



Certification Performance Criteria Guidance

B4.8 Superstructure – Other Elements

Revision A

Performance Criteria

Certifiers shall satisfy themselves that adequate details have been prepared for all other elements, including secondary beams, trimmers, staircases, etc., and that sufficient calculations have been prepared in accordance with an acceptable methodology to demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.

Where Schedule 1 has been used Certifiers must satisfy themselves that adequate details for the elements have been prepared, that sufficient preliminary calculations have been undertaken or that there is other justification to demonstrate the adequacy of the solution proposed and that an adequate performance specification has been prepared.

Background

The Technical Handbook states:

‘In order to be safe, a building should be capable of resisting all loads acting on it as a result of its intended use and geographical location. To achieve this, the structure of a building should be designed with margins of safety to ensure that the mandatory functional standard has been met.’

Other elements of the superstructure will be those elements which are not regarded as principal loadbearing or stability elements and will include secondary beams, trimmers, staircases, suspended floors, plant room floors and their immediate supports and supports for significant items of building services, such as air conditioning plant, heavy ductwork and cable trays.

Guidance

Calculations for any other elements should be carried out in accordance with the Codes and Standards listed in the Technical Handbooks accompanying the Regulations. Where design methodologies have been used which are not based on these then Certifiers must be satisfied that the alternative approach still meets the standard required by the regulations and clearly demonstrate how they have satisfied themselves in this regard.

The warrant plans should show all elements of superstructure and they should be consistent with the design calculations.

The level of checking undertaken will depend on a wide range of factors which include the complexity of the design and the risk associated with structural failure. For more detailed guidance refer to SER Guidance Note 11, 'Guidelines for Checking the Structural Design of Buildings'.

As stated in other guidance structure is not explicitly defined either in the Act or the Regulations and therefore must be inferred from consideration of the requirements of the Regulations. In the context of Standard 1.1 Structure it can be implied to mean any part of a building that is required to sustain and transmit load. It is therefore important that the certifier checks to see that all the loadbearing elements of the building have been designed and detailed appropriately.

Examples of Major Non-conformances

Absence of or grossly inadequate evidence of the Certifier's review of the design of the other superstructure elements.

The design of any of the other superstructure elements clearly does not meet the requirements of Standards 1.1 and 1.2.

Absence of or grossly inadequate suitably checked structural calculations, load/span tables, test certification or other justification for the design of any other important elements of structure.

Absence of or grossly inadequate suitably checked drawings/details.

Absence of or grossly inadequate performance specification and details on the warrant plans, where precast concrete staircases were included on Schedule 1.

Absence of or grossly inadequate calculations, etc. to justify the preliminary design shown on the warrant plans where precast concrete staircases were included on Schedule 1.

Absence of or grossly inadequate evidence to demonstrate that a review of a third party's finalised design for any precast concrete staircases had been carried out by the Certifier before an interim or final Form Q was signed.

Examples of Improvement Issues

Insufficient evidence of the Certifier's review of the design of the other superstructure elements.

Inadequate or insufficient details on the building warrant plans.

Inadequate or insufficient structural calculations, load/span tables, test certification or other justification for the design of any other element of structure.

Inadequate performance specification and details on the warrant plans, where precast concrete staircases were included on Schedule 1.

Inadequate calculations, etc. to justify the preliminary design shown on the warrant plans where precast concrete staircases were included on Schedule 1.

Insufficient inadequate evidence to demonstrate that a review of a third party's finalised design for any pre-cast concrete staircases had been carried out by the Certifier before an interim or final Form Q was signed.

March 2022