

PC01 Purlin Creasing or Print-through

27 February 2024

Version 1

Purlin creasing is similar to canning, except that the distortion in the pan occurs along the purlin lines rather than in a random pattern. It can also be referred to as *print-through*. The cause is often hard to diagnose.

In cases where it is localised it may be caused by accumulative effects, including structure alignment, timber shrinkage, temperature variance, purlin stability, over-tightened fasteners, etc.

Where it appears in specific pans of the profile, that is more likely to be a result of coil shape or rollformer settings.

Where it appears fairly evenly throughout the roof it is generally caused by stresses in the profile caused by the rollforming process.

To some extent, canning or print-through is almost inevitable in wide-spaced rib profiles. However, it can be far less apparent in some situations than others, depending largely on line of sight, and light conditions. It is sometimes less apparent with close-spaced rib profiles and 0.55 mm roofs, but it still occurs and becomes a lot less noticeable as the paint surface gloss levels fall and film build-up occurs.

The visual impact of purlin creasing is similar to that of oil canning or clip creasing. The MBIE Guidance document “Guide to tolerances, materials and workmanship in new residential construction” does not consider these visual effects a defect. (see below)

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Appearance

- x Excessive or differential paint fade, including that resulting from the the use of touch-up paint.
- x Gaps of more than 5 mm where flashings are cut around the profile (notching).
- x Uneven, asymmetrical or inconsistent notching.
- x Excessive creasing due to misaligned purlins.
- ✓ Oil canning is a common occurrence with products which have standing seams or wider profiles patterns. This is not considered a defect and will become less apparent with weathering.
- ✓ Excessive creasing due to misaligned purlins.
- ✓ Minor creases in 0.4 mm steel and 0.7 mm aluminium products can be expected.

Where a client's tolerance for purlin creasing is low, they should be advised to specify a close-ribbed trapezoidal or corrugate profile and be encouraged to stipulate 0.55 mm thickness material, or a low gloss or matte surface finish.

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