



Personal Certification – Structural Engineering

**Description of Certification Scheme for Documentation of
Structural Conditions in the Danish Building Regulations**

Version 7

01-10-2020



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1 Introduction

1.1 Certified structural engineer

A certified structural engineer can document and monitor compliance with structural requirements as per Chapter 15 of the Danish Building Regulations 2018 in connection with construction case management of buildings in structure classes 2-4.

A person who applies for certification as a structural engineer must submit documentation to the certifying body demonstrating that they have the qualifications and expertise required under BEK nr. 776, Bekendtgørelse om certificeringsordninger for dokumentation af tekniske forhold i bygningsreglementet (Danish Executive Order no. 776, the Executive Order on Certification Scheme for Documentation of Technical Conditions in the Danish Building Regulations). The certifying body will then determine whether the documentation is sufficient, and whether the person has the ability to apply their qualifications and expertise in documenting and inspecting structural conditions.

1.2 Development of the certification scheme

The development of the Certification Scheme is based on BEK nr. 776, "Bekendtgørelse om certificeringsordninger for dokumentation af tekniske forhold i bygningsreglementet" (Executive Order no. 776, "Executive Order on Certification Scheme for Documentation of Technical Conditions in the Danish Building Regulations") plus associated guidelines "Vejledning om certificering af statikere og brandrådgivere" ("Guidelines on Certification of Structural Engineers and Fire Safety Consultants"). The Danish Transport, Construction and Housing Authority is the issuing authority.

1.3 Definitions

Applicant	A person seeking to become a certified structural engineer under the Executive Order on Certification.
Expertise	The ability of the applicant to apply their knowledge and experience to documenting and inspecting for compliance with the Danish Building Regulations' requirements regarding bearing structures.
Qualifications	The educational background and professional experience that the applicant must possess in order to become certified under the desired scheme.

1.4 References



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<https://www.retsinformation.dk/eli/ta/2020/776> (BEK nr. 776) (Danish Executive Order on Certification Scheme for Documentation of Technical Conditions in the Danish Building Regulations) (BEK no. 776)

[Vejledning om certificering af statikere og brandrådgivere](#)

(Guidelines on Certification of Structural Engineers and Fire Safety Consultants)

[Bygningsreglementet 2018](#)

(Danish Building Regulations 2018)

1.5 Criteria for changing the certification's level or area of validity

Whenever an updated edition of this description is issued, e.g. as a result of changes in Executive Order no. 776 (BEK nr. 776), the certificates must be updated in accordance with such changes.

Dancert will determine any requirements the certificate holder must meet in order to have their certificate updated.



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2 The certification process

An applicant may apply to be certified for one of the following three areas:

- Certified structural engineer for documenting and inspecting for compliance with structural requirements for buildings in structure class 2
- Certified structural engineer for documenting and inspecting for compliance with structural requirements for buildings in structure classes 3 and 4
- Certified structural engineer for performing third-party inspections of documentation of compliance regarding structural conditions for buildings in structure class 4

The entire process of becoming a certified structural engineer for structure classes 2-4, or for conducting third-party inspections, is illustrated and described in brief below.



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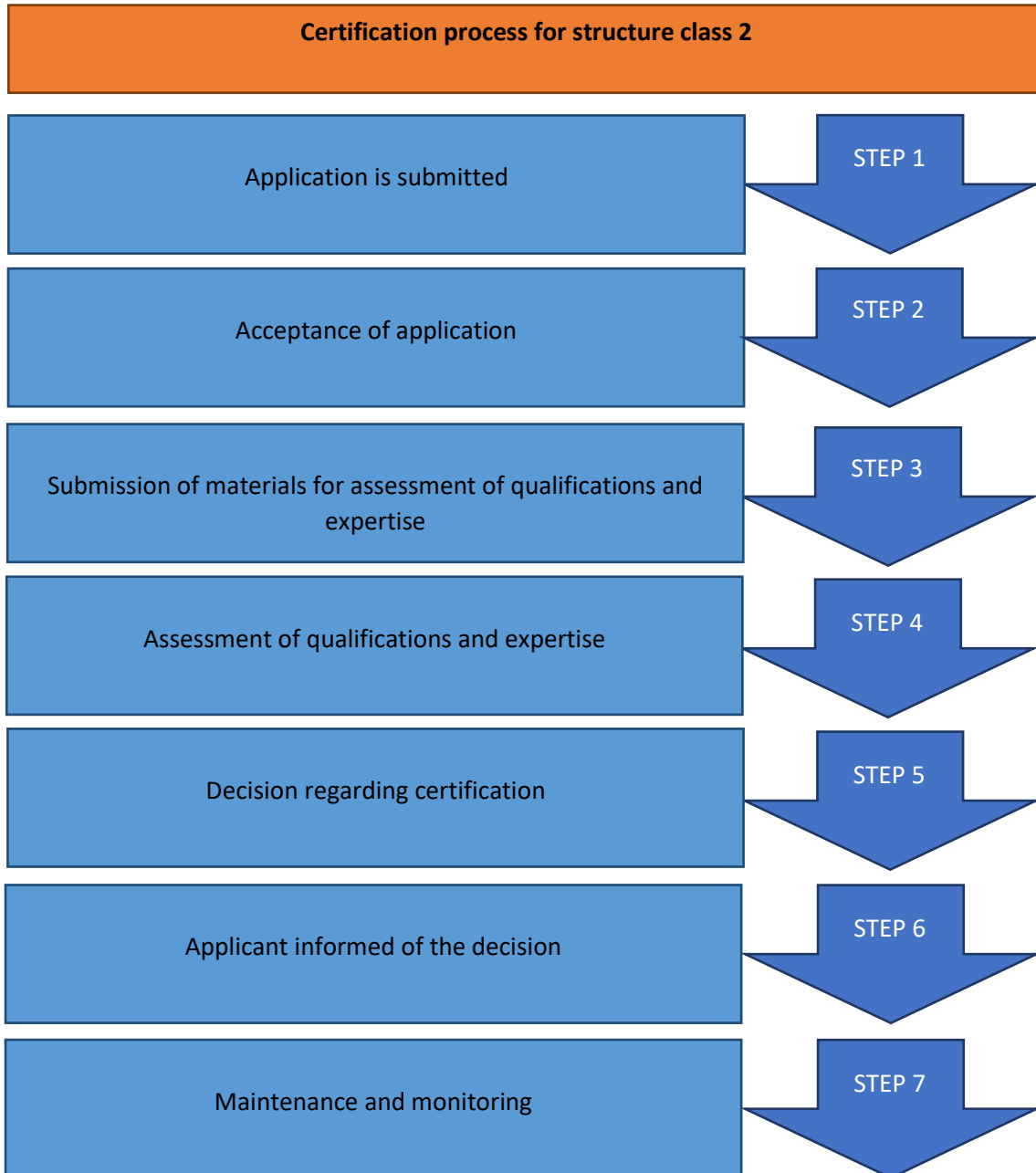
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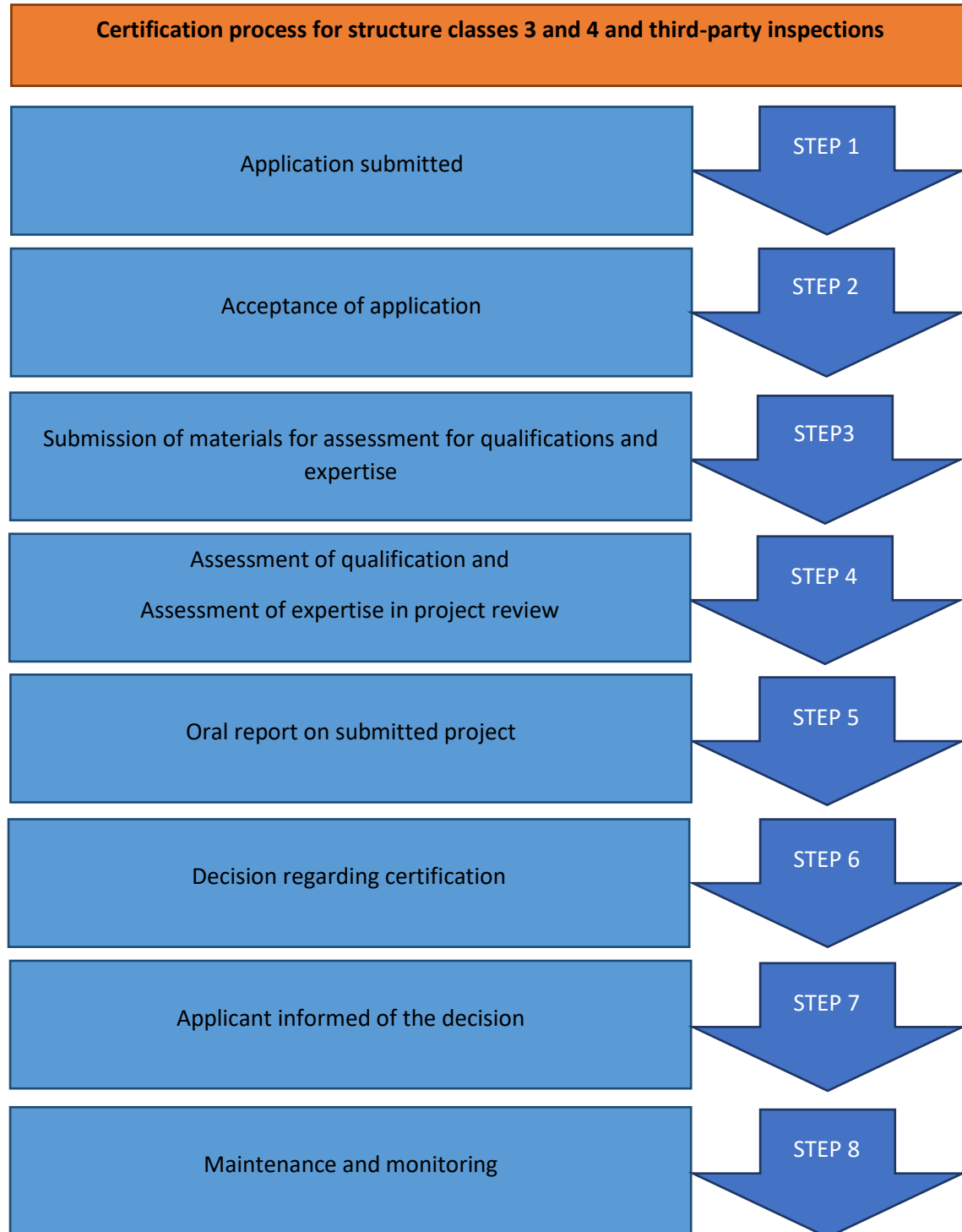
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2.1 Application

To apply to become a certified structural engineer, the applicant must first fill out the application form, which may be obtained from the Dancert secretary's office or the Dancert website (www.dancert.dk).

The applicant will be asked to provide the certifying body with documentation of their qualifications as well as materials to enable an assessment of their expertise. The certifying body will, no later than four weeks after receiving the application materials, notify the applicant by e-mail if the materials are found to be complete. Once the certifying body has received complete documentation and materials, the applicant will be notified of the anticipated processing time by e-mail.

It is possible to apply on the basis of qualifications obtained outside Denmark. In such cases the applicant must contact Dancert to get further instructions.

2.2 Assessment of qualifications and expertise for structure class 2

The materials will be evaluated by an assessor, who will also prepare an assessment report based on the requirements for the structure class, cf. Section 3. However, Dancert may choose one assessor for the assessment of qualifications and another assessor for the assessment of expertise.

2.3 Assessment of qualifications and expertise for structure classes 3 and 4 and third-party inspections

Submitted materials will be evaluated by two assessors, who will also prepare an assessment report based on the requirements for the structure class; cf. Sections 4 and 5. However, Dancert may choose one assessor for the assessment of qualifications and two other assessors for the assessment of expertise.

The applicant will subsequently make an oral presentation of the project, on which the final assessment of the project will be based. The presentation will also be evaluated by two assessors.

2.4 Decision regarding certification

The certifying body will reach a decision regarding certification on the basis of the application materials and the evaluation of the assessor (structure class 2), or on the separate evaluations of the two assessors (structure classes 3 and 4 and third-party inspections).

The applicant will be informed of the decision by e-mail, including an assessment report.

If the conditions for certification have been fulfilled, a certificate will be issued. If the conditions for certification have not been fulfilled, certification will be denied. The decision may be appealed to the certifying body.

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2.5 Maintenance and monitoring

Every 12 months the certificant must provide the certifying body with a list of projects covered by structure classes 2-4 in which the certificant has been involved, and for which building permits have been granted. The projects on the list will be chosen at random. Read more about this in Section 7.

3 Certification of structural engineers for structure class 2

The qualification requirements for individuals applying for certification as a structural engineer for structure class 2 comprise:

- Education in structural engineering corresponding to 180 ECTS points, 60 of which must be within the design, analysis and planning of bearing structures.
- Knowledge of building laws and bearing structures, documentation of bearing structures, inspections, etc.
- Three years' experience (within the last five years) in the application of the foregoing two items, including a description of the projects on which the applicant has worked.

The applicant's expertise is documented in that, for a construction project in structure class 2, the applicant must be able to demonstrate that the bearing structures fulfil the requirements set out in the Danish Building Regulations 18, Chapter 15, and prepare documentation to that effect as specified in the Danish Building Regulations 18, Chapter 28.

The assessment of expertise can be based on an inspection of part of a project that the applicant has personally prepared and which appears on the project list provided by the applicant in connection with the documentation of their experience.

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4 Certification of structural engineers for structure classes 3 and 4

The qualifications for individuals applying for certification as a structural engineer for structure classes 3 and 4 comprise:

- Education in structural engineering corresponding to 210 ECTS points, 90 of which must be within the design, analysis and planning of bearing structures.
- Knowledge of building laws and bearing structures, documentation of bearing structures, inspections, etc.
- Five years' experience (within the last 10 years) in the application of the foregoing two items, including a description of the projects on which the applicant has worked.

In addition, the applicant must document their expertise by submitting a project prepared for assessment by the certifying body. The certifying body will conduct a project review with a view to determining whether the applicant possesses the expertise necessary to:

- Prepare complete documentation and inspect documentation of bearing structures. The documentation requirements depend upon the building regulation on the basis of which the project was carried out, and whether the project is subject to technical construction case management or the use of certified structural engineers.
- Demonstrate that the bearing structures fulfil the safety and usability requirements that follow from Danish Building Regulations 18, Chapter 15. Such a demonstration must be done for at least two types of construction materials and two types of structural elements above and beyond a foundation.

As part of the certifying body's assessment, the applicant must make an oral report on the project and confirm that the applicant worked on the project personally.

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5 Certification of structural engineers for third-party inspections

The qualification requirements for individuals applying for certification as a structural engineer for third-party inspections comprise:

- Education in structural engineering corresponding to 210 ECTS points, 90 of which must be within the design, analysis and planning of bearing structures.
- Knowledge of building laws and bearing structures, documentation of bearing structures, inspections, etc.
- Nine years' experience (within the last 14 years) in the application of the foregoing items, if the applicant is not certified for structure classes 3 and 4, or four years' experience working as a certified structural engineer in structure classes 3 and 4.

If not certified for structure classes 3 and 4, the applicant must also document their expertise by presenting a project developed for assessment by the certifying body. The certifying body will conduct a project review with a view to determining whether the applicant possesses the expertise necessary to:

- Prepare complete documentation and inspect documentation of bearing structures.
- Demonstrate that the bearing structures fulfil the safety and usability requirements that follow from the Danish Building Regulations 18, Chapter 15. Such a demonstration must be done for at least two types of construction materials and two types of structural elements above and beyond a foundation.

As a starting point, the documentation of the expertise of an applicant for certification as a structural engineer for third-party inspections follows the same rules as for structure classes 3 and 4. However, the applicant must also have conducted inspections of structural documentation for two structural sections that are in structure class 4.

As part of the certifying body's assessment, the applicant must deliver an oral report on the project and confirm that the applicant worked on the project personally.

Other expertise requirements may be relevant if the applicant is certified for structure classes 3 and 4 or is an accredited structural engineer. See Section 6 regarding accredited structural engineers.

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6 For accredited structural engineers in particular

An accredited structural engineer is a person who has been accredited under the Danish Society of Engineers' accreditation scheme for structural engineers (anerkendelsesordningen for statikere ved Ingeniørforeningen i Danmark).

In cases where an applicant holds accreditation as a structural engineer and can document at least four years of activity as an accredited structural engineer, their accreditation can serve as the basis for the assessment of their qualifications and expertise, assuming that the applicant holds a valid accreditation and operates in accordance with the accreditation scheme on projects that are in a high consequence class (CC3).

An applicant who has been accredited as a structural engineer under the Danish Society of Engineers' accreditation scheme for structural engineers is exempt from having to document their qualifications. The applicant's documentation of their qualifications consequently consists in that the applicant holds valid accreditation under the accreditation scheme. The applicant must submit proof of their accreditation to the certifying body.

An applicant who has been accredited as a structural engineer under the Danish Society of Engineers' accreditation scheme for structural engineers in Denmark must document the same expertise as is specified in the requirements to which an applicant who is not an accredited structural engineer is subject for the structure class in question.



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7 Monitoring and maintenance of certification

7.1 List of projects

Every 12 months, a certified structural engineer must submit to the certifying body a list of projects covered by structure classes 2-4 in which they have participated, and which have been granted a building permit. The deadline for submitting this information to the certifying body is reckoned from the issue date of the certificate.

The list must provide the following information for each project:

- 1) What role the certified structural engineer has had.
- 2) Whether the project is in progress or has been concluded.
- 3) The municipality in which a building permit for the project was sought.
- 4) The construction case, so that it can be identified uniquely.
- 5) Declaration of commencement for each project.
- 6) Declaration of completion for projects in which an occupancy permit has been granted.

7.2 Monitoring/Sampling control

Among the projects for which the certified structural engineer has worked and for which a commissioning permit has been obtained, at least one project is selected to assess the work of the certified structural engineer.

The projects are assessed according to whether the structural engineer was a project designer, inspector or third-party inspector.

The certified structural engineer will be requested to submit material which must include at least:

- Declaration of start and finish with description of the work.
- Documentation for placement into the construction class.
- Construction documentation according to SBI instruction 271, including:
 - A1. Basis of construction
 - A2.1 Structural calculations – structures
 - A2.2 Structural calculations – construction sections, to the extent that the certified structural engineer has performed the design or inspection
 - A3.1 Construction drawings – structures, to the extent that the certified structural engineer has performed the project design or inspection

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- Project documentation in accordance with SBI guideline 271, including:
 - B1. Structural project statement
 - B2. Structural control plan
 - B3. Structural control report

The certified structural engineer may be requested to provide additional documentation for the project, where this is considered necessary for the assessment of the work.

The project material will be assessed by one assessor.

If the certified structural engineer does not have any projects for a year for which a commissioning permit has been obtained, the certified structural engineer will be requested to send additional documentation so that Dancert can assess whether the conditions for maintaining the certificate are still present.

7.3 Recertification

In cases involving structural engineers who are certified for structure classes 2-4 or to perform third-party inspections, the certifying body will, every five years, select for inspection a project in which an occupancy permit has been granted. The selection is made from the list that is submitted to the certifying body annually.

The frequency of recertification may be adjusted upward in the event that the Danish Transport, Construction and Housing Authority so requires, e.g. due to changes in the Danish Building Regulations.

7.4 Reassessment

An applicant who did not fulfil the requirements upon assessment may request to be reassessed within a period of six months from their initial assessment.

If the applicant has not fulfilled the qualification requirements, they must submit revised documentation for the assessment of their qualifications; cf. the qualification requirements for each respective scheme.

If the applicant has not fulfilled the expertise requirements, they must submit new materials for the assessment of their expertise; cf. the expertise requirements for each respective scheme. If the applicant has not fulfilled the expertise requirements in connection with their oral report for

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structure classes 3, 4 or third-party inspections, the applicant must also submit new materials for the assessment of their expertise, and an oral report on the new materials will be assessed.

7.5 Revocation of certification

7.5.1 Conditions for revocation of certification

A certified structural engineer may have their certification revoked if one of the following circumstances is present:

- 1) The certified structural engineer is unable to document that the conditions for certification have been fulfilled within the deadline set by the certifying body. If the certifying body does not find it documented that the conditions for certification have been fulfilled because the certificant has been inactive for an extended period, the certifying body may revoke the structural engineer's certification.
- 2) The certifying body finds, based on the vetting carried out, that the certified structural engineer does not meet the conditions for certification. If the certifying body does not find, based on ongoing checks, that the certificant meets the conditions that serve as the basis for their certification, the certificant's certification may be revoked.
- 3) If the certifying body finds that the certificant is not acting in compliance with the requirements to which the certified structural engineer's work is subject, cf. the Danish Building Regulations 18, Chapters 32-34, their certification may be revoked.
- 4) If the certifying body finds that the certificant fails in some other way to fulfil the conditions in the Danish Executive Order, e.g. if the person has been declared incapable of managing their affairs.
- 5) Also, if the conditions described in [Dancert's General Terms and Conditions](#) Item 7.1 are met.

The certifying body may revoke the structural engineer's certification if any of the foregoing circumstances is present. The certifying body will assess whether the circumstance is of a nature such that the person can no longer obtain certification through any renewed certification process.

The certifying body may decide that a certificant's certification is not to be revoked even though the conditions for certification have not been fulfilled if the certificant cannot be blamed for their failure to fulfil the conditions. For example, it may be that the certificant can document having been absent from their job due to childbirth or illness. In such cases the certifying body may set a new deadline by which the certified structural engineer must document their fulfilment of the conditions.

In addition, the most recent edition of Dancert's General Terms and Conditions in force shall apply, including with respect to the maintenance of a certificate; the terms and conditions can be found on the Dancert website at <http://www.dancert.dk/uk/regulations/>

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7.5.2 The certificant's renunciation of work as a certificant

A certified structural engineer may, without undue delay, notify the certifying body that they no longer can/wish to maintain their certification for any of the following reasons:

- If the certified structural engineer no longer fulfils the conditions for certification. This may be relevant if, for example, the certified structural engineer changes professions or has not been active in their profession for an extended period, and consequently no longer meets the activity requirement.
- If the certified structural engineer wishes to give up their work. This may apply if, for example, the certified structural engineer changes professions or retires.

The certificant must notify the certifying body immediately if they no longer can/wish to work as a certificant. Termination of the certification agreement must occur in accordance with Dancert's General Terms and Conditions.

7.6 Maintenance of expertise

A certified structural engineer must maintain the qualifications and expertise for which they are certified, and seek out relevant further training on an ongoing basis. The certificant must seek out relevant knowledge, optionally in the form of further training with a view to ensuring that, in their work, they are compliant at all times with the applicable regulations regarding the safety and usability of bearing structures; cf. the Danish Building Regulations 18 Chapters 15, 28, 30 and 33 with appurtenant annexes, guidelines and standards for the certificant.

A certified structural engineer is obligated to submit documentation hereof at the request of the certifying body, subject to a deadline of four weeks.

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8 Reporting to the Danish Transport, Construction and Housing Authority

The certification body enters information regarding the structure class(es) for which a structural engineer is certified into the Danish Transport, Construction and Housing Authority 's database for such information. If the circumstances surrounding a person's certification change, the certifying body will enter the changes. For example, it may be that a certified person has been certified for a higher structure class, or has chosen to renounce their certification.

Under normal circumstances the certifying body will enter the updated information on the same business day as when the certifying body become aware of the altered circumstances.