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**Test method for fire propagation
over building façades**

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In the event of any doubts arising as to the contents,
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Foreword

This translation has been made based on the original Japanese Industrial Standard established by the Minister of Land, Infrastructure, Transport and Tourism through deliberations at the Japanese Industrial Standards Committee according to the proposal for establishment of Japanese Industrial Standard submitted by Consortium for Building Research and Development (CBRD)/Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law.

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Test method for fire propagation over building façades

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of **ISO 13785-1** published in 2002 with some modifications of the technical contents, including the fire source and exposure, and the shape of test specimen.

The portions given sidelines or dotted underlines are the matters in which the contents of the corresponding International Standards have been modified. A list of modifications with the explanations is given in Annex JB.

1 Scope

This Standard specifies a screening method for determining the fire propagation of products and constructions of a building façade when exposed to flames ejected from the opening.

This Standard, however, does not apply to stability, insulation and integrity of the exterior wall.

WARNING Particular attention shall be paid to the fact that hazardous gas may be generated and/or fire propagation of specimen can occur sometimes with possible structural collapse of the specimen in whole or in part and the necessary preventive measures shall be taken. An adequate means of extinguishing the specimen shall be provided.

NOTE : The International Standard corresponding to this Standard and the symbol of degree of correspondence are as follows.

ISO 13785-1:2002 *Reaction-to-fire tests for façades—Part 1: Intermediate-scale test (MOD)*

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are **IDT** (identical), **MOD** (modified), and **NEQ** (not equivalent) according to **ISO/IEC Guide 21-1**.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. For those without the indication of the year, the most recent edition (including amendments) shall be applied.

JIS A 5430 *Fibre reinforced cement boards*

JIS K 2240 *Liquefied petroleum gases*

JIS R 3311 *Ceramic fiber blanket*

3 Terms and definitions

For the purpose of this Standard, the following terms and definitions apply.

3.1 building façades

products and constructions added to the external surface of an existing wall or frame

3.2 fire propagation

fire travel or spread by extension of combustible zone

4 Principle

The fire propagation of a building façade is assessed when exposed to flames ejected from the opening, by measuring the temperature and heat flux of the façade and visually inspecting the face of the façade.

5 Test apparatus

5.1 General

The test apparatus shall consist of a specimen substrate, a specimen support frame and a combustion chamber. The test apparatus and test specimen are as shown in figure 1.

5.2 Specimen substrate

The specimen substrate, made by laying two pieces of 0.8 calcium silicate board of thickness 12 mm specified in **JIS A 5430**, shall be of the same size as the test specimen specified in clause 6, and capable of holding the shape together with the specimen support frame as well as holding the test specimen during the test. However, the joint of the first layer shall not overlap with that of the second layer (see figures 1 and 2).

5.3 Specimen support frame

The specimen support frame shall be able to support structurally the specimen substrate and the test specimen (see figures 1 and 2).

5.4 Combustion chamber

The internal dimensions of a combustion chamber shall be 1 350 mm × 1 350 mm × 1 350 mm (height × width × depth), and the dimensions of the opening shall be 910 mm square. The combustion chamber shall be designed to be free from defects like melting, omissions and deformation which can impede testing during the test, and the interior shall be finished with the ceramic fiber blanket No. 1 (25 mm thick) specified in **JIS R 3311**.

Unit: mm

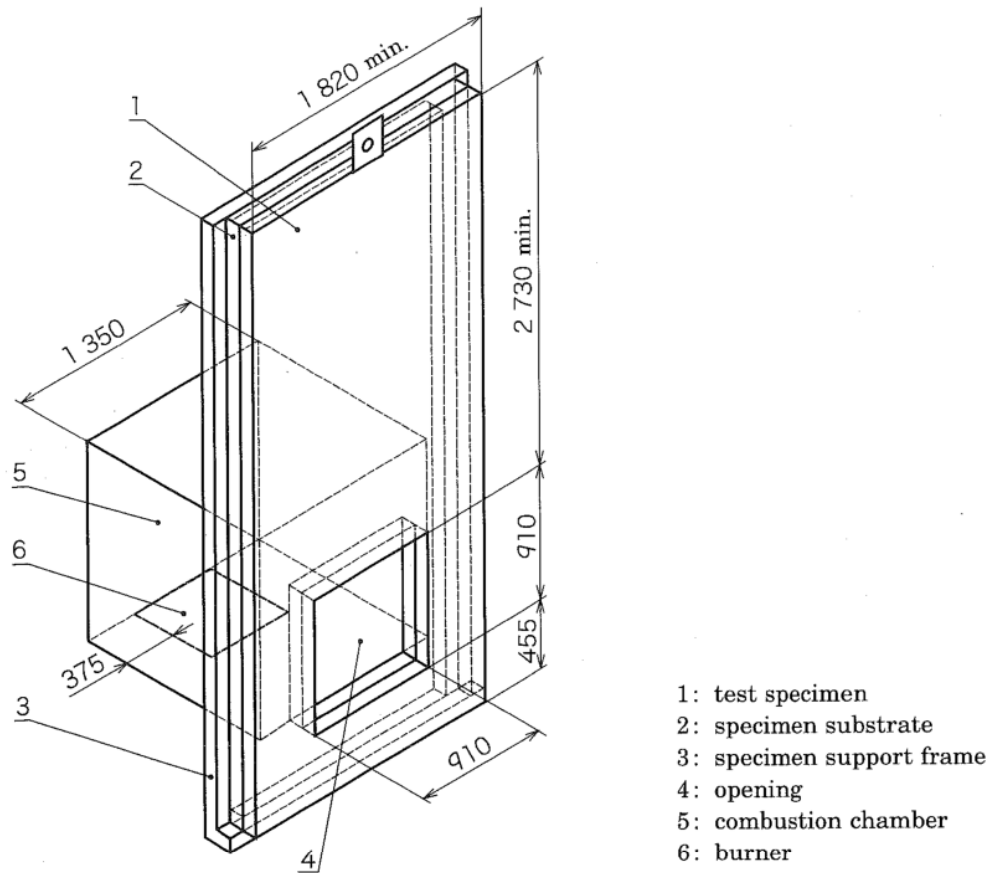


Figure 1 Test apparatus and test specimen

Unit: mm

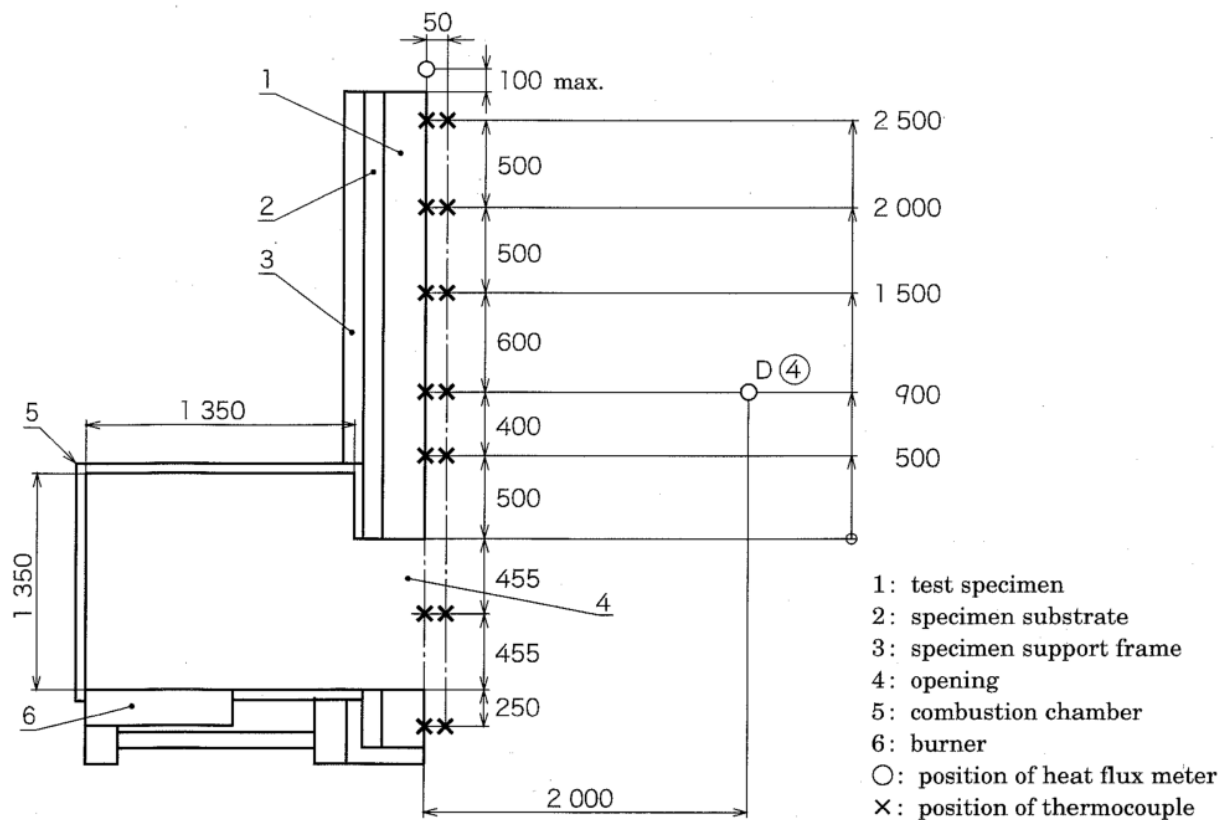


Figure 2 Position of measuring apparatus (thermocouple and heat flux meter)