National Association of Rooflight Manufacturers

NARM Technical Document NTD16
2018

Roof window installation considerations for pitched roofs

Contents

Introduction

The National Association of Rooflight Manufacturers (NARM) represents manufacturers offering a complete cross section of fixed and opening rooflight types, including:-

- **modular domes**
- **pyramids**
- **roof windows**
- **flat glass rooflights**
- **in-plane profiled rooflights**
- **continuous barrel vaults**
- **panel glazing systems**
- **architectural glazing systems for skylights**
- **lantern lights**
- **atria**

Together, through NARM, they are able to provide a knowledge base second to none on matters relating to the provision of high quality natural daylight into all types of buildings.

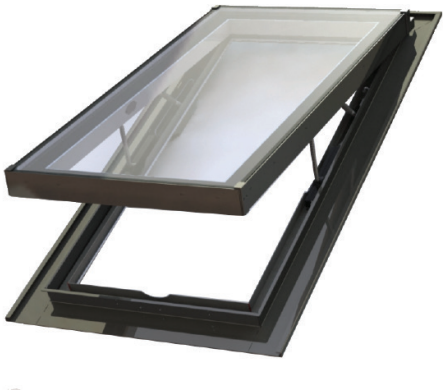
Background / How to use this guide

This guide has been produced by NARM member companies to help raise awareness of the typical installation and detailing pitfalls that roof window installers should be aware of before commencing installation.

Most detailing for roof windows is not product specific and the information contained in this guidance document is applicable to many roof window installations. Where there is product specific guidance required, this document considers two main 'types' of roof window products. For the purposes of this document, these will be referred to as Category X and Category Y products (examples of each product category are shown below).

Where the detailing for these products differs please refer to the corresponding shaded section of

Category X - Centre pivot roof window (viewed from the inside)

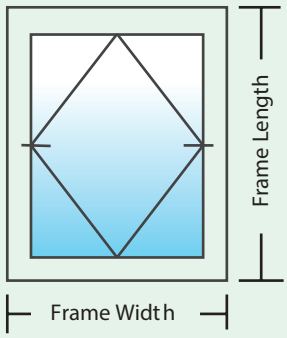


Category Y - Top hinged roof window (viewed from the outside)

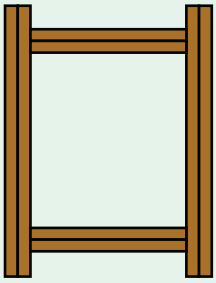
Category X - Centre pivot roof window (viewed from the outside)

Sizing of the structural opening

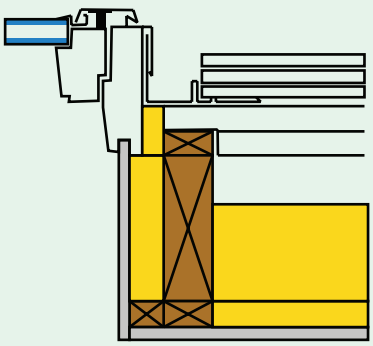
For Category X products, sizing is typically referenced to the overall frame size. Check manufacturers information carefully



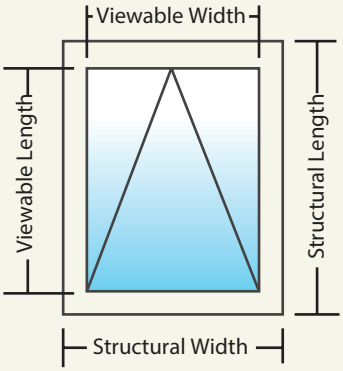
Structural opening is typically doubled up trimmers and rafters.



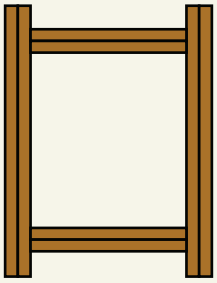
Depth positioning of window is typically relative to the top face of the battens / sarking.



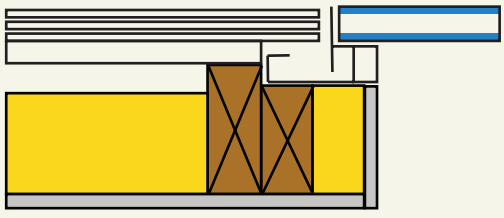
For Category Y products sizing is typically referenced to the structural or clear viewable size. Check manufacturers information carefully



Structural opening can be doubled up trimmers and rafters for smaller sizes but a structural engineer may need to be consulted for larger sizes.



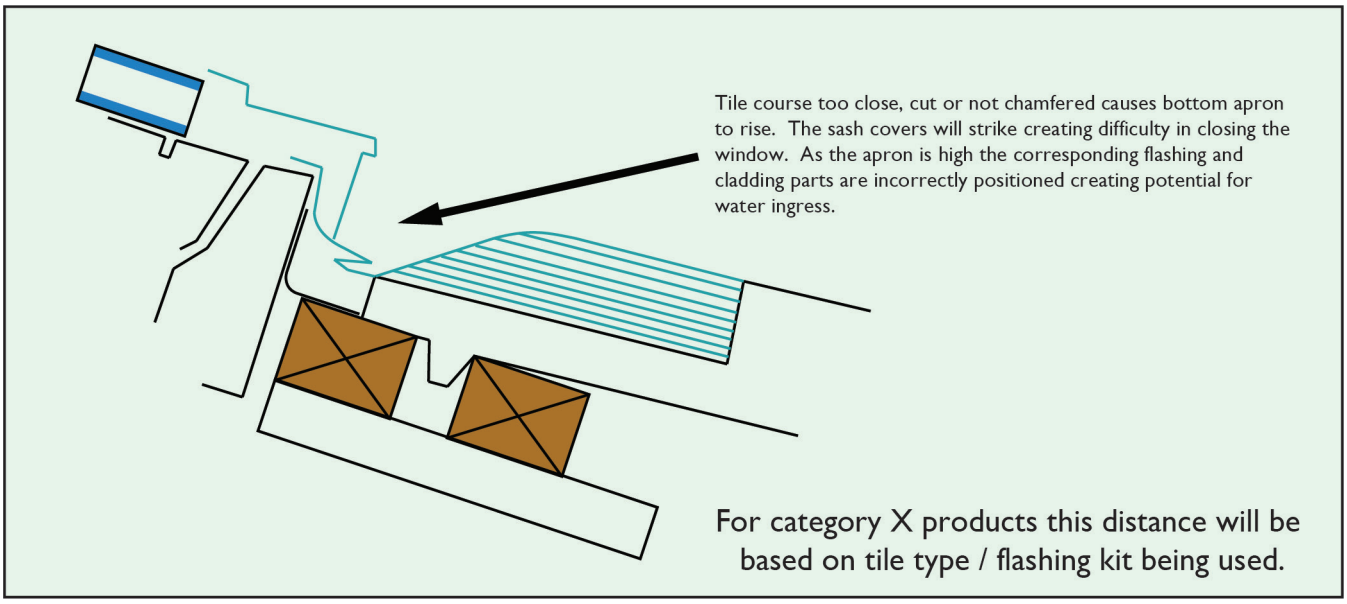
Depth positioning of window is typically relative to the top of the rafter.

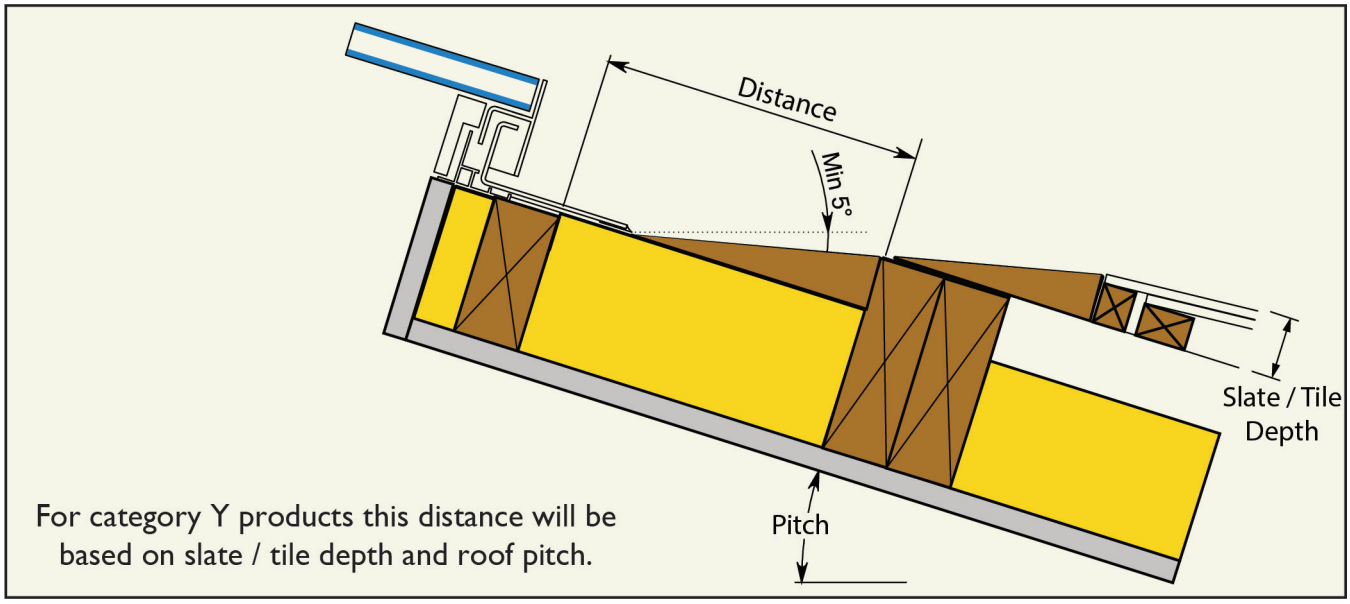


Coursing

A full course of tiles below the roof window is required. Consider the position of the roof window and adjust courses appropriately.

To avoid ponding at the cill flashing, sash functionality issues or the potential for water ingress - ensure the cill flashing is positioned at an appropriate distance from the course of tiles at the cill.





*Always refer to manufacturers specific instructions.

Underlay

The underlay protects the roof construction against harmful water penetration as a result of condensation that forms naturally on the underside of the roofing material or equally from leakages through the roofing material should they not be finished completely tight. Underlays should perform no less than at any other part of the roof in terms of water tightness and air permeability and should lap consistently to ensure the flow of water runs over the laps and does not run into the roof construction.

For Category X products, when the condensate path is interrupted by a roof window then the condensate should be drained off to the sides of the roof window by means of installing an additional drainage gutter along the head of the roof window. This drainage gutter will drain the condensate to the adjoining section of the roof where it can resume running down the

For Category Y products, when the path is interrupted by a roof window then the condensate should be drained on to the perimeter flange of the roof window by means of installing a tilting fillet along the head of the roof window. The perimeter flange of the roof window will drain the condensate (and rain water collected on the exposed frame) over the cill flange, over

When installing the underlay it is essential to:

> Ensure appropriate coverage of the underlay.

> Ensure corner detailing is adequate for the roof exposure.

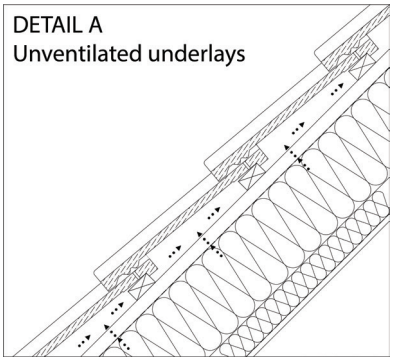
> Ensure head lap is appropriate.

> Ensure the underlay is sealed to the window frame.

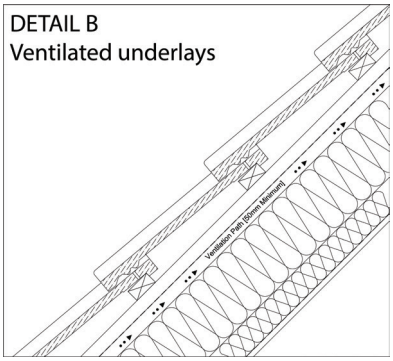
> Ensure ventilation requirements for unventilated or ventilated underlays are considered and met.

It is important that installers seek clarity and confirmation from roof window manufacturers in relation to the points detailed above. Manufacturers proprietary details should be carefully reviewed and adhered to. Further guidance regards pitched roof underlays can be obtained from

DETAIL A
Unventilated underlays



DETAIL B
Ventilated underlays



Levelling and Squareness

For roof windows to perform as intended it's important to ensure the frames are installed level and square.

When installing roof window frames it is essential to:

> Measure the aperture for squareness.

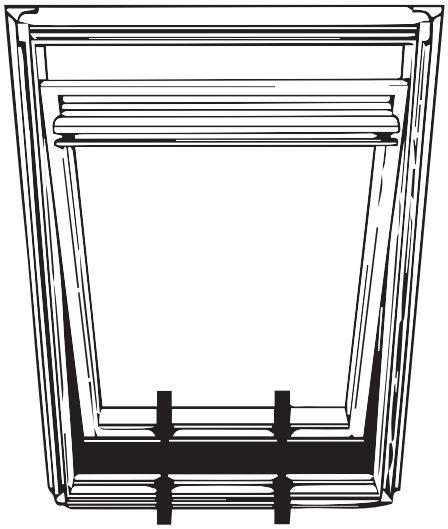
> Check the level across the aperture.

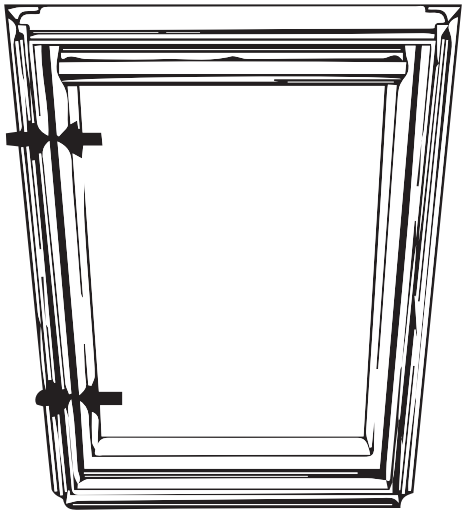
> Shim and pack the frame as appropriate.

> Not underestimate the importance of a visual check.

> Ensure the frame is not distorted when fixing into the structural support.

These checks and actions are critical to ensure that the air tightness of the roof window is not compromised whilst also ensuring seals operate as the manufacturer intended, locking mechanisms operate effectively, flashing kits can be fitted appropriately, the window remains





Flashing

It is important that a roof window is installed with the correct perimeter flashing kit. These kits are often specific to the roof covering being used e.g. profiled tiles / slates and specific to the manufacturers products.

When installing the flashing kit:

> Ensure high profile tiles are chamfered as required.

> Check that tile cuts are appropriate for the installation (check manufacturers details).

> Cut weathering foam at the sides appropriately and match to the tile coursing.

For Category X products:

> Maintain slate coursing at the cill and ensure there are no gaps under the slates to prevent driven wind and rain.

> Ensure soakers are correctly positioned.

For Category Y products:

> Use an eves course of tiles at the head to support the first course of tiles above the roof window.

> If using lead soakers, ensure these are correctly formed.

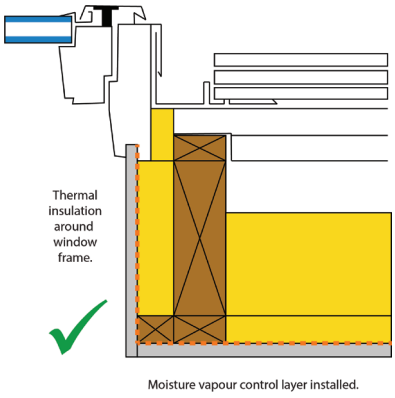
> Check the minimum run-off angle to ensure there will be no ponding of water

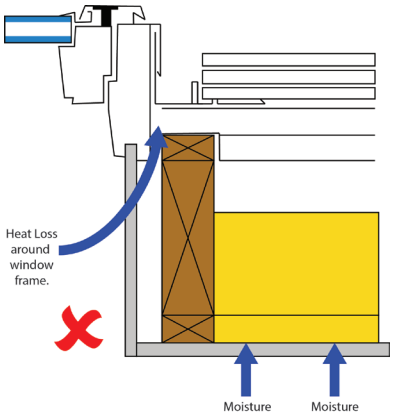
Insulation, Vapour Barrier and Internal Reveal

The perimeter abutment between a roof window and surrounding roof structure should perform in terms of thermal insulation and moisture control no less than any other part of the roof structure. It is important that any potential thermal loss is mitigated by the use of manufacturers proprietry insulation systems or placement of sufficient insulation material.

Likewise, moisture transfer should be mitigated around the roof window perimeter by utilising an appropriate vapour barrier and ensuring an airtight seal between the vapour barrier and the window frame.

When fitting the roof window vapour barrier it is important to tape and / or seal the joints back to the main roof vapour barrier to ensure continuity of the complete barrier system.





Refer to NARM design guidance for details regards appropriate daylighting factors. Consider the use of 'splayed' internal reveals to direct air accross the inside face of the glazing panel to assist in condensation control accross the glazing.

Summary

This guidance document has discussed some of the common pitfalls associated with the installation of roof windows.

When installing roof windows ensure that the manufacturers recommended installation details are understood and followed. If in doubt, ask.

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