

Guidelines for performing assessments in lieu of fire tests

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Foreword

Much of the guidance that supports fire safety legislation is given in terms of performance in relation to National or European Standards for products or methods of test or design in terms of national or European technical approvals. Typically therefore a material, product or structure should:

- a) be in accordance with a specification or design, which has been shown by test to be capable of meeting that performance; or
- b) have been assessed from test evidence and/or calculations against appropriate standards, or by using relevant design guides, as meeting that performance.

EGOLF members should follow the guidelines presented in this document when performing assessments in lieu of fire tests. Where comparable national guidelines exist then EGOLF members should follow one or other of these EGOLF guidelines, according to national priorities or requirements. These can take precedence. In particular, members' attention is drawn to para. 5.6. This requires a statement in assessment report to highlight that this is only valid for a specific country, as far as its national rules are satisfied and that validity in other countries is subject to acceptance by the relevant national authorities/regulations. Any assessments produced according to this document cannot be used for European classification purposes.

The aim of this document is to give confidence to end-users of assessments that those assessments produced by EGOLF laboratories according to these guidelines are of a satisfactory standard to be used in lieu of fire tests for building control and other purposes.

Laboratories producing assessments in lieu of fire tests, according to these guidelines, should satisfy the requirements of this document, particularly, in respect of the professionalism of those experts performing the assessments and the standard of quality management and technical performance of the laboratory itself.

All laboratories performing or responsible for performing assessments in compliance to these guidelines should be fully responsible for all problems or complaints arising from such assessments. EGOLF is not responsible for any complaints or actions arising.

1 Scope

These guidelines relate to the production of assessments that are offered by EGOLF laboratories in the absence of specific fire test results, such as:

- Where a modification (e.g. size or configuration) is made to a construction, which has already been tested.
- Interpolation or extrapolation of results of a series of fire tests or utilisation of a series of fire test results to evaluate a range of variables in a construction design or a product.
- Where, for various reasons it is not possible to subject a construction or a product to a fire test. However, it is necessary to have as reference a test result performed on a test specimen as close as possible to the building element or structure to be assessed.

It is always necessary to have confidence that no opposite test evidence has been obtained.

Assessments will vary from relatively simple judgements on small changes to a product or construction through to detailed and often complex engineering appraisals of large or sophisticated constructions.

However, the assessment made will be based on a single product, which could possibly be tested to an existing European or national test method. The assessment does not include fire safety engineering assessments, which consider interactions between various building elements.

Any assessments produced according to this document cannot be used for European classification purposes. Validity of the assessments as proof of performance can only be claimed for the country where they are produced and as far as national rules are satisfied. Validity in other countries is subject to acceptance by the relevant national authorities/regulations.

2 Definitions

2.1 assessment: the evaluation of the likely performance of a product were it to be subjected to a standard fire test (without performing that test). Three levels of assessments have been identified, see annex A.

2.2 engineering appraisal: a technical evaluation of the likely fire performance of a building element or structure, which cannot be subjected to a standard fire test. Structures requiring engineering appraisal require significant re-engineering of the product compared to what was tested. A different kind of assessment is needed, one that cannot rely solely on judgement / opinion but one which needs an additional input of engineering knowledge and experience.

2.3 assessment or engineering appraisal report: the written report arising from an assessment or engineering appraisal.

2.4 fire test: A test performed to evaluate the fire performance of a material, product, assembly, building element or structure in accordance with a standard method.

2.5 applicant: the person or body requesting an assessment or engineering appraisal.

2.6 assessor: the person making the assessment or engineering appraisal.

2.7 reviewer: the person responsible for checking and confirming the validity of an assessment or engineering appraisal.

2.8 relevant experience: current (recent) experience of conducting fire tests (e.g. as technical person in charge) and of undertaking assessments or engineering appraisals (as assessor or reviewer) on materials, products, assemblies or elements of structure relevant to the product or product group subject to assessment or engineering appraisal.

3 Requirements for EGOLF laboratories responsible for performing or reviewing assessments

3.1 General

The requirements for organisations responsible for performing assessments or engineering appraisals and their review are as follows.

3.2 Professional indemnity cover

The EGOLF member should hold adequate professional indemnity insurance that covers all of its activities relating to the issuing of assessments and engineering appraisals in lieu of fire tests.

3.3 Quality management requirements

The EGOLF member should have a relevant quality management system that includes within its scope the performance of assessments or engineering appraisals in lieu of fire tests. Its quality manual should contain a commitment to comply with all the requirements of these guidelines.

The quality management system should require that the EGOLF member keeps records of the names and the fields in which all Assessors and/or Reviewers are permitted to provide assessments and engineering appraisals and to review the results of assessments and engineering appraisals, on behalf of that organisation.

The quality management system should also require that the EGOLF member keeps records of the experience, competence, qualifications, responsibilities and details of 'continuing professional development' of those individuals performing assessments and engineering appraisals and reviewing the results of such assessments and engineering appraisals.

3.4 Responsibility for choosing assessors and reviewers

The selection of qualified individuals for performing assessments and engineering appraisals and for reviewing the results of such assessments and engineering appraisals should be made by a named individual within the laboratory (or by named deputy during periods of absence). Persons with this responsibility should be named in the laboratory quality manual.

4 Requirements for individuals performing or reviewing assessments

4.1 Experience and competence

Assessors and reviewers should only be permitted to operate depending upon their experience and competence, particularly in respect of the building element or structure being assessed. Assessors and reviewers should ensure that the organisation they work for holds records of their experience and competence and that these are regularly up-dated and reviewed.

4.2 Qualifications

Assessors and reviewers should only be permitted to operate depending upon the qualifications they possess relevant to their ability to perform or review assessments or engineering appraisals (see annex B). Assessors and reviewers should ensure that the organisation they work for holds records of their qualifications and that these are regularly up-dated and reviewed.

4.3 Continued development of experience (sometimes known as 'continued professional development')

All assessors and reviewers should maintain and continuously develop their professional status and experience (sometimes known as "continued professional development") through, for instance:

- Membership of professional bodies.
- Conducting and / or watching relevant fire tests.
- Attending and/or giving papers at conferences, workshops and seminars in appropriate fire related areas.
- Reading appropriate trade and/or scientific journals.
- Contributing to national and/or international standardisation in the relevant fire test field.

Assessors and reviewers should ensure that records of their 'continuing development of experience' are held by the organisation they work for and that these are regularly up-dated and reviewed.

4.4 Code and rules of conduct for assessors and reviewers

Assessors and reviewers employed by an EGOLF member performing or responsible for performing assessments or engineering appraisals in lieu of fire resistance, should follow the "code and rules of professional conduct for assessors and reviewers" given in annex C.

5 Procedure for undertaking or reviewing assessments

5.1 General

In this clause the use of the term 'assessment' refers to both 'assessments' and 'engineering appraisals'.

5.2 Application for assessment

All requests for assessment should be confirmed in writing, e.g. by fax, e-mail, etc. and should provide:

- Specification of the relevant test method(s).
- A detailed specification of the proposed construction (e.g. reference to drawing).
- A precise description of what the applicant is requested to be assessed.
- Information about test results obtained from the closest specimen(s) to the proposed construction that has (have) been tested, for which the client has the rights of access.
- Disclosure of any evidence or data, whether favourable or otherwise, which may be relevant to the assessment.
- Information whether any other organisation or individual has been approached for an assessment of the same or similar construction.
- Any other information relevant to the assessment of which the applicant is aware.

5.3 Selection of assessor / reviewer

Both assessor and reviewer, should have the appropriate qualifications, experience and responsibility for the assessment being undertaken and the type of product/construction being assessed.

The assessment report should be subject to a comprehensive review of the technical data, the reasoning and the derived opinion, by a 'reviewer'. That 'reviewer' should also possess the appropriate experience, and have relevant product expertise.

5.4 Impartiality

Both the assessor and the reviewer should act with complete impartiality in their judgement. There should not be:

- any involvement of the assessor or reviewer or their organisation in the design or development of the product or construction;
- any involvement with or attachment to a manufacturer or an industry sector relevant to the product or construction subject to the assessment.

5.5 Supporting information

Supporting information to which reference is to be made during the assessment should be provided entirely by the applicant. Such information must be the property of the applicant or alternatively, the applicant must provide written authority from the owner of the information for it to be used.

Where supporting information provided by the applicant is not the original property of the applicant, or where the test report(s) provided are not from the assessing organisation, the Assessor should be given written authority from the applicant to approach directly both the owner of the information and the test laboratory(ies) that conducted the test(s).

Supporting information, permitted to be used during an assessment or engineering appraisal, should be divided into two types, i.e. primary and secondary test information.

Primary information is test data obtained from one or more fire tests and is essential to the formulation of the assessment.

Secondary information is that which may be used to provide supplementary data or to fill gaps in knowledge. The following sources of supporting information should be used.

Primary information should satisfy all four of the following criteria:

- The tests from which the information is derived must include tests performed fully according to the standard against which the assessment is being based.
- The laboratory performing the test must be accredited to EN ISO/IEC 17025 for that particular test:
- The laboratory performing the test should be independent of the business of the applicant.
- The test method, from which primary data older than 5-years had been obtained, should be reviewed by the assessor to ensure that it has not changed sufficiently over that period and thereby invalidate the applicability of that primary data. In case of any change to the test method the validity of the primary data needs to be confirmed.

Secondary information – should satisfy the following criteria:

- Secondary data may be other test reports.
- Secondary data may be data published in codes and standards.

Test reports from foreign laboratories may be used in the assessment provided that they meet the above criteria and that the report is, either:

- Translated (if requested by the assessor and reviewer) into the national language of the assessor and that translation validated by the original laboratory.
- Translated but not validated by the original laboratory, and is accompanied by the original full test report in the foreign language.
- Not translated, in which case the assessor takes full responsibility for understanding the original test report in its' original language.

Assessments should not be based on other assessments. However, reference may be made to publicly available standard information, if endorsed by the assessor/reviewer.

5.6 The assessment report

The considerations of the assessor should be adequately documented such that the user can understand the basis and technical justification of the opinion formulated. That opinion must be provided, clearly and unambiguously, in the same terms as required by the appropriate regulating authority.

The assessment report should contain:

- Reference to the test standard and the version against which the assessment / review has been carried out.
- Details of the applicant and the request for making the assessment.
- All information used in performing the assessment, including primary and secondary information, relevant correspondence from the applicant, drawings, specifications and any calculation methods which may have been used. See note
- Page numbering, file numbering and dating as prescribed in EN ISO/IEC 17025
- Test reports used as primary or secondary information should be referred to in the assessment by a short description of what has been tested, relevant results from the test, name of the laboratory that has conducted the test and the date of the test. See note.
- A technical argumentation for the conclusion of the assessment shall be included in the report.

- statement that the assessment do not represent a classification according to EN13501, if the European classification system is used to quantify the assessed fire performance of the assessed component. Therefore the declared classification will be written in the following way "Assessed" + "country initials" + "classification", e.g. "Assessed BE EI 30".
- Assessments may in some cases be valid only for a given part of the works or building. This will be clearly indicated in the assessment report, together with a definition of the actual scope of the validity of that assessment.
- The validity period of the assessment.
- The following statement:

'This assessment is issued on the basis of test data and information to hand at the time of issue. If contradictory evidence becomes available to the assessing authority the assessment will be unconditionally withdrawn and the applicant will be notified in writing. Similarly the assessment is invalidated if the assessed construction is subsequently tested since actual test data is deemed to take precedence over an expressed opinion. This assessment is only valid for a period of time, defined by the appropriate Regulatory Authority, after which time it is recommended that it be submitted to the assessing authority for re-appraisal.

This assessment is only valid for the country where it is produced and as far as national rules are satisfied. Validity in other countries is subject to acceptance by the relevant national authorities/regulations.'

- A statement stating that the assessment has been carried out in accordance with this guidance document.
- If the report bears the EGOLF logo, the following statement should be included in order to comply with EGOLF requirements: 'EGOLF bears no responsibility for the opinions and interpretations expressed in this assessment'

Note: reference to test reports and other documents are acceptable on condition that these documents are available to the reader. This should be stated in the assessment.

5.7 Extending the period of validity of an assessment

If requested by the applicant an assessor may re-appraise an assessment with a view to extending its validity for a period of time beyond that defined by the appropriate regulatory authority. The purpose of the re-appraisal is to ensure that current opinion, the basis of the assessment, the supporting information etc. upon which the original assessment was made remain current and consistent with current methodology. Any re-appraisal of an assessment should be conducted in accordance with this guidance document.

Annex A Levels of complexity of assessments

Three different levels of assessment, performed in lieu of a fire test, have been identified. These are (in increasing order of complexity):

Level 1 Assessments for individual construction elements and products

Assessments of changes to a tested product or construction, which are not covered by direct application (DIAP), extended application (EXAP) or an ETAG. Such assessments often rationalise the results of several tests in a "global" assessment to cover ranges of products in different combinations and permutations. Such changes are always fundamental to the fire performance of the product or construction being assessed.

These assessments must be undertaken by an assessor and reviewer, who have experience in the standards being assessed against.

Level 2 Assessments for structures, composed of different interacting construction elements

The technical evaluation of the likely fire performance of a building element or structure, which cannot be subjected to a standard fire test method. Such assessments (or engineering appraisal) require a different kind of assessment, one that does not rely solely on judgement/opinion but one needs an additional engineering input.

These assessments must be undertaken by an assessor and reviewer, who have supplementary experience in the field of construction (e.g. Eurocodes).

Level 3 Fire safety engineering

The application of engineering principles, rules and expert judgement based on a scientific appreciation of the fire phenomena, of the effects of fire and of the reaction and behaviour of people, in order to quantify the hazards and risk of fire and its effects and to evaluate analytically the optimum protective and preventative measures necessary to limit, within prescribed levels, the consequences of fire. The activity concerns primarily risk assessments instead of product/construction performance assessments.

These assessments must be undertaken by an assessor and reviewer, who have experience in the field of fire safety engineering. Such assessments are not covered by the guidelines specified in this document.

Annex B Qualifications and experience of assessors and reviewers

B.1 Introduction

It is generally agreed that personnel performing specific tasks in laboratories should be qualified on the basis of appropriate education, training, experience and/or skills, as required by the management or as resulting from the duties.

In the field of assessment and professional advice, the client must be sure that in the field of his interest he can rely on the assessor's technical competence and skills. The job description of the expert offering professional judgement or giving advice to the client should define the expert's responsibilities, theoretical and practical background, recent experience and specify the expert's integrity and reputation.

B.2 Description of the qualification of personnel

B.2.1 General observation

Personnel in a laboratory have to fulfil a number of tasks depending e.g. on the scope of the activities, the size of the laboratory, and the status of the laboratory with respect to its independence and impartiality. In addition, the tests also depend on the individual responsibilities of the staff members.

When analysing the requirements a laboratory imposes on individual employees a certain pattern emerges. They must have knowledge about the technical field (field competence), the methods to be used (method competence).

These competence areas have been analysed in some more detail and they encompass e.g. the following:

Field competence

- basic knowledge
- knowledge of a special field
- interdisciplinary knowledge

Method competence

- ability to use, to combine or to create knowledge of a special field
- development of the ability of abstraction,
- readiness to learn thinking systematically,
- planning, solving problems and correct decision making.

B.2.2 Qualification

B.2.2.1 Reviewer

A reviewer is expected to have approximately five years practical experience in the areas of the field for which the person is responsible.

The person should have the ability to solve technical and logistic problems.

Relevant publications and active work in national and/or international standardisation as well as lectures at e.g. conferences and training courses are expected.

The pre-requisite should generally be a university degree or a comparable level by experience. The training should cover the specific technical field. Training in the production and usage of relevant products is also of benefit for better understanding of the product and the feasibility of the laboratory operations in the relevant field. Training in interdisciplinary fields is important for the general overview. Good knowledge of foreign language(s) is an advantage and is desirable.

B.2.2.2 Assessor

An assessor is expected to have approximately two years relevant experience, together with additional theoretical background knowledge of comparable measurement methods for which the person is not directly responsible. Ability to solve technical and logistic problems is needed.

The pre-requisite should generally be an education to degree level, although not necessarily in a closely related subject. A certificate from a technical school should be the absolute minimum requirement. Basic knowledge in production methods of the relevant goods is necessary.

B.3 Personnel carrying out assessments by means of expert judgement

B.3.1 General

Expert judgement is mainly related to inspection activities and research activities in the sense of giving opinion on test results and interpretation. Expert judgement must not at all be confused with evaluation in certification activities.

Experts and their activities have a different legal status in different EU and EFTA member countries.

Experts play an important role in many fields and are expected to fulfil a number of obligations, such as:

- Independence
- Integrity
- Impartiality
- Active in a relevant international and/or national field
- Experience (provable) in testing and inspection of relevant goods etc.

The technical expert can in principle be an individual or an employee. However, in many cases more credit is given if the expert belongs to a third party testing laboratory or inspection body as the expert can call on the collective knowledge of the whole organisation.

An expert should almost by definition belong to the highest category (level) of staff and should exhibit the following competence profile:

B.3.2 Education and knowledge

- Theoretical knowledge as well as basic knowledge of mathematics, simulation and modelling methods, prediction methods, and reliability techniques
- Knowledge of recent literature relevant to his field of activity

B.3.3 Experience

- Professional experience in outlining, design, calculation, construction, development and research related to the activities and/or
- Professional experience in a wide range including border zones of application and in case study exercises and/or
- Knowledge of e.g. testing, measurement and inspection techniques as well as estimating applicability of methods and procedures or
- Recent experience in expert judgement activities

Annex C Code and rules of conduct for assessors and reviewers

C.1 Introduction

Fire test laboratories have objectives that relate to increasing the competence and professionalism of their staff members. Consequently, their standing as a whole is enhanced, if they employ staff to conduct and review assessments that are not only well qualified, but also have a professional commitment to excellence in their work and in their dealings with other people. This code of conduct, designed to embody broad ethical principles, is necessarily drawn up in general terms.

C.2 Code of conduct

Every assessor and reviewer employed by an organisation performing or responsible for performing assessments, in lieu of fire tests, should conduct himself or herself at all time so as to uphold the dignity and reputation of their profession and to safeguard the general public. They should exercise their professional skill and judgement to the best of their ability and discharge their professional responsibilities with integrity.

C.3 Rules of conduct

C.3.1 Professional competence and integrity

When discharging their professional duties every assessor and reviewer should:

- have the responsibility to upgrade their professional skill. They should maintain adequate awareness of current technical developments, standards, procedures and regulations. They should encourage subordinates to do likewise.
- not knowingly act for a client for whom an assessor or reviewer employed by a different organisation is acting in the same matter until either the first contract has been terminated by the client or the other organisation has consented to his / her involvement.
- not maliciously or recklessly injure or attempt to injure, whether directly or indirectly, the professional reputation of another.

C.3.2 Public interest

When discharging their professional duties every Assessor and Reviewer should:

- not do anything, or permit under their authority anything to be done, which could endanger human life or safety, expose valuable property to risk of destruction or serious damage, or needlessly pollute the environment.
- respect all relevant laws and statutory regulations in their work.

C.3.3 Duty towards employers

When discharging their professional duties every assessor and reviewer should:

- not accept assessments or reviews which they believe they do not have sufficient competence, authority or experience to perform.
- accept all responsibility for all work carried out by themselves, or under their supervision or direction, and should take all reasonable steps to ensure that all persons working under their authority are competent to carry out the tasks allotted to them and that they accept responsibility for work done under the authority delegated to them.
- disclose to their client or employer any benefits or interests that they may have in any matter in which they are engaged.
- neither communicate to any person, nor publish any information or matter not previously known by him or published in the public domain, which has been communicated to him in confidence by a client or employer without the express authority of that client or employer.
- not offer, give or receive inducement (financial or otherwise) to / from a third party in return for the introduction of clients or professional assignments without making such actions known to the client.

Annex D Declaration by the applicant

This declaration applies only when the assessment or review performed in lieu of fire tests has been carried out by the laboratory according to the "EGOLF Guidelines for performing assessments in lieu of fire tests".

Assessment Reference No.

We the undersigned confirm that we have read and complied with the following obligations placed on us by the "EGOLF Guidelines for performing assessments in lieu of fire tests".

We confirm that the building element or structure, which is the subject of this assessment, has not to our knowledge been subjected to a fire test to the Standard against which this assessment is being made.

We confirm that we are not aware of any undisclosed information that could affect the assessment process and hence, the conclusions reached by the assessor.

If we subsequently become aware of any such information we agree to withdraw this assessment from circulation and use for regulatory purposes, where applicable.

We also agree to withdraw this assessment from circulation and use for regulatory purposes, where applicable, should the building element or structure, which is the subject of this assessment, be tested to the fire test standard against which this assessment is being made.

Signed:

For and on behalf of: