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**Fire-resistance tests - Elements of building
construction - Part 8: Specific requirements for non-
loadbearing vertical separating elements**

建筑构件耐火试验方法

第 8 部分：非承重垂直分隔构件的特殊要求

(ISO 834-8:2002, MOD)

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Fire-resistance tests - Elements of building construction - Part 8: Specific requirements for non-loadbearing vertical separating elements

1 Scope

This Part of GB/T 9978 specifies the test procedures for determining the fire resistance of non-loadbearing vertical separating elements which are exposed to heating on one face and meet this Part's conditions. It is neither appropriate for the curtain walls (non-loadbearing external walls suspended from the ends of floor slabs) nor for walls containing doors or glazing.

When the structure of the untested elements of building construction complies with the conditions specified in the direct field of application given in this Part, the fire resistance results of the elements which have been tested for fire resistance in accordance with this Part may be applied to similar elements of building construction which have not been tested.

2 Normative references

The following documents contain provisions which, through reference in this Part of GB/T 9978, constitute provisions of this Part. For the dated references, their subsequent amendments (excluding corrections) or revisions do not apply to this Part. However, the parties who enter into agreement based on this Part are encouraged to investigate whether the latest editions of these documents are applicable. For undated reference documents, the latest editions apply to this Part.

GB/T 5907 Fundamental terminology of fire protection - Part 1¹⁾

GB/T 9978.1 Fire-Resistance Tests - Elements of Building Construction - Part 1: General Requirements (GB/T 9978.1-2008, ISO 834-1:1999, MOD)

GB/T 9978.4 Fire-resistance tests - Elements of building construction - Part 4: Specific requirements for loadbearing vertical separating elements (GB/T

1) The standard will, on the basis of integrating and revising GB/T 5907-1986, GB/T 14107-1993, and GB/T 16283-1996, be divided into 5 parts, with the overall title of "Fire protection vocabulary". Among them, Part 2 is GB/T 5907.2 "Fire protection vocabulary - Part 2: Fire prevention", which will modify and adopt ISO 13943:2000.

The heating conditions, furnace pressure, and loading conditions during the test shall comply with the relevant provisions of GB/T 9978.1.

6.2 Constraint and boundary conditions

Constraint and boundary conditions shall comply with the relevant provisions of GB/T 9978.1 and this Part.

7 Test specimen preparation

7.1 Specimen design

7.1.1 General

The test specimen shall meet:

- a) The structure, material, manufacturing process, and installation form of test specimen shall be in full conformity with the actual application.
- b) The test specimen shall not contain mixtures of different types of construction, for instance brick or blocks in a wall unless this is fully representative of the construction in practice.

For the design features which influence fire performance, the widest application shall be based on Annex A.

7.1.2 Services

In practical applications, when the test specimen incorporates services such as a power switch or a power outlet, these services shall be an integral part of the test specimen.

7.2 Specimen size

If, in practice, the height and/or width of the construction is 3 m or smaller, then that dimension of the test specimen shall be tested at full size. If the height and/or width of the construction is greater than 3 m, then that dimension shall be tested at no less than 3 m and meet the installation conditions of the test furnace opening.

7.3 Number of test specimens

For symmetrical constructions only one test specimen is required unless otherwise required by this Standard. For asymmetrical constructions the number of test specimens shall comply with the requirements given in this Standard and GB/T 9978.1.

mineral fiber, to provide a seal without restricting freedom of movement and vertical deflection which may occur with the free edge. The remaining edges shall be restrained as in practice.

8 Application of instrumentation

8.1 Furnace thermocouples

8.1.1 Furnace temperature

Thermocouples which measure the temperature inside the furnace shall be distributed as uniformly as possible. During the fire-resistance tests, by the corresponding instrumentation, the temperature across the exposed face of the test specimen is reliably given. These thermocouples shall be constructed and located in accordance with the requirements of GB/T 9978.1.

8.1.2 Number of furnace interior thermocouples

The number of thermocouples shall not be fewer than one for every 1.5 m² of the exposed surface area of the test specimen. There shall be a minimum of 4 thermocouples for any test.

8.2 Unexposed surface thermocouples

Unexposed surface thermocouples shall be constructed and located in accordance with GB/T 9978.1. For determination of maximum temperature of unexposed face, thermocouples shall be applied to the unexposed face not closer than 100 mm to the nearest edge, at the following locations, if appropriate (For the layout example, see Figure 3 of GB/T 9978.4):

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

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