

TECHNICAL REPORT

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Tests for measuring “reaction-to-fire” of building materials — Their development and application

*Essais de mesurage de la « réaction au feu » des matériaux de bâtiment — Leur
élaboration et leur application*



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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.

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- type 2, when the subject is still under technical development requiring wider exposure;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical reports are accepted for publication directly by ISO Council. Technical reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical reports type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 3814, which is a technical report of type 3, was prepared by Technical Committee ISO/TC 92, *Fire tests on building materials, components and structures*.

This second edition cancels and replaces the first edition (ISO/TR 3814 : 1975) and ISO/TR 6585 : 1979, which have been technically revised.

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Introduction

A building fire can constitute a hazard to both the building structure and to its occupants, because of the heat generated and the production of smoke and gaseous products of combustion. Consequently, early building codes and regulations were designed to prevent rapid fire development and spread within individual buildings and also from one building to another. These codes have since developed into more complex laws governing public safety. Formerly, a distinction was made between the protection of persons from fire and the protection of property, with more importance being placed upon the latter. However, this distinction becomes somewhat difficult to make when considering modern, large-area, high-rise structures, where protection of the occupants in-place must substitute for rapid evacuation. Restrictions on the use of combustible materials, compartmentalization, early fire detection and extinguishment are key factors for in-place protection of occupants and are also important for minimizing property loss.

This Technical Report describes the work being carried out by Sub-committee ISO/TC 92/SC 1 on the development of tests for the "reaction-to-fire" of building materials and discusses the role and limitations of these tests in reducing fire danger.