

Panelled Roof Cassette Systems: Warranty Requirements

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Introduction

This technical document provides additional guidance relating to how the Functional Requirements and Performance Requirements in the Technical Manual may be satisfied when panelled roof cassette systems are used as a part of a project. It covers some of the main points to be considered with this type of build up and puts forward how our requirements can be satisfied.

What are panelled roof cassette systems?

For the purposes of our Warranty, panelled roof cassette systems are prefabricated pitched roof panels (open or closed) which may also be supplied with wall and floor panels, beams, and other supporting elements of structure. The systems may be constructed from timber, metal, or structural insulated panels (SIP), or a combination of these materials. They can provide a completely clear roof space free from struts, ties, or bracings.

What are the Warranty providers concerns?

Design concerns

The roof structure is fundamental to a building's stability and must also address fire performance, thermal insulation, durability, weatherproofing, vapour permeability and, where required, acoustic performance. Traditional cut roofs and trussed rafter systems rely on effective triangulation to resolve horizontal thrust at eaves level, preventing the risk of lateral loads deflecting the supporting walls.

The Warranty Provider considers panelled roof cassette systems to fall outside the scope of Approved Document A, as they represent a non-standard form of construction and, in some instances, may not satisfy basic stability requirements.

A key concern is the inadequate resolution of horizontal thrust, often due to insufficient tying into the main structure or gable walls. Additionally, uncoordinated alterations, such as introducing ventilation openings above ceiling tie level, are being made to structural sheathing without regard to the approved design.

Internal reviews also indicate that design packages are frequently limited to the panel itself, failing to consider interaction with walls, gables, and floor structures, or to fully address the wider performance requirements of the roof.

Installation concerns

On site installation of these systems have been found to not follow the approved design, often due to the unfamiliarity of the system requirements by site operatives. The execution of the designed connections are often ignored and can lead to failure of the panel system.

Warranty stance

Failure to provide an appropriate design and a failure to follow correct installation procedures as determined by such designs is considered to compromise the ability of the roof construction and the supporting external walls in meeting with the Functional Requirements and Performance Requirements stipulated by the Technical Manual - notably those relating to structural stability.

What Developers should action after reading this document?

For Warranty purposes, where panelled roof cassette systems are to be used on our sites, Developers must ensure that they are clearly identified at the start of a project and that they are using an accepted system, which is supplemented by a full specification. All information should be made available to our Warranty surveyor for a site specific review prior to commencement.

Acceptance routes for panelled roof cassette systems

To demonstrate compliance and suitability for use in relation to Warranty, two acceptance routes are available:

Option 1 - Third-party product conformity approval

Developers must ensure that suppliers and manufacturers of panelled roof cassette systems hold valid third-party product approval from an independent body accepted by the Warranty provider. The approval must assess the system as a whole and clearly define its suitability, performance, and scope of use and must be in place by the **1st July 2027**.

Option 2 - Warranty provider system acceptance

Manufacturers or developers may seek system acceptance directly from the Warranty provider. This involves a formal review and assessment of the system design, construction, and performance by our Innovations team. Once accepted, the system may be used on projects covered by the Warranty Provider, subject to any defined limitations or conditions of use.

For the avoidance of doubt, the process described in Option 2 relates to acceptance being carried out solely to inform the Warranty provision and does not represent approval, certification, or verification of compliance with regulatory, design, or other construction requirements. No reliance should be placed on this process for any purpose other than Warranty eligibility.

Responsibility for demonstrating compliance

Where third-party product approval is relied upon, the Developer and their design team remain solely responsible for ensuring that the system, its certification, and the proposed application fully comply with the requirements of the Technical Manual and are appropriate for the specific project.

Where system acceptance is sought directly from the Warranty provider, compliance will be assessed as part of that review process. In such cases, the Warranty provider will consider the system holistically, including its proposed use and interaction with the building.

Any acceptance provided by the Warranty provider is solely in relation to compliance with the Technical Manual and our Warranty requirements. It does not constitute approval in relation to Building Regulations nor should it be used to supplement or support submissions to regulatory bodies to gain such approvals. In all instances, the Developer remains responsible for obtaining all necessary approvals relating to the Building Regulations.

Design team responsibilities and submission requirements

The Developer's design team must ensure that all panelled roof cassette systems and their constituent components satisfy the requirements of 'Appendix C' of the Technical Manual prior to submission to the Warranty provider.

Third-party product approval certificates must address the core performance criteria set out in 'Appendix C', including structural integrity, fire performance, durability, weatherproofing, thermal performance, vapour permeability and, where applicable, acoustic performance.

In addition, third-party approval certificates for panelled roof cassette systems must include evidence of:

- Confirmation of regulatory compliance.
- Inspection and surveillance of factory production.
- Installation guidance, including acceptable tolerances.
- Approval of installers.
- Confirmation that the manufacturer holds ISO 9001 certification.

Irrespective of the acceptance route taken, an appropriately qualified Engineer must take overall structural design responsibility, ensuring site-specific designs are developed in accordance with relevant guidance and that the system, including its interaction with the primary structure, complies with all Technical Manual requirements.

The design must account for the spanning arrangement of the panelled roof cassette system, typically either eaves to ridge or gable to gable.

For each site-specific submission, the following information must be provided:

1. A full system specification demonstrating compliance with relevant regulations and design standards, supported by calculations, drawings, test data, and reports.
2. Structural calculations and drawings in accordance with all applicable current Eurocodes/British Standards, based on worst-case loading scenarios (including exposure conditions and critical spans).
3. A coordinated structural design package covering all interacting elements, including roof coverings and applied loads (e.g. photovoltaic panels, dormers, etc.).
4. Principal connection details, supported by calculations, for all key interfaces including eaves, ridge, gables, ceiling ties/struts, and load transfer paths.
5. A project-specific fixing schedule as determined by the Engineers structural design - where generic fixing arrangements are used, they must be fully considered and appraised by the Engineer to be acceptable.
6. Wind uplift calculations, including restraint provisions for wall plates and gable/hipped ends.
7. Consideration of all interfacing elements, including chimneys, rooflights, dormers, ventilation systems, and applied finishes.
8. Demonstration of compliance with fire, thermal, moisture, acoustic and durability requirements, with particular attention to junctions such as party walls and gable ends.
9. Detailed design of eaves and verge treatments; site-devised solutions will not be accepted.
10. A manufacturer's system manual covering installation, repairability and sign-off procedures, with evidence of installer training available on request.
11. Evidence demonstrating that the design has considered the requirements of the Building Regulations, including any classification of the panelled roof cassette system as a structural element and associated fire resistance provisions.

Installers

Developers site teams must ensure that all installers of the panelled roof cassette system have received suitable training from the manufacturer, with evidence made available to the Warranty surveyor upon request. This may include confirmation that installation has been undertaken by approved installers, supported by the issue of a completion certificate.

Where installation is carried out by others, a formal sign-off certificate from the manufacturer or system designer must be provided to confirm that the installation has been completed in accordance with the approved design.

All components used to install and fix a panelled roof cassette system shall be strictly as specified by the designing Engineer and satisfy 'Appendix C' of our Technical Manual. Installers **must not** substitute fixings or use methodologies outside of the accepted and designed approaches as determined by the designing Engineer.

Controlled and monitored installations

The Developer should also ensure that site teams have appropriate installation methodology in place for the installation of panelled roof cassette systems. This information should be explicitly followed on-site by any installation teams and must align with the manufacturer's installation procedure details, as identified in the documents that form its acceptance to Warranty, and with the designing Engineers requirements.

Site teams should also operate quality assurance procedures covering installation - our Warranty surveyor may request evidence that appropriate controls and monitoring checks are in place and being undertaken at any point during construction.

Quality assurance procedures and practice should also factor in that roofing cassette panels will require temporary protection from the effects of weather (when being stored on-site and where it is left exposed when in-build) as per the manufacturer's recommendations. Where a breather membrane is proposed as a temporary weather protection, the details of maximum exposure of the membrane should be provided.

Transitional arrangements

For panelled roof cassette systems that do not yet hold a full third party product approval, manufacturers have 2 routes to obtain acceptance:

Where they are using Option 1 – Third-party product conformity approval

The panelled roof cassette system must have in place a valid third-party product approval from an independent body accepted by the Warranty Provider. In order to support ongoing work by manufacturers to obtain this, we have extended the deadline to the **1st July 2027**.

Where they are using Option 2 – Warranty provider system acceptance

The panelled roof cassette system must have a valid system acceptance in place directly from the Warranty provider before any work on site commences.

As this involves a formal review and assessment of the system design, construction, and performance by our Innovations team, any timeframe will be set by that acceptance process as required. Once accepted, the system may be used on projects covered by the Warranty Provider as directed by any acceptance statement given, and subject to any defined limitations or conditions of use.

For the avoidance of doubt, any process relating to acceptance is carried out solely to inform the Warranty provision and does not represent approval, certification, or verification of compliance with regulatory, design, or other construction requirements. No reliance should be placed on this process for any purpose other than Warranty eligibility.

Note: The above approaches to acceptance updates the previous transitional arrangements set out in January 2025.