

Corrugated metal roof sheeting was a common roofing material used for buildings throughout the 19th and 20th centuries.

As these buildings age, there is increasing pressure to replace deteriorating corrugated metal sheeting with modern versions of this material, specifically aluminium/zinc alloy-coated steel and baked enamel-coated steel.

APPLICATION

This policy applies to all places included in the State Register of Heritage Places. The principles can also be used for decision-making affecting places included in local heritage lists.

This policy should be read in conjunction with the Heritage Council of Western Australia's Maintenance Series - Corrugated Roofing brochure which discusses the history of corrugated roofing, includes technical information specific to traditional and non-traditional metal roofing materials and provides practical information regarding maintenance, repairs and the availability of traditional materials.

OBJECTIVES OF THE POLICY

To provide guidance for owners and managers of places in the State Register of Heritage Places.

To improve the consistency of decision making for roof replacement proposals for State Registered heritage places through:

- the identification of the main issues
- the consideration of Burra Charter principles
- a policy for decision making.

IDENTIFICATION OF MAIN ISSUES

The main issues are:

- the significance of the fabric to be replaced and its contribution to the heritage values of the place
- the condition of the fabric, its visibility from principal view points and any external factors.

Significance

The roof of a building is a significant feature of the built form. In the case of early corrugated roofs, the shadow line of the overlapping short sheets, as well as the nails needed at the joints, produce a distinctive horizontal element consistent with the traditional appearance. Modern galvanised sheeting dulls quickly and regains the 'patina' of age that is a characteristic of many heritage places. Galvanised finishes are available in a range of grades with the heaviest grade being closer in quality to a traditional galvanised finish.

The shiny appearance of Zinalume™ and the consistent neat appearance of Colorbond™ are not consistent with this aesthetic.

The use of Colorbond™ in a specific colour is sometimes proposed where a corrugated metal roof has previously been painted a particular colour for a significant span of its life. However, it is not appropriate to use this material where:

- the roof form is a significant feature
- the roof already consists of short sheets
- the building is part of a precinct where other galvanised roofs exist.

The profile shape and depth of the corrugations are also part of the aesthetic and where a roof is being replaced in part or whole, the original profile should be matched where possible.

The condition of the fabric to be replaced needs to be assessed. It may be the case that only part of a roof requires replacement or that a program of maintenance and some repair work could adequately address any issues. Good maintenance practices, such as replacing single sheets where necessary or rearranging existing sheeting with some new sheeting, will assist in prolonging the life of the roof prior to any real requirement for complete replacement.

Sheet profiles have differed over time and between manufacturers, and while some traditional profiles are available, exact matches may not be achievable in all instances. It is accepted that these constraints may guide some decisions.

BURRA CHARTER PRINCIPLES

The Burra Charter (the Australia ICOMOS Charter for Places of Cultural Significance, 2013) and its accompanying guidelines are considered the best practice standard for cultural heritage management in Australia.

The articles set out in The Burra Charter form 'first principles' on which assessments of proposed developments to State Registered places are made. Proposals affecting early roofing materials would be considered and assessed under similar principles.

Articles from The Burra Charter which are relevant to re-roofing proposals are as follows:

BURRA CHARTER ARTICLES	FIRST PRINCIPLES
Article 2.2 – The aim of conservation is to retain the cultural significance of a place.	The principles of conservation should guide any decisions affecting the fabric and/or significance of a heritage place.
Article 3.1 – Conservation is based on a respect for the existing fabric, use, associations and meanings. It requires a cautious approach of changing as much as necessary but as little as possible.	The replacement of original or early fabric is to be respectful of the place, with as little change to significant fabric as possible. Options for repair or partial replacement of any fabric should be investigated as a preferred outcome.
Article 3.2 – Changes to a place should not distort the physical or other evidence it provides, nor be based on conjecture.	Replacement material should be like-for-like.
Article 4.2 – Traditional techniques and materials are preferred for the conservation of significant fabric. In some circumstances modern techniques and materials which offer substantial conservation benefits may be appropriate.	Replacement material should be like-for-like except in exceptional circumstances. Modern fixing methods can be employed where they do not impact on the main significant elements.

High-pitched roofs on heritage buildings are very visible, therefore, it is important they be repaired or replaced in such a way that the original roofing material is matched as closely as possible. This will assist in maintaining the character of the original building and/or any precinct it sits within.

Roofs that are not visible from the principal elevations and/or that sit behind parapet walls may not be affected by a change in material.

Shallow pitched sections of roofs may benefit from a change to the fabric such as utilising long lengths of galvanised sheeting to improve watertightness.

If a heritage place is located in a very remote area, and that area can also be identified as an extreme marine environment, these factors can provide justification for a change in material to roof sheeting with demonstrated superior resistance to deterioration.

BURRA CHARTER ARTICLES	FIRST PRINCIPLES
<p>Article 8 – Conservation requires the retention of an appropriate visual setting and other relationships that contribute to the cultural significance of the place. New construction, demolition, intrusions or other changes which would adversely affect the setting or relationships are not appropriate.</p>	<p>Replacement roofing material should retain the visual setting of the place.</p>
<p>Article 15.1 – Change may be necessary to retain cultural significance, but is undesirable where it reduces cultural significance. The amount of change to a place should be guided by the cultural significance of the place and its appropriate interpretation.</p> <p>Article 15.2. – Changes which reduce cultural significance should be reversible, and be reversed when circumstances permit.</p>	<p>Opportunities for repair or partial replacement should be investigated as a first option. Replacement roofing material should only introduce new material where it is essential to the long term conservation of the place.</p>
<p>Article 26.1 – Work on a place should be preceded by studies to understand the place which should include analysis of physical, documentary, oral and other evidence, drawing on appropriate knowledge, skills and disciplines.</p> <p>Article 26.2 – Written statements of cultural significance and policy for the place should be prepared, justified and accompanied by supporting evidence. The statements of significance and policy should be incorporated into a management plan for the place.</p>	<p>Any changes should be based on a sound understanding of the place.</p>
<p>Article 27.1 – The impact of proposed changes on the cultural significance of a place should be assessed with reference to the statement of significance and the policy for managing the place. It may be necessary to modify proposed changes to better retain cultural significance.</p> <p>Article 27.2 – Existing fabric, use, associations and meanings should be adequately recorded before and after any changes are made to the place.</p>	<p>Any proposal for replacement roofing material should be analysed against the Statement of Significance and Conservation Plan (if available) of the place.</p> <p>If any change is made to the original intent of the building, the change is required to be recorded.</p>

THE POLICY

In light of the above, the Heritage Council of Western Australia applies the following policy when evaluating proposals for the re-roofing of State Registered Places with original or early corrugated metal roofs:

Galvanised sheeting in short lengths is the preferred choice of roofing material for all registered buildings that:

were originally constructed with corrugated metal roofing in short lengths; or

have been covered with corrugated metal roofing in short lengths for most of their life.

Where existing metal sheeting has replaced an earlier material such as shingles, the reinstatement of the earliest fabric is desirable where the current situation and funds allow.

Repair rather than full replacement is preferred, wherever possible.

The location of a place within both a remote and extreme marine environment may be justification for the introduction of aluminium/ zinc alloy-coated steel or baked enamel-coated steel as an alternative roofing material. The appearance of new roofing material should always try to match the appearance of the traditional material and finish.

Sections of roofing that are not visible from

the principal elevations and/or that sit behind parapet walls may be justification for a change in material.

Shallow pitched sections of roofs may benefit from a change to the fabric such as utilising long lengths of galvanised sheeting to improve water tightness.

Modern fixings may be utilised to improve the performance of the roof, however, new fixings must maintain the traditional appearance of the roof by following the traditional horizontal layout of the sheeting.

If the colour of a roof is deemed significant to the heritage values of the place, any replacement fabric should match the traditional sheeting and be finished with a paint to best match the historical painted finish.

The Heritage Council may consider alternatives to the above requirements of the policy, however, this would only occur where there are extenuating circumstances, and only in order to achieve a significant overall conservation outcome for a place.

Additional notes

The following materials and construction issues need to be considered by owners and contractors:

If new materials are introduced, care should be taken to avoid mixing dissimilar metals which can result in accelerated corrosion due to galvanic reactions.

The increased strength of modern fixings can have structural implications that may require additional action to ensure compliance with current codes and Australian Standards.

Most galvanised products have a protective resin coating that needs to wear off before applying any painted finish. The resin takes around six months to wear away naturally. The manufacturers do not recommend attempting to remove the resin coating manually.

Roof replacement projects funded under the Heritage Council's Heritage Grants Program are to be undertaken in accordance with best conservation practice and use traditional materials.