INTERNATIONAL STANDARD

ISO 9772

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Cellular plastics — Determination of horizontal burning characteristics of small specimens subjected to a small flame

Plastiques alvéolaires — Détermination des caractéristiques de combustion de petites éprouvettes en position horizontale, soumises à une petite flamme

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 9772 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 4, *Burning behaviour*.

This third edition cancels and replaces the second edition (ISO 9772:2001), which has been technically revised. It also incorporates the Amendment ISO 9772:2001/Amd.1:2003.

Introduction

Cellular plastics are widely used in products for packaging, building, housing, industry and transport, in various applications. The burning behaviour of cellular plastics is a concern for the fire safety of these products. This International Standard gives a method for the determination of the burning behaviour of cellular plastics using a small flame source.

The burning behaviour of cellular plastics is influenced by the test specimen orientation (vertical or horizontal). This method of test evaluates specimens which are oriented horizontally.

The method described is also intended as a pre-selection test for materials used for components of devices and appliances. The final acceptance of the material would be dependent upon its use in complete equipment that conforms with the standards applicable to such equipment.

It should be noted that the test results obtained by the test specified in this International Standard alone cannot represent all the aspects of the fire hazard of cellular plastics in end-use conditions.

Cellular plastics — Determination of horizontal burning characteristics of small specimens subjected to a small flame

1 Scope

1.1 This International Standard specifies a small-scale laboratory screening procedure for comparing the relative burning characteristics of horizontally oriented, small cellular plastic specimens having a density less than 250 $kg \cdot m^{-3}$ determined in accordance with ISO 845, when exposed to a small-flame ignition source.

NOTE Another International Standard exists covering flexible cellular plastic and cellular rubber: ISO 3582[2].

1.2 This method of test is intended for quality assurance and limited product evaluation of cellular plastic materials under controlled laboratory conditions, and is not intended to assess the fire behaviour of e.g. building materials or furnishings under actual fire conditions.

1.3 The optional classification system described in Annex A is intended for the pre-selection of cellular plastic materials for products, including the determination of the ranges of material parameters that give the same classification (see 6.1).

2 Normative references

The following referenced documents are indispensable for the application 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 845, *Cellular plastics and rubbers — Determination of apparent density*

ISO 1923, *Cellular plastics and rubbers — Determination of linear dimensions*

ISO 10093, *Plastics — Fire tests — Standard ignition sources*

ISO 13943, *Fire safety — Vocabulary*

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 13943 and the following apply.

3.1
afterflame time
length of time for which a material continues to flame, under specified test conditions, after the ignition source has been removed

3.2
afterglow time
length of time for which a material continues to glow, under specified test conditions, after the ignition source has been removed and/or extinguishment of flame

3.3
extended application of test results
process of predicting a test result, on the basis of one or more existing test results obtained by the same test, for a product for which a property and/or the intended end-use application(s) are subject to variation