



Scheme for Certification of Design (Building Structures)

Procedures for Auditing the Activities of Approved Bodies and Approved Certifiers

Appendix B: Criteria for the Assessment of Projects

March 2022

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B1 Procedures and Planning

Approved Certifiers are required, in accordance with SER guidance, to prepare a design audit plan and maintain records of decisions taken in relation to a project.

Key Factors

The Certification Plan will assist the Certifier to assemble all of the necessary information and conduct the design audit in an organised manner. It is essential for the Certifier to properly identify the full scope of structural works covered by the design certificate. Certificates should only be signed once design has been completed to an appropriate level.

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B1.1	<p>Certification Procedures and Records</p> <p>Certifiers shall plan and undertake the certification activities in an organised manner.</p> <p>Certifiers shall identify all of the structural elements that are covered by the design certificate(s).</p> <p>Certifiers shall undertake a risk assessment to determine the extent of the review of the design that they will undertake.</p> <p>Certifiers shall see that the design of the project has had the appropriate level of checking.</p> <p>Certifiers shall maintain records of the certificates issued, showing how compliance with the Building Regulations was established.</p>	<p>Absence of or grossly inadequate evidence of an organised approach to managing the certification process.</p> <p>Absence of or grossly inadequate evidence of an organised approach to identifying the scope of structural design appropriate to the scale of the project.</p> <p>The approach to certification is grossly inadequate in relation to the size of the project.</p> <p>Absence of or grossly inadequate evidence to demonstrate that the project had had the appropriate level of checking.</p> <p>Absence of or grossly inadequate records showing how compliance with the Building Regulations was established</p> <p>Absence of or grossly inadequate evidence of the Certifier having undertaken a risk assessment to determine the extent of the review of the design that is to be undertaken.</p>	<p>Insufficient evidence of an organised approach to managing the certification process e.g., lack of or inadequate certification plan.</p> <p>Insufficient evidence of an organised approach to identifying the scope of the structural design.</p> <p>Insufficient evidence to demonstrate that the project had had the appropriate level of checking.</p> <p>Insufficient records showing how compliance with the Building Regulations was established.</p> <p>Insufficient evidence of the Certifier having undertaken a risk assessment to determine the extent of the review of the design that is to be undertaken.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B1.2	<p>Project Records</p> <p>Certifiers shall confirm that the project records are comprehensive, well-presented, and meet the scheme requirements.</p>	Absence of or grossly inadequate records.	Insufficient, inadequate, or poorly presented records.
B1.3	<p>Programming of Work</p> <p>Certifiers shall not sign the design certificate until they are satisfied that the design has been completed and checked to an appropriate standard.</p>	<p>Design certificate(s) signed before the design of all of the elements is complete, except where the element is listed on schedule 1.</p> <p>Absence of evidence to demonstrate that the Certifier reviewed the design to see that any comments arising from an earlier review were incorporated, with corrections made where appropriate.</p>	Inadequate evidence to demonstrate that the Certifier reviewed the design to see that any comments arising from an earlier review were incorporated, with corrections made where appropriate.
B1.4	<p>Use of Third Party Designed Details Option</p> <p>Certifiers shall only use Schedule 1 as described in guidance published by BSD and SER.</p> <p>Certifiers shall advise, or shall confirm that the Approved Body has advised, the Client and/or any Agent acting on behalf of the Client of the implications of using Schedule 1 prior to commencing the certification of the project.</p>	Using the option in a manner clearly contrary to the intent described in published guidance.	<p>Failure to advise or to confirm that that Approved Body has advised the Client and/or any Agent acting on behalf of the Client of the implications of using Schedule 1 prior to commencing the certification of the project.</p> <p>Failure to issue an interim Form Q at the appropriate time for any element on Schedule 1 the design for which had been finalised, reviewed, and met the requirements of the performance specification, except where there are documented reasons for not having done so.</p> <p>Failure to sign and issue Form Q prior to completion of project when the designs for all of the elements on Schedule 1 had been finalised and reviewed and met the requirements of the appropriate performance specifications, except where there are documented reasons for not having done so.</p>

B2 General Design Overview and Parameters

Certification and checking are separate activities. Certification cannot be delegated to a third party while design checks can only be undertaken by an individual with the necessary experience in the particular aspect of the check.

Key Factors

Generally sub-classifications listed in this section cannot be delegated and Certifiers must present evidence that they have reviewed and approved the fundamental design decisions involved.

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B2.1	<p>Loading Assessment</p> <p>Certifiers shall check that a loading assessment has been carried out and shall satisfy themselves that the correct loadings have been used for the design</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the loading assessment</p> <p>The loadings used in the design clearly do not meet the requirements of the Standards.</p> <p>Absence of or grossly inadequate suitably checked loading calculations and/or assessment for any significant load case.</p> <p>Serious inconsistencies between the loading assessment and the loadings used in the design.</p> <p>Serious inconsistencies in loading between different designers.</p>	<p>Insufficient evidence of the Certifier's review.</p> <p>Inadequate/insufficient calculations and/or assessment</p>
B2.2	<p>Overall Stability</p> <p>Certifiers shall satisfy themselves that adequate measures have been taken to ensure the stability of the building and the stability of any part of another building.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the measures taken to ensure the stability of the building and the stability of any part of another building</p> <p>The measures taken to ensure stability of the building clearly do not meet the requirements of the Standards.</p>	<p>Insufficient evidence of the Certifier's review of the measures taken to ensure the stability of the building and the stability of any part of another building</p> <p>Inadequate statement describing how stability of the building will be achieved.</p> <p>Inadequate consideration of the factors that could affect the stability of an adjacent building.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
		<p>Absence of or grossly inadequate statement describing how stability of the building will be achieved.</p> <p>Absence of or grossly inadequate consideration of the factors that could affect the stability of an adjacent building.</p> <p>Absence of or grossly inadequate checked calculations, or other justification, showing how the lateral loads will be distributed to the resisting elements.</p>	<p>Inadequate checked calculations, or other justification, showing how the lateral loads will be distributed to the resisting elements.</p>
B2.3	<p>Disproportionate Collapse</p> <p>Certifiers shall satisfy themselves that an adequate risk assessment has been undertaken to determine the appropriate risk group for the building and to identify the measures required to satisfy Standard 1.2.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the risk assessment</p> <p>The risk assessment has clearly failed to identify the measures required to meet the requirements of the Standards.</p> <p>Failure to demonstrate that a risk assessment concerning the need to take account of this aspect of the design has been undertaken.</p> <p>Failure to demonstrate how the measures intended to address the specific requirements arising out of the risk assessment will be applied as part of the design of the building.</p>	<p>Insufficient evidence of the Certifier's review of the risk assessment.</p> <p>Inadequate risk assessment.</p> <p>Inadequate demonstration of the measures being taken to address the specific requirements arising out of the risk appraisal</p>
B2.4	<p>Conversions</p> <p>Where the design proposal involves a change of use Certifiers shall satisfy themselves that an adequate assessment of the implications of the change of use in accordance with Regulation 12 and the requirement for strengthening of the building has been carried out.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the assessment</p> <p>The assessment undertaken has clearly failed to identify the measures required to meet the requirement of Regulation 12.</p> <p>Failure to consider, or grossly inadequate consideration of the requirements of Regulation 12.</p>	<p>Insufficient evidence of the Certifier's review of the assessment</p> <p>Superficial or inadequate consideration of the requirements of Regulation 12.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B2.5	Structural Movement Joints Certifiers shall satisfy themselves that the provision of structural movement joints is adequate.	Absence of or grossly inadequate evidence of the Certifier's review of the need for structural movement joints The provision of structural movement joints clearly does not meet the requirements of the Standards. Failure to demonstrate that the need to provide structural movement joints has been considered for large or complex buildings.	Insufficient evidence of the Certifier's review of the need for structural movement joints Failure to demonstrate that the need to provide structural movement joints has been considered for minor extensions, etc.

B3 Reports and Investigations

Reports and Investigations are frequently required in order to provide the designer with sufficient information to safely design the structure. Certifiers must review whether sufficient information has been gathered to support assumptions made by the design team and whether this information has been obtained from a reliable source.

Key Issues

Those employed to undertake investigations must be experienced and competent to do so. The scope of any investigations commissioned must be based on a rational assessment of the information required. Any testing must be carried out by a testing organisation accredited for the purpose and employing industry standard methodologies.

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B3.1	<p>Ground Investigation Reports</p> <p>Certifiers shall check that an adequate ground investigation has been carried out and shall review the scope of the investigation and the contents of the report to satisfy themselves that the conclusions and recommendations are appropriate.</p> <p>Certifiers shall check that the investigation takes account of the effect of any new building works on the stability of existing buildings in the vicinity of those works.</p> <p>In those circumstances where it is considered that a ground investigation is not required Certifiers shall ensure that the reasons why it is not considered necessary are recorded.</p> <p>Certifiers shall satisfy themselves that sufficient enquiry and/or investigation has been made to confirm that the proposed site will not be influenced by unconsolidated mineral workings.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the scope of the investigation, the contents of the report including the findings and recommendations.</p> <p>Failure to demonstrate that an adequate ground investigation was undertaken in relation to the design of the foundations.</p> <p>Failure to demonstrate that adequate enquiry regarding mineral workings was carried out in an area for such activity.</p>	<p>Insufficient evidence of the Certifier's review of the scope of the investigation, the contents of the report including the findings and recommendations.</p> <p>Deficiencies in the scope of the ground investigation in relation to the design of the foundations.</p> <p>Absence of a record as to why a ground investigation was not carried out for a minor project.</p> <p>Absence of a record as to why a mineral investigation was not carried out for a minor project in an area known for such activity.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B3.2	<p>Existing Buildings Appraisal</p> <p>Certifiers shall satisfy themselves that a sufficiently detailed appraisal of the effect on the existing building(s) and any buildings in the vicinity of the proposed works has been carried out and that the conclusions and recommendations are appropriate.</p> <p>Where the warrant application involves alterations to or a change of use of an existing building, Certifiers shall satisfy themselves that a sufficiently detailed appraisal of the existing structure has been carried out, that a written assessment of the effects of the proposed works has been prepared and that the conclusions and recommendations are appropriate.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the existing buildings appraisal and its conclusions.</p> <p>Absence of or grossly inadequate evidence that an appraisal of the effect on the existing building(s) and any buildings in the vicinity of the proposed works was undertaken.</p> <p>Failure to produce a report of the appraisal for all but minor projects.</p>	<p>Insufficient evidence of the Certifier's review of the existing buildings appraisal and its conclusions.</p> <p>Failure to produce a report of the appraisal for a minor project.</p> <p>Inadequate record of the appraisal.</p> <p>Deficiencies in the scope of the report or the methodology used.</p>

B4 Design (Principal Structure)

Design embraces a wide range of activities however the Certifier should focus on the analysis of the final scheme. Detailing must be understood as an integral and important part of the design process. Acceptable design methodologies include the codes and standards listed in the Technical Handbooks accompanying the regulations.

Key Factors

Certifiers are responsible for ensuring the integrity of the process used to prepare and check the final scheme design. Certification and checking are separate activities. Certification cannot be delegated to a third party while design checks may only be undertaken by an individual with the necessary experience in the particular aspect of the check.

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B4.1	<p>Mineral Consolidation</p> <p>Certifiers shall satisfy themselves that the design of the foundations allows for the presence of shallow mine workings, the collapse of which could result in surface movements that will cause settlement of the foundations, where this has been revealed in the ground investigation.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the effect of shallow mine workings on the design of the foundations.</p> <p>Failure to adequately demonstrate how the design of the foundations has taken account of the fact that mineral consolidation measures were not adopted where a significant settlement risk to the building has been identified.</p> <p>Failure to demonstrate that the extent of the mineral consolidation works has been identified or defined.</p> <p>Failure to demonstrate that the mineral consolidation measures undertaken or to be undertaken have been assessed and that these are taken into account in the design of the foundations.</p>	<p>Insufficient evidence of the Certifier's review of the effect of shallow mine workings on the design of the foundations.</p> <p>Failure to indicate the extent of any mineral consolidation works on the warrant plans.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B4.2	<p>Substructure (including ground floor slab but excluding piling)</p> <p>Certifiers must satisfy themselves that adequate details for the foundations (and/or pile caps) have been prepared, that there are sufficient design calculations or other justification for the design, which take account of the overall loadings and the findings of the ground investigation report, that demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p> <p>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.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design of the substructure.</p> <p>The design of the substructure clearly fails to meet the requirements of Standard 1.1.</p> <p>Absence of or grossly inadequate suitably checked structural calculations and/or details for any primary element of substructure, except for precast foundations systems for RC1 buildings which were included on Schedule 1.</p> <p>Calculations and/or details are grossly inadequate in relation to the size/complexity of the project.</p> <p>Failure to document why there are discrepancies between the recommendations in the ground investigation report for the design of the foundations and the parameters used in the design.</p> <p>Absence of or grossly inadequate performance specification and details on the warrant plans, where the design of any precast foundation system was included on Schedule 1 (Only applies to RC1 buildings)</p> <p>Absence of or grossly inadequate calculations, etc. to justify the preliminary design shown on the warrant plans, where the design of any precast foundation system was included on Schedule 1 (Only applies to RC1 buildings)</p> <p>Absence of or grossly inadequate evidence to demonstrate that a review of a third party's design finalised design for any precast foundation system had been carried out by the Certifier before an</p>	<p>Insufficient evidence of the Certifier's review of the design of the substructure.</p> <p>Deficiencies in the building warrant plans e.g., failure to identify foundation locations, dimensions, changes of level, material specification and typical reinforcement details.</p> <p>Absence of a note on warrant plans recording anticipated ground conditions and required bearing pressure.</p> <p>Inadequate or insufficient calculations.</p> <p>Inadequate performance specification and details on the warrant plans, where the design of any precast foundation system was included on Schedule 1. (Only applies to RC1 buildings)</p> <p>Inadequate calculations, etc. to justify the preliminary design shown on the warrant plans, where the design of any precast foundation system was included on Schedule 1. (Only applies to RC1 buildings)</p> <p>Inconsistencies between the design finalised by external specialist/third party and the performance specification submitted as a part of the warrant application, where an interim or final Form Q was submitted in respect of the design of any precast foundation system that was included on Schedule 1. (Only applies to RC1 buildings)</p> <p>Insufficient evidence to demonstrate that a review of a third party's design finalised design for any precast foundation system had been carried out by the</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
		interim or final Form Q was signed. (Only applies to RC1 buildings)	Certifier before an interim or final Form Q was signed. (Only applies to RC1 buildings)
B4.3	<p>Piling</p> <p>Certifiers must satisfy themselves that adequate details for the piling have been prepared, that there are sufficient design calculations or other justification for the design, which take account of the overall loadings and the findings of the ground investigation report, that the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p> <p>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.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design for the piling.</p> <p>The design for the piling clearly does not meet the requirements of Standard 1.1.</p> <p>Absence of or grossly inadequate suitably checked calculations or other justification for the design shown on the warrant plans.</p> <p>Absence of or grossly inadequate details for the piling shown on the warrant drawings</p> <p>Absence of or grossly inadequate performance specification and details on the warrant plans, where piling was included on Schedule 1</p> <p>Absence of or grossly inadequate suitably checked calculations or other justification for the preliminary design shown on the warrant plans, where piling was included on Schedule 1</p> <p>Absence of or grossly inadequate evidence to demonstrate that a review of a third party's finalised design for the piling had been carried out by the Certifier before an interim or final Form Q was signed.</p> <p>Drawings/specification do not describe requirements for site testing.</p>	<p>Insufficient evidence of the Certifier's review of the design for the piling.</p> <p>Deficiencies in the warrant plans e.g., failure to identify pile type, size, locations, SWL and indicative cut off levels.</p> <p>Inadequate or insufficient calculations-</p> <p>Inadequate performance specification and details on the warrant plans, where piling was included on Schedule 1.</p> <p>Inadequate calculations or other justification for the preliminary design shown on the warrant plans, where piling was included on Schedule 1.</p> <p>Inconsistencies between the design finalised by external specialist/third party and the performance specification submitted as a part of the warrant application, where an interim or final Form Q has been submitted in respect of the design of the piling that was included on Schedule 1.</p> <p>Insufficient evidence to demonstrate that a review of a third party's finalised design for the piling had been carried out by the Certifier before an interim or final Form Q was signed.</p> <p>Requirement for site testing inadequately described on the drawings or in the specification.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B4.4	<p>Earth Retaining Structures</p> <p>Certifiers must satisfy themselves that adequate details for any earth retaining structures have been prepared and that there are sufficient design calculations or other justification for the design, which take account of the findings of the ground investigation report, that demonstrate the adequacy of the design.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design for any earth retaining structures.</p> <p>The design of any earth retaining structures clearly does not meet the requirements of Standard 1.1.</p> <p>Absence of or grossly inadequate suitably checked structural calculations and/or details.</p> <p>Calculations and/or details are grossly inadequate in relation to the size/complexity of the project.</p> <p>Failure to document why there are discrepancies between the recommendations in the ground investigation report for the design of the earth retaining structures and the parameters used in the design.</p>	<p>Insufficient evidence of the Certifier's review of the design for any earth retaining structures.</p> <p>Deficiencies in the building warrant plans e.g., failure to identify layout, level changes, dimensions, construction, and typical reinforcement details.</p> <p>Inadequate or insufficient calculations.</p>
B4.5	<p>Ground Improvement</p> <p>Where ground improvement techniques are proposed to improve the nature of the ground, Certifiers must satisfy themselves that the level of performance specified for the treated ground is compatible with that assumed in the calculations for the design of the foundations and that there has been reasonable enquiry to see that the required performance can be achieved.</p> <p>Where ground improvement techniques have been used to improve the nature of the ground prior to certification, Certifiers shall satisfy themselves that adequate testing has been carried out to demonstrate the improved nature of the ground and that the test results have been made available to the designer of the foundations.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the proposed ground improvement techniques.</p> <p>Where ground improvement has been carried out prior to certification, absence of or grossly inadequate evidence that the Certifier has reviewed the testing results.</p> <p>Failure to demonstrate that the ground improvement measures undertaken or to be undertaken have been assessed and that these are taken into account in the design of the foundations.</p> <p>Drawings/specification do not describe requirements for site testing, where the works are still to be undertaken.</p>	<p>Insufficient evidence of the Certifier's review of the proposed ground improvement techniques.</p> <p>Where ground improvement has been carried out prior to certification, insufficient evidence that the Certifier has reviewed the testing results.</p> <p>Failure to indicate the extent of any ground improvement works on the warrant plans.</p> <p>Requirement for site testing inadequately described on the drawings or in the specification, where the works are still to be undertaken.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
		Failure to demonstrate that the extent of the ground improvement measures has been identified or defined.	
B4.6	<p>Superstructure – Principal load-bearing elements</p> <p>Certifiers shall satisfy themselves that adequate details have been prepared for all principal load-bearing structural elements, including structural frames, beams, columns, walls, floors, roofs, that there are sufficient calculations or other justification for the design that have been prepared in accordance with an acceptable methodology that demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p> <p>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.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design of superstructure.</p> <p>The design of any of the principal loadbearing elements clearly does not meet the requirements of Standards 1.1 and 1.2.</p> <p>Absence of or grossly inadequate suitably checked structural calculations, load/span tables, test certification or other justification for the design of any primary loadbearing element, or for any other important elements of structure.</p> <p>Absence of or grossly inadequate details for superstructure elements on the warrant drawings</p> <p>Absence of or grossly inadequate performance specification and details on the warrant plans, where either precast concrete floors, or timber roof trusses were included on Schedule 1</p> <p>Absence of or grossly inadequate calculations, etc. to justify the preliminary design shown on the warrant plans where either precast concrete floors or timber roof trusses were included on Schedule 1</p> <p>Absence of or grossly inadequate evidence to demonstrate that a review of a third party's finalised design for any precast concrete floors or timber roof trusses had been carried out by the Certifier before an interim or final Form Q was signed.</p>	<p>Insufficient evidence of the Certifier's review of the design of superstructure.</p> <p>Insufficient evidence to show that the design and details have been checked</p> <p>Inadequate or insufficient details on the building warrant plans</p> <p>Inadequate or insufficient structural calculations, load/span tables, test certification or other justification for the design of any primary loadbearing element of structure.</p> <p>Inadequate performance specification and details on the warrant plans, where either precast concrete floors, or timber roof trusses were included on Schedule 1</p> <p>Insufficient calculations, etc. to justify the preliminary design shown on the warrant plans where either precast concrete floors or timber roof trusses were included on Schedule 1.</p> <p>Insufficient evidence to demonstrate that a review of a third party's finalised design for any precast floors or roof trusses had been carried out by the Certifier before an interim or final Form Q was signed.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B4.7	<p>Superstructure – Stability elements</p> <p>Certifiers shall satisfy themselves that adequate details have been prepared for all stability elements, including bracing, shear walls, moment resisting frames, that there are sufficient calculations or other justification for the design that have been prepared in accordance with an acceptable methodology that demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p>	<p>Absence of or grossly inadequate evidence of the Certifier’s review of the design of superstructure.</p> <p>The design of any of the stability elements clearly does not meet the requirements of Standards 1.1 and 1.2.</p> <p>Absence of or grossly inadequate suitably checked structural calculations for any stability element.</p> <p>Absence of or grossly inadequate details for stability elements on the warrant drawings</p> <p>Members used to provide stability of the building are not shown on the warrant plans. (Lack of identification of members as stability elements is an improvement issue)</p>	<p>Insufficient evidence of the Certifier’s review of the design of superstructure.</p> <p>Inadequate or insufficient details on the building warrant plans.</p> <p>Inadequate or insufficient structural calculations for the design of any stability element.</p> <p>Members used to provide stability of the building are not identified as stability elements on the warrant plans, e.g., Internal, and external racking/shear walls, bracing, moment-frames.</p>
B4.8	<p>Superstructure – Other elements</p> <p>Certifiers shall satisfy themselves that adequate details have been prepared for all other elements, including secondary beams trimmers, staircases, etc., that there are sufficient calculations or other justification for the design that have been prepared in accordance with an acceptable methodology that demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p> <p>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</p>	<p>Absence of or grossly inadequate evidence of the Certifier’s review of the design of the other superstructure elements.</p> <p>The design of any of the other superstructure elements clearly does not meet the requirements of Standards 1.1 and 1.2.</p> <p>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.</p> <p>Absence of or grossly inadequate suitably checked drawings/details.</p> <p>Absence of or grossly inadequate performance specification and details on the warrant plans, where precast concrete staircases were included on Schedule 1</p>	<p>Insufficient evidence of the Certifier’s review of the design of the other superstructure elements.</p> <p>Inadequate or insufficient details on the building warrant plans</p> <p>Inadequate or insufficient structural calculations, load/span tables, test certification or other justification for the design of any other element of structure.</p> <p>Inadequate performance specification and details on the warrant plans, where precast concrete staircases were included on Schedule 1</p> <p>Inadequate calculations, etc. to justify the preliminary design shown on the warrant plans where precast concrete staircases were included on Schedule 1</p> <p>Insufficient inadequate evidence to demonstrate that a review of a third party’s finalised design for</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
	the solution proposed and that an adequate performance specification has been prepared.	<p>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</p> <p>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.</p>	any precast concrete staircases had been carried out by the Certifier before an interim or final Form Q was signed.
B4.9	<p>Structural Ties, Fixings and Connections</p> <p>Certifiers shall satisfy themselves that adequate details have been prepared for all ties, fixings, and connections and that there are adequate calculations or other evidence to demonstrate the adequacy of the details used.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design of structural ties, fixings, and connections.</p> <p>The design of the ties fixings and connections clearly does not meet the requirements of Standards 1.1 and 1.2.</p> <p>Absence of or grossly inadequate suitably checked details</p> <p>Absence of or grossly inadequate suitably checked structural calculations, load tables, test certification or other justification for the design.</p> <p>Calculations, etc. and/or details are grossly inadequate in relation to the size/complexity of the project.</p> <p>Absence of or grossly inadequate suitably checked performance specification, connection loads and typical details on the warrant plans, where steelwork connections were included on Schedule 1</p> <p>Absence of or grossly inadequate suitably checked calculations, etc. to justify the connection loads</p>	<p>Insufficient evidence of the Certifier's review of the design of structural ties, fixings, and connections.</p> <p>Deficiencies in the warrant plans</p> <p>Inadequate or insufficient calculations, details, etc.</p> <p>Inadequate performance specification and details on the warrant plans, where steelwork connections were included on Schedule 1.</p> <p>Inadequate calculations, etc. to justify the preliminary design shown on the warrant plans, where steelwork connections were included on Schedule 1</p> <p>Inconsistencies between the design finalised by external specialist/third party and the performance specification submitted as a part of the warrant application, where an interim or final Form Q was submitted in respect of the design of the steelwork connections that were included on Schedule 1.</p> <p>Insufficient inadequate evidence to demonstrate that a review of a third party's finalised design for the steelwork connections had been carried out by the</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
		<p>shown on the warrant plans, where steelwork connections were included on Schedule 1</p> <p>Absence of or grossly inadequate evidence to demonstrate that a review of a third party's finalised design for the steelwork connections had been carried out by the Certifier before an interim or final Form Q was signed.</p>	<p>Certifier before an interim or final Form Q was signed.</p>

B5 Design (Building Envelope)

The building envelope is required to fulfil a wide range of building regulation requirements. While the envelope will frequently not contribute to the strength and stability of the building structure it will require to support its own weight, transfer wind loads into the structure and remain attached to the building under the effects of wind load.

Key Factors

The Standing Committee on Structural Safety (SCOSS) has highlighted a number of potential problems arising from deficiencies in design. The strength and durability of the cladding material, support structure and crucially the fixing systems must be sufficient to withstand climatic conditions.

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B5.1	<p>Building Envelope (including cladding and glazing)</p> <p>Certifiers shall satisfy themselves that adequate details have been prepared for the external envelope of the building and that there are sufficient calculations or other evidence to demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p> <p>Certifiers shall satisfy themselves that the design of the external envelope is compatible with the design of the supporting structure.</p> <p>Where Schedule 1 has been used Certifiers must satisfy themselves that adequate details have been prepared and that there are sufficient preliminary calculations or other evidence to demonstrate the adequacy of the solution proposed.</p> <p>Where a Form Q is required, Certifiers shall review the calculations and details for the finalised</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design of building envelope.</p> <p>The design of the building envelope clearly does not meet the requirements of Standards 1.1 and 1.2.</p> <p>Absence of or grossly inadequate suitably checked structural calculations, load/span tables, test certification or other justification for the design of any element of the building envelope.</p> <p>Absence of or grossly inadequate suitably checked details for any element of the building envelope.</p> <p>Absence of or grossly inadequate evidence demonstrating that the Certifier considered the compatibility of the elements of the external envelope and the supporting structure.</p> <p>Absence of or grossly inadequate performance specification and details on the warrant plans, where glazing was included on Schedule 1 (RC1 buildings only)</p>	<p>Insufficient evidence of the Certifier's review of the design of building envelope.</p> <p>Inadequate or insufficient calculations or other justification for the design of any element of the building envelope.</p> <p>Inadequate or insufficient details for any element of the building envelope.</p> <p>Inadequate consideration of the compatibility of the elements of the external envelope and the supporting structure.</p> <p>Insufficient evidence to demonstrate that a review of a third party's finalised design for the glazing had been carried out by the Certifier before an interim or final Form Q was signed. (RC1 buildings only)</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
	design and satisfy themselves that they meet the requirements of the appropriate performance specification.	<p>Absence of or grossly inadequate calculations, etc. to justify the preliminary design shown on the warrant plans, where glazing included on Schedule 1 (RC1 buildings only)</p> <p>Absence of or grossly inadequate evidence to demonstrate that a review of a third party's finalised design for the glazing had been carried out by the Certifier before an interim or final Form Q was signed. (RC1 buildings only)</p>	
B5.2	<p>Building Envelope Fixings and Supports (including purlins, sheeting rails, etc.)</p> <p>Certifiers shall satisfy themselves that adequate details of the fixings and supports for the external envelope of the building have been prepared and that there are sufficient calculations or other evidence to demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design of fixings and supports for the building envelope.</p> <p>The design of the fixings and supports which form part of the external envelope clearly does not meet the requirements of Standards 1.1 and 1.2.</p> <p>Absence of or grossly inadequate details of the fixings or supports.</p> <p>Absence of or grossly inadequate suitably checked structural calculations, load/span tables, test certification or other justification for the design of any of the fixings and supports</p> <p>Absence of or grossly inadequate performance specification and details on the warrant plans, where glazing fixings were included on Schedule 1 (RC1 buildings only)</p> <p>Absence of or grossly inadequate calculations, etc. to justify the preliminary design shown on the warrant plans, where glazing fixings were included on Schedule 1 (RC1 buildings only)</p>	<p>Insufficient evidence of the Certifier's review of the design of fixings and supports for the building envelope.</p> <p>Inadequate or insufficient details of the fixings or supports.</p> <p>Insufficient or inadequate calculations other justification for the design.</p> <p>Inadequate performance specification and details on the warrant plans, where glazing fixings were included on Schedule 1 (RC1 buildings only)</p> <p>Inadequate calculations, etc. to justify the preliminary design shown on the warrant plans, where glazing fixings were included on Schedule 1 (RC1 buildings only)</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B5.3	Building Envelope Movement Joints Certifiers shall satisfy themselves that the provision of movement joints in the building envelope is adequate and that appropriate details have been prepared.	Absence of or grossly inadequate evidence of the Certifier's review of the provision of movement joints in the building envelope. The provision of movement joints in the building envelope clearly does not meet the requirements of Standards 1.1 and 1.2. Absence of or inadequate detailing of movement joints in complex cladding systems or on multi-storey buildings.	Insufficient evidence of the Certifier's review of the provision of movement joints in the building envelope. Absence of or inadequate detailing of movement joints on low rise buildings which do not have complex cladding systems.

B6 Design (Secondary Structure)

Frequently items of secondary structure are designed by members of the design team other than the principal structural designer. Details may only appear on architectural drawings. These items can be structurally important and must be included in the scope of structural design certification.

Key Factors

Certifiers are responsible for ensuring that the designer has considered the design of secondary structure and that the design has been adequately checked.

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B6.1	<p>Internal Partitions and Ceilings</p> <p>Certifiers shall satisfy themselves that adequate details of internal partitions, ceilings and their supports have been prepared and where appropriate that there are sufficient calculations or other evidence to demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design of any internal partitions and ceilings.</p> <p>The design of any internal partitions or ceilings clearly does not meet the requirements of Standard 1.1.</p> <p>Absence of or grossly inadequate calculations or other justification demonstrating the structural adequacy of internal partitions, ceilings, and their fixings.</p> <p>Absence of or grossly inadequate details for internal partitions, ceilings, and their fixings.</p>	<p>Insufficient evidence of the Certifier's review of the design of any internal partitions and ceilings.</p> <p>Inadequate calculations demonstrating the structural adequacy of internal partitions, ceilings, and their fixings.</p> <p>Inadequate details for internal partitions, ceilings, and their fixings.</p>
B6.2	<p>Protective Barriers</p> <p>Certifiers shall satisfy themselves that adequate details of any pedestrian or vehicle barriers have been prepared and that there are sufficient calculations or other evidence to demonstrate the adequacy of the design and that there is evidence that the design and details have had the appropriate level of checking.</p> <p>Where Schedule 1 has been used Certifiers must satisfy themselves that adequate details have been prepared and that there are sufficient</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design of any protective barriers.</p> <p>The design of any protective barriers clearly does not meet the requirements of Standard 1.1.</p> <p>Absence of or grossly inadequate details of the protective barriers and their fixings.</p> <p>Absence of or grossly inadequate calculations or other justification demonstrating the ability of the protective barriers and their fixings to support the required loads.</p>	<p>Insufficient evidence of the Certifier's review of the design of any protective barriers.</p> <p>Inadequate details of the protective barriers and their fixings.</p> <p>Inadequate calculations or other justification demonstrating the ability of protective barriers and their fixings to support the required loads.</p> <p>Inadequate consideration of the ability of the supporting structure to withstand the loads from the barrier.</p>

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
	<p>preliminary calculations or other evidence to demonstrate the adequacy of the solution proposed.</p> <p>Where a Form Q is required, Certifiers shall review the calculations and details for the finalised design and satisfy themselves that they meet the requirements of the appropriate performance specification.</p>	<p>Absence of or grossly inadequate consideration of the ability of the supporting structure to withstand the loads from the barrier.</p> <p>Absence of or grossly inadequate performance specification and details on the warrant plans, where the barriers were included on Schedule 1.</p> <p>Absence of or grossly inadequate calculations, etc. to justify the preliminary design shown on the warrant plans where the barriers were included on Schedule 1.</p> <p>Absence of or grossly inadequate evidence to demonstrate that a review of a third party's finalised design for the protective barriers had been carried out by the Certifier before an interim or final Form Q was signed. (RC1 buildings only)</p>	<p>Inadequate performance specification and details on the warrant plans, where the barriers were included on Schedule 1.</p> <p>Inadequate or insufficient calculations, etc. to justify the preliminary design shown on the warrant plans where the barriers were included on Schedule 1.</p> <p>Insufficient evidence to demonstrate that a review of a third party's finalised design for the protective barriers had been carried out by the Certifier before an interim or final Form Q was signed. (RC1 buildings only)</p>
B6.3	<p>Fixings and supports for building services</p> <p>Certifiers shall satisfy themselves that adequate details have been prepared for the fixings and supports to building services, that there are sufficient calculations or other justification for the design and that there is evidence that the design and details have had the appropriate level of checking.</p>	<p>Absence of or grossly inadequate evidence of the Certifier's review of the design of the fixings and supports for building services.</p> <p>The design of any of the fixings and supports clearly does meet the requirements of Standards 1.1 and 1.2.</p> <p>Absence of or grossly inadequate suitably checked structural calculations or other justification for the design of the fixings and supports for building services.</p> <p>Absence of or grossly inadequate details for fixings and supports on the warrant drawings</p>	<p>Insufficient evidence of the Certifier's review of the design of the fixings and supports for building services.</p> <p>Inadequate suitably checked structural calculations or other justification for the design of the fixings and supports for building services.</p> <p>Inadequate details for fixings and supports on the warrant drawings</p>

B7 Specification

Section 11 of the Act deals with the certification of design. Sub-section (2) states ‘Design’ includes the specification of the material to be used. Regulation 8 sets the standard against which an adequate specification of material performance may be judged.

Key Factors

Materials fittings and components that are important to the structural performance of the building must be manufactured and have their performance tested in accordance with acceptable national or European standards. Testing must be carried out by suitably accredited testing organisations. Components and materials must be durable under the exposure conditions that they will encounter and when their performance depends on regular maintenance, inspection, or replacement they must be sufficiently accessible for this work to be carried out.

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B7.1	<p>Structural Specification</p> <p>Certifiers must satisfy themselves that the structural materials and manufactured structural components have been adequately specified so that the performance assumed in the calculations is achieved and that the requirements of the Standards are delivered.</p>	<p>Absence of or grossly inadequate evidence of the Certifier’s review of the structural specification.</p> <p>The specification of the structural materials and manufactured structural components clearly does not meet the requirements of Standards 1.1 and 1.2.</p> <p>Absence or grossly inadequate specification for the structural materials and components to be used in the project.</p> <p>Absence of or grossly inadequate evidence that the specification had been checked.</p> <p>Structural components specified on the basis of inadequate or inappropriate test certification.</p> <p>Structural components specified for a situation inappropriate to the conditions of the test.</p>	<p>Insufficient evidence of the Certifier’s review of the structural specification.</p> <p>Inadequate specification for the structural materials and components to be used in the project.</p> <p>Inadequate evidence that the specification had been checked.</p>

B8 Withdrawn

B9 Requirements for Membership of the Scheme

Approved Certifiers will have made a number of declarations in their application demonstrating compliance with the criteria for membership of the scheme. The audit will check to see whether or not Certifiers are operating within their declared limits of competence.

Key Factors

Certifiers must operate within the limits of his/her declared competence using the experience of others to undertake specific checks where necessary.

They must approach certification in a methodical manner, operating within the guidance of the scheme and maintain records of how decisions are made. Certifiers must be able to show that they understand the statutory responsibilities and obligations that arise from membership of the scheme. See B1.1.

They must also undertake Continuing Professional Development CPD relevant to the role of certification. The level of CPD undertaken is reviewed at the audit and is a factor taken into account when the audit outcome is determined. See Sections 4 and 8 in the main document.

Ref	Performance Criteria	Major Non-conformances	Improvement Issues
B9.1	<p>Operating Within the Limits of Declared Competence</p> <p>Certifiers shall not certify projects where the work, or a significant proportion of the work, falls outwith the limits of knowledge and experience declared in the application for membership of the scheme, unless it can be demonstrated that the necessary knowledge and experience has been acquired since making the application.</p>	<p>Project certified well outwith the scope of competence declared in the application, where there is no evidence to demonstrate that the necessary knowledge and experience has been acquired since making the application.</p>	<p>Specific aspects, or components, of the project outwith the Certifier's competence and no, or inadequate, reference to an acknowledged specialist or expert competent in the design of the elements in question, where there is no evidence to demonstrate that the necessary knowledge and experience has been acquired since making the application.</p>