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Plastics - Determination of creep behaviour - Part 2: Flexural creep by three-point loading (ISO 899-2:2024)

Táto norma obsahuje anglickú verziu európskej normy.
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European foreword

This document (EN ISO 899-2:2024) 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.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2025, and conflicting national standards shall be withdrawn at the latest by April 2025.

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International Standard

ISO 899-2

Plastics — Determination of creep behaviour —

Part 2: Flexural creep by three-point loading

Plastiques — Détermination du comportement au fluage —

Partie 2: Fluage en flexion par mise en charge en trois points

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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 document 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 61, *Plastics*, Subcommittee SC 2, *Mechanical behavior,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 249, *Plastics,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 899-2:2003), which has been technically revised. It also incorporates the Amendment ISO ISO 899-2:2003/Amd. 1:2015.

The main changes are as follows:

— the accuracy requirements for the deflection measurement device have been updated;

— the normative references have been updated;

— the definition of "creep" has been adapted for clarity;

— the definitions for shape and dimensions of test specimens were adapted from ISO 178:2019;

— identified inconsistencies and mistakes have been corrected.

A list of all parts in the ISO 899 series can be found on the ISO website.

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International Standard **ISO 899-2:2024(en)**

Plastics — Determination of creep behaviour —

Part 2: Flexural creep by three-point loading

1 Scope

1.1 This document specifies a method for determining the flexural creep of plastics in the form of standard test specimens under specified conditions such as those of pre-treatment, temperature and humidity. It is only applicable to a simple freely supported beam loaded at mid-span (three-point-loading test).

1.2 The method is suitable for use with rigid and semi-rigid non-reinforced, filled and fibre-reinforced plastics materials (see ISO 472 for definitions) test specimens moulded directly or machined from sheets or moulded articles.

NOTE The method can be unsuitable for certain fibre-reinforced materials due to differences in fibre orientation.

1.3 The method is intended to provide data for engineering-design, quality control, research and development purposes.

1.4 The method might not be applicable for determining the flexural creep of rigid cellular plastics (attention is drawn in this respect to ISO 1209-1 and ISO 1209-2).

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 178, *Plastics — Determination of flexural properties*

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 472, *Plastics — Vocabulary*

ISO 9513, *Metallic materials — Calibration of extensometer systems used in uniaxial testing*

ISO 16012, *Plastics — Determination of linear dimensions of test specimens*