

QM339

Certification scheme ift-certified Specialist Company for Thermal Transmittance Calculations



Specialist Company for
Thermal Transmittance
Calculations
EN ISO 10077-2:2017

n° 588 XXX

1 Purpose and scope

The Certification Scheme sets out the methods, conditions and requirements for calculating bodies, which carries out basic documents on thermal calculations of external building components in accordance with the product portfolio, such as windows, doors, gates, curtain walls, roller shutter boxes and structure connections using a calculation programme approved by ift-Q-Zert and submits them to ift Rosenheim. These documents and calculations can be used as a basis for the preparation of an ift-Nachweis (evidence of performance), provided that there are no impermissible deviations. A service overview is specified in the product portfolio.

On the basis of the certification and test methods listed below, the measures described ensure the technical qualification of the nominated person for the preparation of basic documents for thermal calculations and regulate an effective data exchange through the ift portal.

2 Basis of testing and certification

This Certification Scheme lays down the requirements for certification to establish basic documents for thermal transmittance calculations. The following principles apply to certification:

- EN ISO 10211:2017 Thermal bridges in building construction – Heat flows and surface temperatures – Detailed calculations
- EN ISO 10077-2:2017 – Thermal performance of windows, doors and shutters – Calculation of thermal transmittance;
- A calculation software released by ift-Q-Zert for the execution of thermal calculations,
- EN ISO/IEC 17065,
- Calculations performed and documented by the nominated person, incl. drawings of cross sections of the frame profile to be calculated,
- Documentation of the ift-Q-Zert approved and verified thermal transmittances and emissivities,
- Work and process instructions published in ift-Portal
- DIN 4108-2:2013 – Thermal protection and energy economy in buildings – Part 2: Minimum requirements to thermal insulation,
- DIN 4108 Supplement 2:2019 – Thermal insulation and energy economy in buildings; Supplement 2: Thermal bridges - Examples for planning and performance,
- EN ISO 13788:2012 – Hygrothermal performance of building components and building elements – Internal surface temperature to avoid critical surface humidity and interstitial condensation

3 Terms and definitions

3.1 Catalogue of penalties

The catalogue of penalties is a list of the impermissible deviations and the resulting consequences. It is published in the ift-portal under "General Documents".

3.2 ift-Portal

An internet platform provided by ift Rosenheim for the named person for data exchange of basic documents and organized administration of test specifications and documentation. Activation takes place after successful registration in "My ift" and certification.

3.3 ift Test Report and Evidence of Performance

Document with sequential number, which represents the result of the respective thermal calculations. The ift-Test Report is prepared by ift Rosenheim.

The basis for the preparation of ift-Test report is the basic documents transmitted by the nominated person via ift-Portal, such as calculation files, drawing files, description of test specimen or similar. These are checked by ift Rosenheim (and adapted if necessary) and the calculation is carried out.

An ift-Nachweis can be issued if all necessary documents are available. ift Rosenheim reserves the right to waive an evidence of performance if the calculation is carried out according to calculation standards or if relevant documents and data for a standard-compliant proof are missing.

3.4 Check list

The check list confirms to the named person that the test / inspection points have been covered following request of an ift-Test Report. The checklist serves to prove the deviations and the resulting consequences according to the catalogue of penalties.

3.5 Product portfolio

The product portfolio describes the released services and the requirements for creating the basic documents. In this service overview, the statements "we supply" and "we need" are listed for each product. The valid version is published in ift-Portal under "General Documents". The valid price is published in ift-Portal and is indicated for each service according to the product portfolio depending on the number of test specimen.

3.6 Drawing of Test Specimen

Drawings showing the test specimen with relevant specifications (item numbers, dimensions, in file format .dwg or .dxf.) The drawing of test specimen can be generated from the representation of test specimen.

3.7 Representation of test specimen

Representation of the specimen as shown in ift Test Report in the file format .jpg, .tif or .bmp.

3.8 Calculation file

File of the calculated component in the file format of the approved calculation software.

3.9 Calculating body

The calculating party shall be the responsible person(s) designated by the client to prepare documents for thermal calculations.

3.10 ift Certificate of Conformity

The ift certificate of conformity confirms to the calculating party that the requirements of this certification scheme have been met.





3.11 Calculation software

A calculation software evaluated and approved by ift-Q-Zert, for carrying out thermal calculations based on e.g. EN ISO 10077-2:2017

3.12 Values of thermal conductivity / emissivity of surfaces

The standards EN ISO 10456:2010 and/or EN ISO 10077-2:2017 list the thermal conductivity values of different materials. These values are retained in the ift-FEM material database. The named person may provide alternative documentary evidence of manufacturer values of thermal conductivity as well as emissivities of surfaces, stating the sources, and under consideration of the rules set out in EN ISO 10077-2:2017, Clause 6.3.2.

4 Certification procedure

-  Conclusion of a certification contract,
-  Designation of the calculating person(s),
-  Successful participation in the initial training offered by ift-Q-Zert,
-  Verification and evaluation of the qualification of the calculating person by ift-Q-Zert in accordance with the requirements of point 5. If the evaluation of the requirements for certification is positive, the ift Certificate of Conformity is issued.

5 Requirements for certification

5.1 Qualification criteria of the calculating body

The named person must have an engineering / technical education and be able to provide proof of being familiar with the calculation software used. This means in particular, that the calculating body must provide proof that the person carrying out the calculations is able to:

- Define a profile cross section,
- Assign material and surface properties,
- Define and apply normative boundary conditions,
- Perform, evaluate and assess calculations.

The proficiency / qualification of the named person can be documented by certificates confirming attendance, final grade certificates, certificates, training certificates and certificates of competence. Copies of such documents shall be made available upon request by ift-Q-Zert and shall be kept updated by the calculating person.

5.2 Proof of knowledge

The named person must demonstrate additional knowledge in the subject areas listed in 6.2.1 to 6.2.3.

ift-Q-Zert reserves the right to request supplementary continuing professional development measures prior to granting the certificate so as to ensure sufficient proficiency and qualification of the named person.

5.2.1 Basic knowledge of building physics

The named person must demonstrate basic knowledge of building physics of heat transfer mechanisms and material properties.

ift-Q-Zert reserves the right to check this prerequisite in terms of existing educational background and vocational / professional training, or, as necessary, request proof of attendance of a seminar on building physics principles.

5.2.2 Basic knowledge for calculating thermal transmittance as per EN ISO 10077-2:2017

The named person must demonstrate basic knowledge in the following areas:

- Use of material data/specifications,
- Treatment of cavities,
- Treatment of boundary conditions,
- Additional standards necessary for calculation, e.g. EN ISO 10211:2017.

ift-Q-Zert reserves the right to check this prerequisite in terms of existing educational background and vocational / professional training, or, as necessary, request proof of attendance of a seminar on building physics principles.

5.2.3 Basic knowledge of the in-house organisation of the named person

- ☐ Working with calculation software,
- ☐ Preparation of necessary documents for identification of test specimen
- ☐ Data transfer, e.g. ift Portal.

5.2.4 Additional proof of knowledge / qualification

Additional proof of knowledge / qualification can be:

- ☐ Long track record of professional experience and experience in thermal calculations,
- ☐ Certificates attesting the attendance of technical seminars, dating back not more than 5 years,
- ☐ Technical publications of calculating person,
- ☐ University degree in building physics, physics, or course of study including building physics,
- ☐ Training in a technical profession including building physics.

5.3 Initial training

As part of the initial certification, participation in an initial training course organised by ift-Q-Zert is mandatory. The following topics are covered there:

- ☐ Certification procedures and contracts
- ☐ Use of calculation standards
- ☐ Resolution book
- ☐ Description of test specimen
- ☐ Ift-Portal
- ☐ Sample calculations

5.4 Maintenance of qualification

The named person undertakes to participate regularly in qualification measures offered by ift-Q-Zert at least once a year to maintain the qualification.

In addition, within the validity of the certificate 12 calculations must be proven by different orders.

The named person furthermore undertakes to keep itself always updated on the latest findings on the calculation of thermal characteristics (e.g. “Beschlussbuch” (Resolution Book)) and standardization.

In the event of justified doubts arising on the qualification of the calculating person, ift-Q-Zert has the right to carry out respective investigations and, as necessary, request further training measures as a precondition for continued certification.

5.5 Release of calculation software

The calculating body undertakes to use a positively evaluated calculation program for the calculations.

The calculation programs listed in Annex 1 are released for calculations.

Further approved calculation programs are published in the ift-Portal under General Documents. If local calculation programs are used, the calculating body undertakes to keep them independently up to date and approved.

5.6 Verification of qualification in the framework of initial certification

In order to prove the qualification of the named person within the initial certification, this person receives calculation tasks defined by ift-Q-Zert. The calculations must be carried out by the named person within 4 weeks of the date of dispatch using the calculation software approved by ift-Q-Zert. The person declares in writing to ift-Q-Zert to have performed the calculations on its own without relying in any way on third-party assistance. The verification of the qualification of the named person is only considered to have been passed if the calculation task was carried out without errors.

In the event of deficiencies / errors being detected in the calculation which, from the point of view of ift-Q-Zert, give reason to doubt the qualification of the named person, ift-Q-Zert shall have the right to:

- ☐ Reject the named person,
- ☐ Request another test for the defective cross sections,
- ☐ Demand further qualification in the form of attendance at a specialist seminar and a renewed examination of an additional calculation task.

5.7 ift Certificate of Conformity

If the named person has successfully fulfilled the requirements for certification by ift-Q-Zert, the company, where the person works, shall be granted the ift-Certificate of conformity for a period of three years. The validity of the certificate remains unaffected by any changes or additions made in the meantime.

Prerequisite for the maintenance and renewal of the certificate are the proofs according to the qualification measures listed in section 6.4.

If all certification requirements have been passed, the certificate will be renewed for a period of another 3 years.

The procedure for modifying or extending the certified scope as well as the suspension and revocation of certification is specified by ift-Q-Zert in the applicable "General requirements for certification, surveillance and inspection of products and services".

The certificate remains valid only as long as the provisions and requirements of this certification scheme as such remain unchanged. Any changes which may have an effect

on the procedure described in this Certification Scheme shall be communicated to ift-Q-Zert without being asked.

6 Incorrect documentation

If inadmissible deviations are identified by ift Rosenheim in the course of the review of the basic documents, these will be dealt with in accordance with the procedure applicable and described in the catalogue of penalties for the respective case. By means of the control list, the deviation within the documentation and calculations is documented and communicated to the named person.





If inadmissible deviations are repeatedly found, this can lead to the loss of the qualification according to Section 7 and thus to the withdrawal of the certificate.

7 Withdrawal of certificate

If the holder of the ift Certificate of Conformity declares wrong/incorrect handling of the manufacturer's own documentation or calculations within this certification scheme, ift-Q-Zert is entitled to withdraw the ift Certificate of Conformity from the company, to block access to the ift-Portal for the named person and, if necessary, to terminate the certification contract extraordinarily without notice. Any payments made will not be reimbursed in this case. The company must pay any outstanding/due costs to ift-Q-Zert.

Annex 1

Calculation software released by ift-Q-Zert

-  flixo pro, Version 8.0.x
-  flixo pro, Version 8.1.x
-  WinIso 2D Professional, Version 7.9x
-  WINISO®, Version 2.7.x

Further calculation programs are released and published under "General documents" in the ift-Portal.