



Certification Practice Note 6

Guidance on the certification of the structural design of prefabricated modular buildings

1.0. Background

- 1.1. Prefabricated modular buildings are constructed off-site, often in a factory under controlled conditions. They are produced in modules that are put together on site, although the completed building may only comprise one module.
- 1.2. Prefabricated modular buildings are often independently accredited and approved by recognised certification bodies, such as the BBA (British Board of Agrément).
- 1.3. The Building (Scotland) Regulations 2004 require that buildings meet the standards described in Schedule 5 to Regulation 9, in particular Mandatory Standards 1.1 and 1.2.
- 1.4. This document provides guidance on the certification of the design of these types of buildings.

2.0. General Guidance

- 2.1. The process of certifying the design of prefabricated modular buildings is no different to that of other buildings, in that the Certifier must satisfy himself/herself that the building complies with the structural requirements of the building regulations.
- 2.2. Usually, this means reviewing drawings and calculations for compliance. However, for new buildings or modules which have been independently accredited by a recognised certification body, there is a simplified approach to certification and further guidance is given later in this document.
- 2.3. In all situations, drawings as described in Annex A to the publication Procedural Guidance on Certification will need to accompany the application for building warrant.

3.0. Certifier's review of the design

3.1. The Certifier's review of the design should include consideration of the following:

- a) The validity and applicability of any accreditation documents, e.g., whether or not they demonstrate compliance with Mandatory Standards 1.1 and 1.2, whether or not the imposed loads covered by the certification documents are appropriate.
- b) The compatibility between the load points from the structure, the design for the foundations and the holding down fixings.
- c) A check to see that the warrant drawings include the information described in the Procedural Guidance on Certification and, where appropriate, that they include a clear reference to the product covered by any accreditation documents. Confirmation should be obtained from the body handling the warrant application that the submission includes a copy of those accreditation documents.
- d) A check to see that any elements that form part of the application for building warrant, but that are not covered by the certification documents for the module, have been designed, detailed and certified in the normal manner. e.g., foundations, holding down connections, externally applied cladding, external ramps, handrails, canopies, etc
- e) Where modules are stacked to form a building of two storeys or more, that the design demonstrates that the arrangement proposed is stable, that it will be able to sustain any stacking and wind loads and that the connections between buildings and connections to the foundations will be transmit the loads safely to the ground.

4.0. New buildings or modules

- 4.1. Unless the building or module is covered by accreditation the Certifier must review drawings and calculations or other justification for the design to see that the building complies with Mandatory Standards 1.1 and 1.2.
- 4.2. There may be situations where the supplier says that they are unable or are unwilling to provide drawings and design calculations. This does NOT absolve Certifiers from having to satisfy themselves that the building complies with the structural requirements of the building regulations.

5.0. Used buildings or modules

- 5.1. Where drawings showing the construction of the building are available and the construction can be verified, certification should include a review of those drawings, together with calculations or other evidence demonstrating compliance in the normal way.
- 5.2. Where drawings are not available, an intrusive examination of the building may be necessary to determine its construction and to confirm that it is in a suitable condition for re-use. Drawings showing the construction will need to be prepared and submitted with the warrant submission and calculations or other justification for the design will need to be prepared to demonstrate compliance.

5.3. Where the building or module has been used previously, the Certifier should NOT rely on any accreditation unless it can be demonstrated, by means of a structural appraisal, that the module has not been altered in any way or has sustained any damage that might affect its ability to perform as originally intended. This will probably involve an intrusive inspection.

6.0. Simplified approach

6.1. Where the module is new and has been independently accredited by a recognised certification body, such as the BBA (British Board of Agrément) the Certifier may rely on that accreditation without having to review detailed design calculations, providing the accreditation confirms that the building complies with Mandatory Standards 1.1 and 1.2 and has been assessed for the geographic location where the building is to be built.

7.0. Certification Performance Criteria

7.1. Certifiers should also refer to the Certification Performance Criteria, which can be found in the SER website.

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