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Reaction to fire test for sandwich panel building systems — Intermediate-scale box test

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National foreword

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 92, *Fire safety*, Subcommittee SC 1, *Fire initiation and growth*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document is intended to provide a test method for describing the fire behaviour of a sandwich panel product under fire conditions by simulating such fire conditions in a box made of sandwich panels under controlled laboratory conditions.

This test method may be used for comparing the reaction-to-fire properties of sandwich panel products. ISO 13784-1 and ISO 13784-2 are used to give a more realistic end-use assessment of the performance of sandwich panels, including self-standing capability during fire.

Examples of specimen drawings are provided in Annex A.

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Reaction to fire test for sandwich panel building systems — Intermediate-scale box test

1 Scope

This document specifies a method of testing the reaction-to-fire properties of an intermediate-scale, box-shaped structure made up of sandwich panels. This test method is a screening method intended for use by producers to reduce the burden of testing in ISO 13784-1, especially with respect to the occurrence of flashover.

This test method is not applicable to determining self-standing capability during fire, which is instead examined using ISO 13784-1 or ISO 13784-2.

This method is not intended to evaluate the reaction-to-fire performance of facades, or the fire resistance of a product, which can be tested by other means.

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.

ISO 13943, *Fire safety — Vocabulary*

ISO 13784-1, *Reaction to fire test for sandwich panel building systems — Part 1: Small room test*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13943 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/

4 Principle

The reaction to fire performance of a sandwich panel assembly is assessed when exposed to flames impinging directly on the internal corner of a small box-shaped sandwich panel assembly. The different kinds of flame spread, for example within the internal core, on the surface or through joints, and through ignited combustible gases and falling debris or melting droplets of the sandwich panel assembly, are assessed to allow the following possible fire hazards to be determined:

a) the contribution of the system to fire development before and after flashover;

b) the development of smoke and fire gases generated from the specimen box made of sandwich panels.

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