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Interested committees:

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Full document details: 25/30488371 DC

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

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- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

English Version

Fire resistance tests for non-loadbearing elements - Part 1: Walls

Essais de résistance au feu des éléments non porteurs -
Partie 1 : Murs

Feuerwiderstandsprüfungen für nichttragende
Bauteile - Teil 1: Wände

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 127.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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European foreword

This document (prEN 1364-1:2025) has been prepared by Technical Committee CEN/TC 127 “Fire safety in buildings”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1364-1:2015.

prEN 1364-1:2025 includes the following significant technical changes with respect to EN 1364-1:2015:

- a) Definitions updated and added;
- b) Design with board / panels and joints defined, figures added;
- c) Direct field of application (DIAP) for glazed constructions (Annex A) updated based on rules given in EN 15254-4.

The EN 1364 series, *Fire resistance tests for non-loadbearing elements* consists of the following parts:

- *Part 1: Walls;*
- *Part 2: Ceilings;*
- *Part 3: Curtain walling - Full configuration (complete assembly);*
- *Part 4: Curtain walling - Part configuration;*
- *Part 5: Air transfer grilles.*

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Introduction

The purpose of this test is to measure the ability of a representative test specimen of a non-loadbearing wall to resist the spread of fire from one side to another.

It is applicable to non-loadbearing walls, with and without glazing, non-loadbearing walls consisting almost wholly of glazing and other non-loadbearing internal and external non-loadbearing walls.

It is not applicable to curtain walls (external non-loadbearing walls suspended in front of the floor slab), unless explicitly permitted under EN 1364-3 or EN 1364-4 which should contain details of the methodology to be used.

For external fire exposure to a non-loadbearing external wall, the external fire exposure curve given in EN 1363-2 is used.

CAUTION — The attention of all persons concerned with managing and carrying out this fire resistance test is drawn to the fact that fire testing can be hazardous and that there is a possibility that toxic and/or harmful smoke and gases can be involved during the test. Mechanical and operational hazards might also arise during the construction of the test elements or structures, their testing and disposal of test residues.

An assessment of all potential hazards and risks to health should be made and safety precautions should be identified and provided. Written safety instructions should be issued. Appropriate training should be given to relevant personnel. Laboratory personnel should ensure that they follow written safety instructions at all times.

1 Scope

This document specifies a method for determining the fire resistance of non-loadbearing walls.

This document is used in conjunction with EN 1363-1.

It is applicable to internal non-loadbearing walls (partitions), with and without glazing, non-loadbearing walls consisting almost wholly of glazing (glazed non-loadbearing walls) and other internal and external non-loadbearing walls with and without glazing.

The fire resistance of external non-loadbearing walls can be determined under internal or external exposure conditions. In the latter case the external fire exposure curve given in EN 1363-2 is used.

This document is not applicable to:

- a) curtain walls (external non-loadbearing walls suspended in front of the floor slab), unless explicitly permitted under EN 1364-3 or EN 1364-4 which contain details of the methodology to be used;
- b) non-loadbearing walls containing door assemblies that are tested according to EN 1634-1.

Specific requirements for testing glazed elements or non-loadbearing walls incorporating glazing are given in Annex A.

Specific requirements relating to the testing of non-loadbearing external and internal walls designed to span horizontally between two independently proven fire resisting vertical structural elements are given in Annex B.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1363-1, *Fire resistance tests - Part 1: General requirements*

EN 1363-2, *Fire resistance tests - Part 2: Alternative and additional procedures*

EN ISO 13943, *Fire safety - Vocabulary (ISO 13943)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1363-1 and EN ISO 13943 and the following apply:

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp/>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

non-loadbearing wall partition

wall, with or without glazing, designed not to be subject to any load other than its self-weight

3.2**internal non-loadbearing wall
internal partition**

non-loadbearing wall, with or without glazing, which is not part of the envelope of a building construction

Note 1 to entry: It may be exposed separately to a fire from either side.

3.3**external non-loadbearing wall**

non-loadbearing wall, with or without glazing, which is part of the envelope of a building construction

Note 1 to entry: It may be exposed separately to an internal or an external fire.

3.4**insulated non-loadbearing wall**

non-loadbearing wall, with or without glazing, which satisfies both the integrity and insulation criteria for the anticipated fire resistance period

3.5**uninsulated non-loadbearing wall**

non-loadbearing wall with or without glazing which satisfies the integrity and/or the radiation criteria for the anticipated fire resistance period, but which is not intended to provide insulation

Note 1 to entry: Such a non-loadbearing wall may consist entirely of uninsulated fire resistant glazing.

3.6**fire resistant glazing**

glazing system consisting of one or more transparent or translucent panes with a suitable method of mounting, with e.g. frames, seals, fixing materials etc, capable of satisfying the appropriate fire resistance criteria

3.7**insulated glazing**

fire resistant glazing which satisfies both the integrity and insulation criteria for the anticipated fire resistance period

3.8**uninsulated glazing**

fire resistant glazing which satisfies the integrity and/or the radiation criteria for the anticipated fire resistance period but which is not intended to provide insulation

3.9**glazed elements**

building elements with one or more (light transmissive) panes, that are built in a frame with fixings and seals and which cannot be opened

3.10**fire resistant glass****glass**

glass product, (e.g. monolithic glass, laminated glass, insulating glass units), that when used in a glazed assembly, can have its performance determined and classified in accordance with EN 13501-2

Note 1 to entry: The term “insulating” when used as an insulating glass unit according to EN 1279-1, should not be confused with the term “insulation” used in EN 13501-2, a classification standard for fire resistant glazed elements.

3.11

glass product range

group of fire resistant glass (3.10) products, including products from one or more glass product families, e.g. monolithic glass, laminated glass, insulating glass units, defined and produced by one manufacturer for which the characteristic resistance to fire from any one product within the range is valid for all other products within this range

Note 1 to entry: The glass product families are defined in the relevant product standards.

3.12

glazing system

glass and glazing materials used in the fire test to install the glass into its framing system, e.g. glazing strips, beads and bead fixings, setting blocks, gaskets, sealant (see Figure 16)

3.13

butt-joint(ed) glazing

glazing configuration where adjoining panes are connected without the use of framing profiles at the glass to glass joint

3.14

framing system

frame profiles and fixings to the supporting structure

Note 1 to entry: See one example in Figure 16.

3.15

aspect ratio

ratio of the height of a pane to its width

3.16

mullion

vertical framing member separating and supporting two adjacent panes of glass or panels

3.17

transom

horizontal framing member separating and supporting two adjacent panes of glass or panels

3.18

plinth

form of rigid supporting construction that reduces the height of the opening by raising the support base to accommodate the test specimen

3.19

overrun time

period of fire resistance beyond the intended classification period achieved in the test

Note 1 to entry: The overrun time is expressed in minutes.

3.20

board

panel

product of rectangular shape and a cross-section in which the thickness is uniform and substantially smaller than the other dimensions

3.21**staggered joints**

arrangement of boards where the edges of adjacent board layers are offset from one another through the depth of the wall

Note 1 to entry: Horizontal and vertical joints are to be regarded separately.

3.22**coincident joints**

arrangement of boards where the edges of adjacent board layers are not offset from one another through the depth of the wall

Note 1 to entry: Horizontal and vertical joints are to be regarded separately.

4 Test equipment

The fire resistance of external non-loadbearing walls can be determined under internal or external exposure conditions. In the latter case EN 1363-2 is applicable.

In addition to the test equipment specified in EN 1363-1, and if applicable in EN 1363-2, the following is required:

A test frame shall be provided, the rigidity of which shall be evaluated by applying an expansion force within the frame at mid-way between two opposite members of the frame and measuring the increase in the internal dimensions at these positions. This evaluation shall be conducted in both directions of the frame and the increase of the internal dimension shall be measured.

The increase in the internal dimensions of the test frame shall not exceed 5 mm with an applied force of 25 kN. In case of testing with a free edge, this requirement does not apply for the horizontal dimension.

5 Test conditions

The heating and pressure conditions and the furnace atmosphere shall be in accordance with EN 1363-1 or, if applicable, EN 1363-2.

6 Test specimen**6.1 General**

The test specimen shall be either:

- a) fully representative of the construction intended for use in practice, including any surface finishes and fittings which are essential and might influence its behaviour in the test;
- b) designed to obtain the widest applicability of the test result to other similar constructions.

The design features which influence fire performance that should be included to give the widest application can be derived from the field of direct application, Clause 13. For guidance about symmetry of test specimen, width of test specimen, for permitted extensions, extended application etc., consider the EN 15254 series.

At least one full board, panel, brick, etc. shall be located on the exposed face of the test specimen.

Testing of glazed elements or non-loadbearing walls incorporating glazing shall be in accordance with Annex A.

Testing of non-loadbearing external and internal walls designed to span horizontally between two independently proven fire resisting vertical structural elements shall be in accordance with Annex B.

6.2 Size

If, in practice, the height or width of the construction is 3 m or smaller, then that dimension of the test specimen shall be tested at full size. If any dimension of the construction is greater than 3 m, then that dimension shall be tested at not less than 3 m when tested without a supporting construction or 2,8 m when tested with a supporting construction.

6.3 Number

The number of test specimens shall be as given in EN 1363-1. However, where information is required under different exposure conditions or where the construction is to be evaluated with and without glazing, additional tests shall be undertaken for each situation using separate test specimens.

6.4 Design

6.4.1 Vertical joints

6.4.1.1 General

If the element incorporates vertical joints in practice, then the test specimen shall incorporate at least one vertical joint. This joint shall be located (500 ± 150) mm in from the free edge when viewed from the unexposed face.

6.4.1.2 Vertical joints for boards and panels

For test specimen with staggered vertical joints, a minimum of one vertical joint shall be on the outer layer of the unexposed face (500 ± 150) mm from the free edge as according to Figure 1, case D, and a full width board or panel shall be on the outer layer of the exposed side next to the free edge as according to Figure 1, case A. See Figure 22 and Figure 23 for examples.

For test specimen with coincident joints, a minimum of one vertical joint shall be included. If the vertical joint cannot be at (500 ± 150) mm from the free edge due to rules for maximum board width, then Figure 1, case A prevails.

6.4.2 Board or panel width

Where the test specimen can incorporate at least two full width boards or panels, the free edge shall be adjacent to a full width board or panel on the exposed face as according to Figure 1, case A. Where the test specimen can incorporate only one full width board or panel, the single full width board or panel shall be located in the centre of the test specimen, with smaller boards or panels of equal width on each side. The smaller boards or panels shall not be less than 500 mm wide as according to Figure 1, case B. Where the smaller boards or panels would be less than 500 mm wide, only one shall be used next to the free edge of the test specimen as according to Figure 1, case C.

6.4.3 Horizontal joints

If the element incorporates horizontal joints in practice, then the test specimen shall incorporate a horizontal joint. This joint shall be located between (500 ± 150) mm in from the top edge when viewed from the unexposed face as according to Figure 1, case E (see also Figure 22 and Figure 23).

For horizontally spanned elements between vertical loadbearing structures, see Annex B.

Test specimens may incorporate both horizontal and vertical joints in the same test, either following 13.5 or using a larger furnace in which both the full height board or panel together with the vertical and horizontal joints at the specified locations.

6.4.4 Restraint

The edges shall be restrained as in practice.

When the width of the element in practice is larger than the front opening of the furnace, one vertical edge shall be left unrestrained and there shall be a gap of 25 mm to 50 mm between the free edge of the test specimen and the test frame. This gap shall be packed with a resilient non-combustible material, e.g. mineral fibre, to provide a seal without restricting freedom of movement.

Any construction including any sealing of the free edge shall respect the following principles:

- a) prevent as far as possible the leakage of hot gases from the furnace into the test specimen;
- b) prevent as far as possible the leakage of gasses out of the test specimen;
- c) have as minimal effect as possible on the deformations of the test specimen;
- d) have as minimal effect as possible on the insulation rating of the test specimen.

6.4.5 Electrical installations

If installations such as electrical sockets, switches, etc. are intended as part of the non-loadbearing wall in practice, a representative has to be present in the test specimen and shall be mounted as in practice.

An empty plastic switch box may be used as a representative.

6.5 Construction

The test specimen shall be constructed as described in EN 1363-1.

6.6 Verification

Verification of the test specimen shall be carried out as described in EN 1363-1.

7 Installation of test specimen

7.1 General

The test specimen shall be installed in the test frame and, if used, the supporting construction, as in practice.

The whole area of the test construction shall be exposed to the heating conditions.

7.2 Supporting construction

If the size of the test specimen is smaller than the opening in the test frame then it shall be installed in the test frame using one of the following approaches:

- a) Where the height of the test specimen is smaller than the height of the test frame opening, then a plinth shall be provided to reduce the opening to the required height. The plinth shall possess sufficient stability for the test specimen and shall be selected from one of the rigid standard supporting constructions in EN 1363-1.
- b) Where the width of the test specimen is smaller, a standard supporting construction shall be provided on the vertical sides of the opening selected from either the rigid or flexible standard supporting constructions given in EN 1363-1.

If the test specimen is mounted in a non-standard supporting construction, then the result will only be valid for non-loadbearing walls mounted in the construction as tested.

8 Conditioning

The test construction shall be conditioned in accordance with EN 1363-1.

9 Application of instrumentation

9.1 Thermocouples

9.1.1 Furnace thermocouples (plate thermometers)

Plate thermometers shall be provided in accordance with EN 1363-1. There shall be at least one for every 1,5 m² of the area of the plane parallel to the exposed surface area of the test construction. The plate thermometers shall be oriented so that side 'A' faces the back wall of the furnace.

9.1.2 Unexposed face thermocouples

9.1.2.1 General

For uninsulated non-loadbearing walls, glazed or unglazed, the temperature of the unexposed face is not required to be measured and no thermocouples are therefore required to be attached.

For walls with an anticipated insulation performance, thermocouples of the type specified in EN 1363-1 shall be attached to the unexposed face for the purpose of obtaining the average and the maximum surface temperatures. Examples of location of unexposed face thermocouples are given in Figures 2 to 15, 19 and 20.

Surface of the test specimen shall be regarded as the surface that an observer would see when looking from the unexposed side of the test specimen perpendicular to the wall.

For guidance where to place thermocouples on or next to a stud on one-sided wall, an example is given in Figure 21.

General rules for the attachment and exclusion of thermocouples given in EN 1363-1 shall apply.

9.1.2.2 Average temperature

a) Uniform non-loadbearing walls

For test specimens which are uniform with respect to their expected thermal insulation, the average temperature of the unexposed face shall be measured by means of five thermocouples, one located close to the centre of the test specimen and one close to the centre of each quarter section. Some typical examples are shown in Figures 2, 4, 6, 9 and 19.

b) Non-uniform non-loadbearing walls

For test specimens of non-uniform non-loadbearing walls, i.e. those which contain discrete areas $\geq 0,1$ m² expected to exhibit different levels of insulation performance e.g. glazing, each discrete area shall be individually monitored for average temperature rise. The average temperature rise shall be measured by thermocouples distributed over each discrete area. One thermocouple shall be provided for every 1,5 m² or part thereof of the test specimen. A minimum of two thermocouples for each discrete area shall be provided. A typical example is shown in Figure 12.

9.1.2.3 Maximum temperature

For determination of maximum temperature, thermocouples shall be applied, as a minimum, to the unexposed face as follows:

a) at the top of the test specimen at mid-width;

- b) at the top of the test specimen in line with a stud/mullion;
- c) at the junction of a stud and a rail, or at the junction of horizontal and vertical joints in a non-loadbearing wall system;
- d) at mid height of the fixed edge;
- e) at mid height of the free edge, 150 mm in from the edge of test specimen;
- f) at mid width, where possible, adjacent to a horizontal joint (positive pressure zone);
- g) at mid height, where possible, adjacent to a vertical joint (positive pressure zone);

If installations, such as socket boxes, with a surface $\leq 0,02 \text{ m}^2$ are tested, thermocouples shall be arranged as follows:

- h) For the installation on the unexposed face and diameters (or larger dimension) of the installation $\geq 40 \text{ mm}$, at least one thermocouple shall be placed on the outer surface of the installation. In order to avoid the use of a roving thermocouple if the fixed one drops off, an additional thermocouple can be installed above the installation on the surface of the partition.
- i) For the installation on the unexposed face and diameters of the installation $< 40 \text{ mm}$, a thermocouple shall be installed above the installation on the surface of the partition.

For the installation on the exposed face, a thermocouple shall be located on the unexposed face opposite to the centre of the installation. The arrangement of the thermocouples is also given in Figures 10 and 11.

Thermocouples for evaluating insulation shall not be positioned closer than 100 mm from any discrete area that is not being evaluated for insulation.

9.2 Pressure

Pressure measuring devices shall be located in accordance with EN 1363-1.

9.3 Deflection

Appropriate instrumentation shall be provided to determine a history of all significant deflection (i.e. greater than 5 mm) of the test specimen during the test.

One (1) deflection measurement shall be made at the centre of the test specimen.

For a test specimen with a width larger than 3 m, additional measurements shall be made at mid-height at 1/4 and 3/4 of the width of the test specimen. For a test specimen with a height larger than 3 m, additional measurements shall be made at mid-width at 1/4 and 3/4 of the height. See Figures 2, 4, 6, 9, 12 and 19.

The interval of measurement shall be adequate to present a history of movement during the test.

Guidance on the application of deflection measurement is given in EN 1363-1.

Measurement of deflection is a mandatory requirement although there are no performance criteria in Clause 11 associated with it. However, the deflection of the test specimen is important in determining the direct field of application (see Clause 13) and is also important in determining the extended field of application of the test result.

9.4 Radiation

If radiation is to be measured, heat flux meter shall be positioned in accordance with EN 1363-2.

9.5 Impact

If performance under the impact test is required, this shall be carried out in accordance with EN 1363-2.

10 Test procedure

The test shall be carried out using the equipment and procedures in accordance with EN 1363-1 and, if appropriate, EN 1363-2.

11 Performance criteria

The criteria by which the performance of the test specimen is judged are given in EN 1363-1. However, failure under all criteria shall be disregarded within 150 mm of the free edge, unless in practice the free edge is unrestrained.

Insulation failure on thermocouples for installations, such as socket boxes as in 9.1.2.3 h) and i), shall be regarded as insulation failures for these devices only and not for the whole non-loadbearing wall.

Integrity failure of installations of limited size, such as socket boxes $\leq 0,02 \text{ m}^2$ as in 9.1.2.3 h) and i), shall be regarded as integrity failures for these devices only and not for the whole non-loadbearing wall.

12 Test report

In addition to the items required by EN 1363-1, a reference that the test was carried out in accordance with this document (i.e. EN 1364-1) shall also be included in the test report.

13 Field of direct application of test results

13.1 General

Except with respect to the construction types covered in Annex A and Annex B where specific direct field of application rules are given, the results of the fire test are directly applicable to similar constructions where one or more of the changes listed below are made and the construction continues to comply with the appropriate design code for its stiffness and stability:

- a) decrease in height and/or width;
- b) increase in the thickness of the wall;
- c) increase in the thickness of component materials;
- d) decrease in linear dimensions of boards or panels but not thickness;

This decrease should maintain the orientation (portrait or landscape) of the full boards/panels.

- e) decrease in stud spacing;
- f) decrease in distance of fixing centres;
- g) increase in the number of horizontal joints, of the type tested, when tested with one joint at $(500 \pm 150) \text{ mm}$ from the top edge;
- h) increase in the number of vertical joints, of the type tested;
- i) use of installations such as electrical sockets, switches, etc. when tested as illustrated in Figures 9, 10 and 11 with the installations not more than 500 mm from the top edge;

If the installation was tested more than 500 mm from the top edge, then it shall be installed at heights up to the tested height (measured from the bottom).

- j) horizontal and/or vertical joints, of the type tested;
- k) increase in the staggering of joints that are not depending on tested stud spacings in the various layers, also in relation to exposed/unexposed side (see D1 to D4 in Figure 22 and Figure 23);
- l) increase in the distance of horizontal joints on either side of a vertical joint (adjacent T-shaped joints).

For joints supported with studs, the arrangement of joints shall remain unchanged in case of decreasing stud spacing.

For framing systems or systems with visible profiles on the unexposed side, intended to be used for EI classification, no increase in width and depth is allowed in case no temperature measurements on the unexposed side of the profiles were made during the test.

The field of direct application for glazed elements or non-loadbearing walls incorporating glazing is given in Annex A.

The field of direct application for non-loadbearing external and internal walls designed to span horizontally between two independently proven fire resisting vertical structural elements is given in Annex B.

13.2 Extension of width

For test specimens tested without a supporting construction, the width of an identical construction may be increased if the test specimen was tested at a minimum of nominally 3 m wide with one vertical edge without restraint.

For test specimens tested with a supporting construction, the width of an identical construction may be increased if the test specimen was tested at a minimum of nominally 2,8 m wide with one vertical edge without restraint.

In case of EW classification, an increase in width of an identical construction is only allowed when the average unexposed surface temperature of any discrete area of the test specimen remains below 300 °C or the measured radiation remains below 6 kW/m². In any other case, no increase in width is allowed.

13.3 Extension of height

The height of the construction may be increased by 1,0 m under the following conditions:

- a) minimum tested height is 3 m when tested without a supporting construction or 2,8 m when tested with a supporting construction;
- b) maximum deflection of the test specimen was not in excess of $h/30$ (where h is the tested height of the test specimen) (see 9.3);
- c) expansion allowances are increased pro-rata.

For test specimens incorporating horizontal joints in practice a horizontal joint shall be located according to 6.4.3 across the entire width of the test specimen.

In case of EW classification, an increase in height of an identical construction is only allowed when the average unexposed surface temperature of any discrete area of the test specimen remains below 300 °C or the measured radiation remains below 6 kW/m². In any other case, no increase in height is allowed.

13.4 Supporting construction

13.4.1 General

The following rules shall apply for the applicable field of application.

13.4.2 Standard supporting construction

- a) For specimens tested in the test frame without any supporting construction, the result is applicable to high density rigid supporting constructions with at least the same fire resistance as the test specimen.
- b) For specimens tested with any standard supporting construction as defined in EN 1363-1, the result is applicable to any other supporting construction of the same type (flexible or rigid) that has the same or a greater classified fire resistance (thicker, denser, more layers of boards, as appropriate) than the one used in the test and the same horizontal and/or vertical orientation, i.e.:
 - only vertical if the test specimen was tested with the standard supporting construction fixed along the vertical edge (see Figure 17, b1);
 - only horizontal if the test specimen was tested with the standard supporting construction fixed along the horizontal edge (see Figure 17, b2);
 - both if the test specimen was tested with the standard supporting construction fixed along both the horizontal and the vertical edge (see Figure 17, b3).

13.4.3 Non-standard supporting constructions

The result of a test on a non-loadbearing wall tested in a non-standard supporting construction is only applicable to that construction.

13.5 Field of direct application resulting from a combination of horizontal joints and maximum board or panel height in one test specimen

For test specimens tested with both horizontal and vertical joint in the same test, see Figure 24 and Figure 25, the test specimen shall include a full board size closest to the restrained edge and horizontal joints closest to the free edge located (500 ± 150) mm from the top edge. Horizontal joints (staggered between layers and/or exposed/unexposed face or coincident) shall be present in all layers and on both exposed and unexposed side of the test specimen. A vertical joint shall be included and placed in the principle of 6.4.1.2.

Testing the full board and horizontal joints in one test gives any of the changes mentioned in 13.1.

The height of the construction may be increased by 1,0 m when testing the full board and horizontal joints in one test under the following conditions:

- a) overrun time of 10 % of the classification time is reached;
- b) minimum tested height is 3 m when tested;
- c) maximum deflection of the test specimen was not in excess of $h/30$ mm (see 9.3);
- d) expansion allowances are increased pro-rata.

This rule is intended to be used when the full board height is the same as the height of the furnace, and the user only wishes to perform one test to obtain the possibility for a direct field of application of

horizontal and vertical joints and full board height. It is always possible to obtain the same field of application by conducting two tests, one test to evaluate the effect of joints and another to evaluate the full height board or panel.