALLATION

Following trades

It is important to protect against post-installation damage from following trades, which can cause corrosion, staining and damage to 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.

When installing air conditioners, solar heaters or similar, the piping of condensate must be directly to the ground and not along the roofing profile or into the gutter and downpipe system. The piping can be independent of the gutter and downpipe or it can be piped via the inside of the downpipe. 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, downpipes and fascia look newer for longer, refer to the Guttering and Fascia Maintenance guide available from colorbond.com.

REFERENCES

AS/NZS 4020:2005 – Testing of products for use in contact with drinking water

AS/NZS 3500.3:2003 – Plumbing and drainage, Part 3: Stormwater drainage

AS/NZS 2179.1:1994 – Specifications for rainwater goods, accessories and fasteners - Metal shape or sheet rainwater goods, and metal accessories and fasteners

AS 3566.2-2002 – Self-drilling screws for the building and construction industries - Corrosion resistance requirements

HB 39-1997 – Installation code for metal roof and wall cladding

CTB-25 Inert Catchment

CTB-15 Acid Cleaning Brickwork

TB-5 Swarf Staining of Steel Roofing and Walling Profiles

TB-9 Sealants for Exterior Finishes

CTB-12 Dissimilar Metals

CTB-13 Contact with Timber

TB-16 Fasteners for Roofing and Walling Product – Selection Guide

BlueScope Steel “Guttering and Fascia Maintenance” Guide

TB-2 Overpainting and restoration of COLORBOND® prepainted steel sheet



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