

5A Understanding galvanised steel or colorbond® roofs

Heritage information series



This fact sheet provides an explanation of when it is suitable to use galvanised steel or colorbond roofs?



Patterns of rusting on old galvanised steel roof and window hoods. Replacing these roofs should be with like materials and sizes as modern materials alter the appearance and can lead to chemical reactions between materials.

Further information on maintenance and minor development can be accessed in *Fact Sheet 5 - Maintenance and Minor Development Requirements*

The question is often asked when the use of galvanised steel is essential and when is it suitable to use COLORBOND® or ZINCALUME®. This document aims to provide a general guide.

Materials

Steel is strong and economical but it rusts easily; galvanising is a method where the steel is dipped in molten zinc which is used to lengthen its lifespan. Although iron has been replaced with mild steel since about 1910, many people still call it galvanised iron. The sheets are corrugated to give them strength over longer spans. Originally the length of a sheet was limited and as a result older buildings with original roofs have short sheets. Modern methods mean the sheets can be continuously rolled so new roofs will have a single length of sheet.

In 1976 BHP introduced a new coating alloy containing 55% aluminium, 43% zinc and 1.6% silicon which is known as ZINCALUME®.¹ The use of ZINCALUME® is very widespread as it is cheaper, lighter and durable, however galvanised steel is still available. In 1960 a new process was invented which baked a colour coating onto the metal sheet. This paint process is now applied to ZINCALUME® as the most commonly used sheet metal and its trade name is COLORBOND®.

Corrosion

Metals corrode a lot faster if they are adjacent to another incompatible metal. Therefore if a roof material is to be changed the flashing, gutters and downpipes will also need to be changed. For example COLORBOND® and ZINCALUME® cannot be used with galvanised steel. ZINCALUME® cannot be used where there are lead flashings as when in contact they corrode faster.

¹ <http://www.environment.nsw.gov.au/resources/heritage-branch/heritage/maintenance41corrugated.pdf>

Galvanised steel or Colorbond®

Heritage items

As heritage items are listed for their significance in their own right it is important that they remain intact. Intact mean as close to original as possible. Changing materials is likely to contribute to an adverse impact on heritage significance by changing its appearance and integrity. If new roofing is required then it should be replaced on a “like for like” basis. i.e. galvanised steel should be replaced with galvanised steel. Original short sheet lengths should be retained as short. Gutter profiles and down pipes must also match the original profile and material.

Heritage Conservation Areas

Places within a heritage conservation area (HCA) are collectively important rather than individually significant. Individual buildings in a HCA do not warrant the same degree of attention as a heritage item. Many of the rooves in the Tweed are traditional galvanised steel. Provided the choice of colour is suitable and the material is compatible with the roof plumbing it is acceptable to allow COLORBOND® roofs in most circumstances in the HCA if the building is not a heritage item and not in a setting of intact houses with galvanised short sheet roofs.

Principle for development and roofing works

Heritage items

Repair before replacement.

Replace like with like, i.e same, materials to same profile.

- Corrugated steel roof sheeting must be galvanised steel not ZINCALUME® or COLORBOND®.
- Galvanised sheets must be made to the same short sheets to match the original.
- Corrugated steel must not replace tiles unless there is proof that the roof was originally clad in steel.
- New detached buildings with traditional roof pitches may have galvanised or ZINCALUME® roofs.

Heritage Conservation Areas

- ZINCALUME® or COLORBOND® are acceptable if the whole roof is to be replaced.
- Part replacement materials must match the existing.
- Explanation: If part of a roof is to be replaced but other parts are to be retained, (eg. the roof sheets on the back are to be replaced to match a new extension but the applicant is keeping the front roof and all the gutters and downpipes) then the same metals and profiles must be used in the new roof.
- New buildings may be clad in ZINCALUME® or COLORBOND®.

Colorbond selection

Colour choice for COLORBOND® roofs needs to be based on traditional colour schemes for painted roofs.



Colorbond roof galvanic corrosion caused by lead flashing

<http://theroofingprofessionalswestside.com.au/help-to-fix-roofing-problems-in-western-sydney/#Galvanic-corrosion-problems>