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Technical Bulletin

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Sheds and garages

Introduction

To ensure the longevity of COLORBOND® prepainted steel and ZINCALUME® aluminium/zinc/magnesium alloy-coated steel used in the manufacture of sheds or garages, the following guidelines are recommended.

Maintenance

Areas not subject to the natural washing action of rainfall are known as ‘unwashed areas’. Some areas of a shed or garage contain ‘unwashed areas’ such as the top of roller doors or the top of walling sheets adjacent to an eave gutter. In these regions dust and dirt tend to build up which, in combination with condensation, may lead to premature corrosion. This corrosion may be prevented with regular washing using fresh potable water, refer to:

Technical Bulletin TB-4 Maintenance of COLORBOND® steel and ZINCALUME® steel.

For spot cleaning of incidental staining, not easily removed with soapy water and a soft cloth, please refer to:

Technical Bulletin TB-4a Spot cleaning of exterior COLORBOND® steel products.

Design

To obtain optimum performance of the COLORBOND® steel or ZINCALUME® steel product, correct design and erection is essential.

Edge detailing

It is critical that a free drip edge be maintained for all COLORBOND® steel and ZINCALUME® steel products. This is to enable moisture to drain freely from the cut edge of the steel product. This is particularly important at the base of a shed or garage wall.

Minimum free drip edge = 5–10mm

The recommended clearance from the bottom of the metal wall cladding to the ground level is:

Above paved/concrete surface ≥ 50 mm

Above unpaved, e.g. grass surface ≥ 75 mm

Product performance recommendations for concrete slab detailing (Figure 1a and 1b):

- Steel wall cladding minimum offset from slab or toe flashing = 3–5 mm
- Steel wall cladding minimum overhang on slab for maintaining weather proofing:

  = 25 mm (non-cyclonic regions)

  = 50 mm (in cyclonic regions should be considered)

Figure 1. Recommended cladding detailing for concrete slab (not to scale)

Figure 1a: Cladding finishes above slab

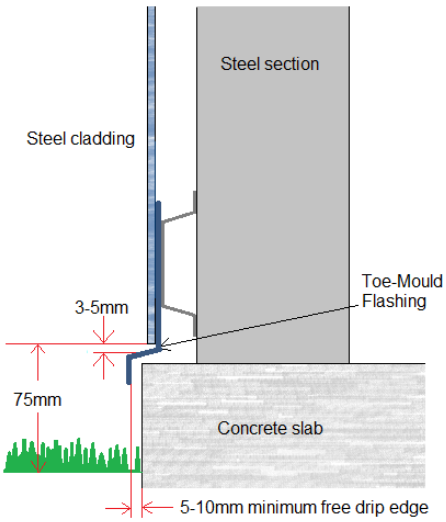
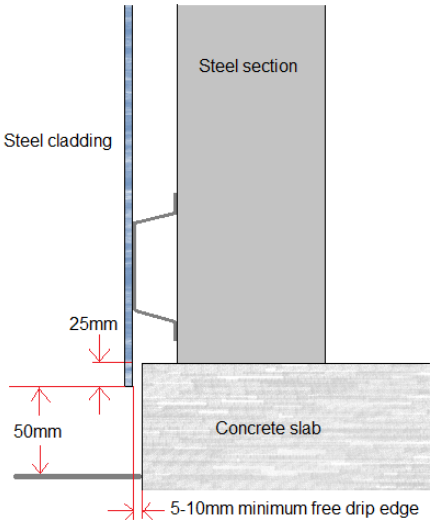


Figure 1b: Cladding overhangs slab



NOTE:

- Either cladding detail (Figure 1a: above slab, or Figure 1b: overhanging slab) is suitable for use with paved or unpaved surfaces.
- Simply ensure clearance values from the bottom of the cladding to the surface below are as required for that surface, i.e. cladding finishes ≥ 75mm above unpaved; cladding finishes ≥ 50mm above paved.
- For architectural cladding profile detailing please contact Steel Direct for more information.

The consequence of not maintaining a free drip edge may be premature corrosion. This is due to the retention of moisture at the cut edge of the steel when in contact with other materials. Bricks, pavers, concrete slabs and even other metallic products may contribute to this mechanism when installed incorrectly. Please refer to Figure 2 for an example.

Figure 2. Corrosion due to inappropriate wall design

Formwork

Using the steel walling as formwork to pour the concrete slab for the shed is not recommended. This practice will cause premature corrosion due to:

- Contact with wet cement, which is strongly alkaline.
- Shrinkage of cured concrete enabling the build-up of dirt and debris in the resulting gap between the slab and the wall.
- Failure to maintain a free drip edge as outlined previously.

Gutter design

Gutter design should ensure that moisture is allowed to drain freely from the roof and not be allowed to enter the interior of the shed or garage. Incorrect design can lead to the corrosion of interior steel components as well as damage to its contents.

Fasteners

The correct selection of fastener for use in the erection of the shed or garage is of paramount importance for long term performance and aesthetics. For further information, refer to:

Technical Bulletin TB-16 Fasteners for roofing, walling and accessory product – selection guide.

Immersion

Moisture or moisture retaining materials such as leaves and soil should not be allowed to remain in intimate contact with COLORBOND® steel or ZINCALUME® steel products. Such contact may ultimately result in accelerated corrosion of the material.

For more information, refer to:

Corrosion Technical Bulletin CTB-16 Immersion.

The build-up of grass cuttings, leaves, soil from gardens, mulch, compost, sand, ashes or similar must be avoided. Failure to prevent this build-up may cause premature corrosion of COLORBOND® steel and ZINCALUME® steel due to corrosion mechanisms associated with the wet poultice held against the coated steel surface. Please refer to Figure 3 for an example.

Similarly, storage of items alongside, and/or against the shed wall, that prevent washdown and/or drying cycles, should also be avoided.

Figure 3. Corrosion due to immersion in soil

Related BlueScope Technical Bulletins

Technical Bulletin TB-4 Maintenance of COLORBOND® steel and ZINCALUME® steel

Technical Bulletin TB-4a Spot cleaning of exterior COLORBOND® steel products

Technical Bulletin TB-16 Fasteners for roofing, walling and accessory product – selection guide

Corrosion Technical Bulletin CTB-16 Immersion