ROOFING & RAINWATER

MAINTENANCE MANUAL



ROOFING & RAINWATER MAINTENANCE MANUAL

1. General

1.1 SCOPE

This manual provides information and guidelines on the maintenance of the installed roof cladding and rainwater goods to ensure maximum life of roofing and rainwater goods. This manual contains guidelines to ensure that:

(i) The performance and life of the installed roof cladding is optimised.

(ii) The installed roof cladding is maintained correctly in a manner such that the material warranty remains valid.

(iii) The installed roof cladding satisfies the performance criteria and material warranty of the specification.

1.2 REFERENCED DOCUMENTS

These documents are referenced in, and subsequently form part of the Maintenance Manual:

- LYSAGHT® Roofing & Walling Installation Manual, current at the issue date of practical completion. An electronic copy of this document is always available on our website www.lysaght.com
- SAA HB39 -1997 Installation Code for Metal Roofing & Wall Cladding.
- SAA AS 3500-1998 National Plumbing & Drainage Code.
- BlueScope Corrosion Technical Bulletin - CTB Series and Technical Bulletin, TB series, current at date of practical completion.
- BlueScope Painting Zinc-Coated or ZINCALUME® steel sheet.

Consideration should be given to the use of professional maintenance services where applicable.

2. Inspection and Maintenance

2.1 MAINTENANCE REQUIREMENTS & FREQUENCY

Maintenance should be carried out at least every four months, preferably including the end of autumn and end of spring. In the case of extreme events (storm, tempest or other "acts of God"), inspection should be carried out and abnormal maintenance carried out as required.

All maintenance work is to be undertaken within the recommendations of this book and such work should be fully documented in accordance with Section 13.

2.2 SAFETY/ WALKING ON ROOF

- All relevant OH&S, statutory and regulatory body requirements are to be followed when inspecting a roof.
- Ensure roof access is via a properly secured ladder or similar secure access point. Move away from roof edges.
- When walking on unprotected roofing, soft soled shoes should be worn, and walking on at least two ribs, as close to supports as possible is recommended. Point heel and toe loads should be avoided.
- When moving between supports, do not walk in the pan immediately adjacent to flashings or translucent sheeting. Walk at least one pan away.
- Handling Safety - Lysaght product may be sharp and heavy. It is recommended that heavy-duty cut resistant gloves and appropriate manual handling techniques or a lifting plan be used when handling this material.
- Avoid dragging the product and any other hard materials across the surface of the cladding, as this may result in scratching.

2.3 ACCESS

When maintaining the roof, care should be taken not to damage the surface of the cladding, gutters and flashings.

- Soft protection should be placed on any equipment used to provide access, where it impacts on the roof cladding.
- Some roofs (i.e. patios and verandahs) are not designed for foot traffic, and these roofs should not be walked on.
- In high traffic areas of the roof, protection of the cladding with a proprietary roofing system, such as LYSAGHT ROOFTRAK® is recommended.

2.4 INSPECTION

Inspection is required to identify any breakdown in the performance of the installed products, and recording and documenting the observations of the inspections in Section 13. This section includes internal roof box gutters, eave gutters and any other gutter situations.

3. Gutters

3.1 INSPECTION

All gutters are to be inspected for the deposition of any debris, dust, pollutants or organic growth. In particular, care is to be taken in the inspection of gutters for these points:

- Staining of gutter at possible ponding locations
- Build up of dust and debris at the high end of box gutters
- Build up of leaves and debris in general along gutter runs
- Metallic staining of the gutter, surface rust
- Build up of debris at rain heads, water spouts, slots, leafguards, overflow locations and in general around the downpipe entry

Record and document the observations of the inspections in Section 13.

3.2 MAINTENANCE

Twigs, dust, leaves and fungal matter (debris) should be removed using the following recommended procedure, taking care to ensure no damage occurs to the gutter, downpipes, leafguards, slots, holes and overflow devices (if fitted) during debris removal. We recommend that the following procedure be adopted to remove the dust, debris and fungal matter.

- Sweep debris into a pile using a stiff, soft bristled brush (shovels or hard tools should not be used).
- Place debris into a receptacle and lower to the ground.
- The whole roof and gutter should then be washed down with a hose, including high ends of gutters possibly protected by overhangs, rain heads, water spouts and overflow locations.
- If significant fungal growth is found it should be identified and removed in accordance with the BlueScope Steel - Technical Bulletins TB-27 "Identification of Fungus in the Field and Recommendations for its Removal".
- Any metallic staining should be investigated to determine whether the cause is from a metallic deposit on the surface, or from the breakdown of the coating. Metallic deposits on the surface should be completely removed immediately. Breakdowns in the coating would generally result from poor maintenance techniques and scratching and can be restored as deemed necessary in accordance with BlueScope Steel - Technical Bulletins TB-2 "Overpainting and Restoration of COLORBOND® steel Sheet" and BlueScope - "Painting Zinc-Coated or ZINCALUME® steel Sheet".
- Stubborn stains and dirt not removed in the hosing can be removed in accordance with BlueScope - Technical Bulletins TB-4, "Maintenance of COLORBOND® steel Roofing".

The application of soaps and detergents are detailed in this document.

Note:
All Technical Bulletins (TB) referenced in this document are available at www.bluescopesteel.com

GUTTER MAINTENANCE



1) A typical suburban gutter clogged with leaf litter prior to cleaning.



2) Wear correct protection when clearing leaves and twigs.



3) When litter is removed, the layer of hardened dirt is revealed below.



4) Rinse the gutter with water to soften and break up the dirt.



5) Use a soft bristle brush and sweep the dirt out. Rinse again.



6) When the gutter has been cleaned, it should look like this.

4. Downpipes

4.1 INSPECTION

The downpipes and stormwater disposal pipes are to be inspected for cleanliness and free flow of water. Growth of fungus and other matter and collected debris at the inlet and outlet locations is to be noted. Complete testing of the system for blockage at each downpipe is recommended.

Record and document the observations of the inspections in Section 13.

4.2 MAINTENANCE

- Downpipes made from steel products should be cleaned using a pressure water hose directed down each of the downpipes.
- The hose should then be fed into the pipe from the inlet down to the outlet, to ensure there are no obstructions.
- Constrictions in the downpipe system may make it necessary to access the pipe from inspection points downstream of the downpipe inlet location.
- Any noted blockages should be removed immediately, to avoid water back-up in the gutters.

5. Penetrations, Flashings, Cappings

This section includes; all penetrations, flashings and all general ridge, valley, barge and fascia cappings including flashings;

5.1 INSPECTION

All penetrations and cappings are to be inspected for the build-up of debris or organic material located between the flashings or cappings and the cladding materials, visually noted to be protruding from, or staining the joint. Care is to be taken in noting any staining at the high side of penetrations. All observations are to be recorded and documented in accordance with Section 13.

5.2 MAINTENANCE

- Build-up of debris or organic matter (debris) should be completely removed, using a stiff bristled soft brush to sweep the debris into a receptacle and remove from the roof. No hard tools should be used.
- The area should then be washed down with a pressure hose. Care should be taken to ensure that debris is not lodged between sheets or the sheeting and flashing and that water from the pressure hose is not driven into the building.
- Stubborn stains and dirt not removed in the hosing can be removed in accordance with BlueScope Steel - Technical Bulletins TB-4, "Maintenance of COLORBOND® steel Roofing". The application of soaps and detergents are detailed in this document.

6. Joints, Platforms & Walkways

This section includes all joints that occur in the installed roof cladding; all cladding mounted access walkways, i.e. LYSAGHT ROOFTRAK®, and elevated platforms supported on frames that penetrate the cladding.

6.1 INSPECTION

All joints are to be inspected for the build-up of debris or organic material located between jointed materials and the cladding materials visually noted to be protruding from the joint. In particular, for expansion joints, build-up of debris and organic matter is to be checked both above and below the flashing, against the overlapping and underlapping sheets respectively.

For walkways and platforms, inspect the high side of the support frame for rust due to possible ponding, metallic staining or a build up of debris.

All observations are to be recorded and documented in accordance with Section 13.

6.2 MAINTENANCE

- Build-up of debris or organic matter (debris) should be completely removed, using a stiff bristled soft brush to sweep the debris into a receptacle and remove from the roof. No hard tools should be used.
- The area should then be washed down with a pressure hose. Care should be taken to ensure that debris is not lodged between sheets or the sheeting and flashing and that water from the pressure hose is not driven into the building.
- Stubborn stains and dirt not removed in the hosing can be removed in accordance with BlueScope Steel - Technical Bulletins TB-4, "Maintenance of COLORBOND® steel Roofing". The application of soaps and detergents are detailed in this document.
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7. Unwashed areas

This section includes all areas of the external cladding that are sheltered from rain washing, e.g under eaves, underside of exposed gutters, exterior ceilings, upper sections of walls and doors partially protected by overhangs.

7.1 INSPECTION

All naturally unwashed areas are to be inspected for build-up of dust, debris and airborne pollutant fall out.

All observations are to be recorded and documented in accordance with Section 13.

7.2 MAINTENANCE

All unwashed areas are to be effectively hand washed using a pressure hose.



Use a hose to rinse the underside of gutters and roofs.

8. Fasteners

This section applies to all fasteners, including washers, used in the fixing of the cladding material to the supporting structure.

8.1 INSPECTION

All fasteners are to be inspected for breakdown of the rubber washers and/or the deterioration of the head of the fastener.

All observations are to be recorded and documented in accordance with Section 13.

8.2 MAINTENANCE

- All deteriorated washers and fasteners are to be removed and replaced. Replacement fasteners and washers are to be placed in accordance with the recommendations of Chapter 3, of the LYSAGHT® Roofing and Walling Manual: 'Using LYSAGHT® Steel Roofing & Walling' current at the time of installation.

9. Roof sheeting

9.1 INSPECTION

All claddings are to be inspected for the deposition of any debris, dust, pollutants or organic growth. In particular, care is to be taken in the inspection of cladding for these points:

- Staining of cladding at possible ponding locations
- Build up of dust and debris

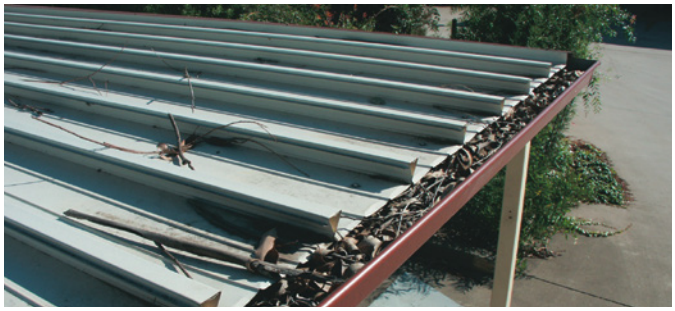
ROOFING MAINTENANCE

- Metallic staining of the gutter, surface rust
- Record and document the observations of the inspections in Section 13.

9.2 MAINTENANCE

Twigs, dust, leaves and fungal matter (debris) should be removed using the following recommended procedure, taking care to ensure no damage occurs to the cladding during debris removal. We recommend that the following procedure be adopted to remove the dust, debris and fungal matter.

- Sweep debris into a pile using a stiff, soft bristled brush (shovels or hard tools should not be used).
- Place debris into a receptacle and lower to the ground.
- The whole roof and gutter should then be washed down with a hose, including high ends of gutters possibly protected by overhangs, rain heads, water spouts and overflow locations.
- If significant fungal growth is found it should be identified and removed in accordance with the BlueScope Steel - Technical Bulletins TB-27 "Identification of Fungus in the Field and Recommendations for its Removal".
- Investigate metallic staining of the roof or gutter to determine if it is caused by a metallic deposit, or by breakdown of the coating on the cladding. If it is a metallic deposit, completely remove it immediately. Breakdowns in coating would generally result from poor maintenance techniques and scratching and are to be restored as deemed necessary in accordance with BlueScope Steel Technical Bulletin TB-2 "Overpainting and restoration of COLORBOND® Pre-painted steel Sheet" and BlueScope Steel Painting Zinc coated or ZINCALUME® steel sheet.
- Stubborn stains and dirt not removed in the hosing can be removed in accordance with BlueScope Steel - Technical Bulletins TB-4, "Maintenance of COLORBOND® steel Roofing". The application of soaps and detergents are detailed in this document.



1) A typical suburban roof with leaf litter and dirt prior to cleaning.



2) Use a hose to blow away twigs and soften hardened dirt.



3) Use a soft bristle brush to sweep out the pans. Rinse with water.



4) The roof cladding should be clean after you rinse.

10. Following Trades and Services

Persons involved in following trades and services need to be made fully aware of the consequences of their work. Warranties and guarantees previously issued may be rendered null and void if work conducted damages the roof. Additionally, all following trades must check the compatibility of their products and associated discharge by these products when installed on the roof system. Air conditioning system waste and condensate is not to discharge on the roof. This waste and condensate should be directed to the sewer system in accordance with the requirements of the relevant statutory authority.

Care must be taken not to use CCA treated timber on or above roof cladding; not to use unpainted copper flashings and not to spill mortar onto the cladding. Refer to BlueScope Steel Corrosion technical bulletin CTB-17 "Following trades" for further information.

A full register of persons and reasons for trafficking the roof must be documented and maintained.



Ensure all swarf (drill waste) is removed from the work area.

11. Records & Documentation

A full log of all inspections and the maintenance work undertaken is to be kept in the building detailing the date of the inspection and maintenance, all of the observations made and the extent of the site maintenance works undertaken.

Where following trades have changed the roof environment, causing new penetrations, creating new platforms or the like, photographic documentation of the alterations and inspection of the site by Lysaght is required. Additional fees may apply.

12. Fees and Charges

Any inspections or services that Lysaght are engaged to undertake may incur additional fees at a rate pre-determined prior to any inspections or services being executed.

13. Inspection Sheet

ROOFING AND RAINWATER GOODS MAINTENANCE REQUIREMENTS

Photocopy this page and set up a binder to collate these reports.

Inspection Date:

Inspection By:

Gutters:

Downpipes:

Penetrations:

Flashings/Cappings:

Expansion/End Joints:

Platforms/Walkways:

Unwashed Areas:

Fasteners:

Roof Sheeting:

Comments/Drawings:

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