

TECHNICAL INSIDER

Oil Canning

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OIL CANNING

WHAT IT IS AND HOW TO MINIMISE IT

Oil canning is a visual effect that may appear as waviness in wide, flat steel profiles. It can occur across a range of applications and is more common in thinner gauges and wider pans. Importantly, oil canning is generally an aesthetic consideration only and does not affect structural performance.

As oil canning can result from multiple factors – many outside the control of manufacturers – it cannot be entirely eliminated. However, with thoughtful design, correct handling and experienced installation, its appearance can be effectively minimised.



What Influences Oil Canning?

Oil canning is typically the result of a combination of factors, including:

- residual stresses from steel coil production and roll forming
- profile width, gauge, colour and surface finish
- handling and storage prior to installation
- the flatness and accuracy of the supporting structure
- installation techniques and fixing methods
- thermal expansion and contraction of the sheeting

The visual impact of oil canning may change throughout the day due to temperature variation or light conditions. It is often more noticeable on steeply sloped roofs, walls and surfaces viewed from elevated positions.

Installation, Handling and Best Practice

Correct installation plays a critical role in minimising oil canning and should be carried out by experienced installers familiar with wide, flat steel profiles.

Sheets should be handled with care during unloading and installation. Panels are best carried by two people, holding the main rib, with the pan hanging down vertically and free of twisting. This helps prevent the introduction of stress or distortion prior to fixing.

During installation, sheets should be allowed to sit in a relaxed, natural position before fastening. Panels must not be pulled, forced or restrained in any direction when fixed, as this can introduce tension and lead to visible distortion.

Fasteners should be correctly located and not over-tightened. Excessive tightening can create localised stresses in the sheet, increasing the likelihood of oil canning. Where slotted fixing points are provided, they should be used to allow for normal thermal movement.

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How to Reduce the Risk

The likelihood of visible oil canning can be reduced by:

- selecting narrower profiles and thicker gauges where possible
- choosing lighter colours with matt finishes, which reduce visual contrast
- storing and handling sheets carefully to avoid bending or twisting
- ensuring the supporting structure is flat, square and in one plane, with no dips or humps
- taking additional care around openings, corners, flashings and cut edges

In some situations, insulation blanket or localised foam tape beneath wide pans can introduce slight camber, which may assist in reducing the appearance of waviness. If plywood is used to create a flat substrate, a backing rod under the sheet pan can provide an outward camber.

Key Insights

Oil canning is a recognised characteristic of wide, flat metal sheeting and is best managed through informed product selection, careful handling and experienced installation. For visually sensitive applications, early consideration of profile choice, colour, structure and fixing methods is essential.

If you are unfamiliar with installing products that may be subject to oil canning, selection and installation requirements should be discussed with Stramit prior to ordering. Unless specific tolerance criteria have been agreed and documented in advance, oil canning is not accepted as grounds for panel rejection.



For further oil canning information, refer to Stramit's [SharpLine technical manual](#) or visit BlueScope's website.

