SLOVENSKI STANDARD
SIST EN ISO 10840:2026

01-december-2026

Polimerni materiali - Specifikacije in smernice za uporabo standardnih požarnih preskusov (ISO 10840:2026)

Plastics - Specifications and guidance for the use of standard fire tests (ISO 10840:2026)

Kunststoffe - Leitfaden für die Verwendung von Standard-Brandprüfungen (ISO 10840:2026)

Plastiques - Lignes directrices pour l'utilisation d'essais au feu normalisés (ISO 10840:2026)

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83.080.01	Polimerni materiali na splošno	Plastics in general

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 10840

October 2026

ICS 83.080.01; 13.220.40

English Version

Plastics - Specifications and guidance for the use of standard fire tests (ISO 10840:2026)

Plastiques - Spécifications et lignes directrices pour l'utilisation d'essais au feu normalisés (ISO 10840:2026)

Kunststoffe - Leitfaden für die Verwendung von Standard-Brandprüfungen (ISO 10840:2026)

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European foreword

This document (EN ISO 10840:2026) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 “Plastics” the secretariat of which is held by SIS.

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International Standard

ISO 10840

Plastics — Specifications and guidance for the use of standard fire tests

Plastiques — Spécifications et lignes directrices pour l'utilisation d'essais au feu normalisés

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Foreword

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This third edition cancels and replaces the second edition (ISO 10840:2008), which has been technically revised.

The main changes are as follows:

— the reference documents have been reviewed and updated;

— the terms and definitions have been reviewed and updated;

— a new subclause 5.5 for fire safety engineering has been added.

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

Many of the current reaction-to-fire tests were developed, prior to the widespread use of synthetic polymers, to assess products incorporating materials such as wood (in the building industry), paper (in electrical wires and cables), and naturally occurring fibres such as cotton, wool and horsehair (in many textile, furniture and electrical applications). The reaction-to-fire characteristics of these so-cold traditional materials are often very different from those of synthetic materials, especially thermoplastics.

ISO/TC 61/SC 4 recognises the need for guidance for users of fire-test standards commonly applied to materials and products made of, or incorporating, plastics. In 2003, the first edition of ISO 10840 was published, based on the now withdrawn ISO TR 10840:1993 (*Plastics – Burning behaviour – Guidance for development and use of fire test)*, which listed a series of potential problems associated with the reaction-to-fire testing of plastics materials and products. ISO TR 10840, however, provided users of the test methods with no practical assistance on how to cope with the listed difficulties.

This document provides detailed information about how to conduct standard fire tests which are more relatable to the real conditions of plastics products in a variety of applications.

With more concerns expressed about the environmental impact of fires involving plastics, additional guidance has been included in the second edition, and extended in this third edition.

Particular attention is given to the provision of guidance for inexperienced users who need to assess the fire performance of materials or products made of, or incorporating, plastics. This document also provides answers to frequently asked questions concerning fire tests; these cover factors such as cost, duration, complexity, required operator skills, quality of the data produced, relevance to fire hazard assessment as well as test repeatability and reproducibility. This document contains a bibliography of the most frequently used fire tests applied to the materials and products within the scope of ISO/TC 61/SC 4.

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The main focus of this document is on reaction-to-fire testing. Fire resistance testing has also been considered, in particular for the use of plastic construction of small ships, to take account of the widespread use of advanced polymer composites and related materials with superior thermo-mechanical stability which can be used in applications where there is a demand for some degree of fire resistance.

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This document provides specifications and guidance for use of fire test of plastics based on the fire safety engineering (FSE) using methodologies prescribed in ISO 23932-1[45], IEC 60695-1-11[46] and IEC 60695-1-12[47].

This document also provides guidance on some standard fire tests which give data that is applicable for assessment of the potentially adverse environmental impact of combustion products that can be generated in large-scale fires involving plastics materials and products (see Annex B).

NOTE The term, ‘adverse environmental impact’, covers undesirable direct effects on the environment as well as indirect effects on people of ISO 10840 through environmental exposure.

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