



# SLOVENSKI STANDARD SIST EN ISO 604:2003

01-december-2003

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SIST EN ISO 604:2000

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Plastics - Determination of compressive properties (ISO 604:2002)

Kunststoffe - Bestimmung von Druckeigenschaften (ISO 604:2002)

Plastiques - Détermination des propriétés en compression (ISO 604:2002)

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**ICS:**

|           |                                |                     |
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| 83.080.01 | Polimerni materiali na splošno | Plastics in general |
|-----------|--------------------------------|---------------------|

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# INTERNATIONAL STANDARD

**ISO  
604**

Third edition  
2002-03-01

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## Plastics — Determination of compressive properties

*Plastiques — Détermination des propriétés en compression*

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Reference number  
ISO 604:2002(E)

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## ISO 604:2002(E)

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## ISO 604:2002(E)

## 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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 604 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical properties*.

This third edition cancels and replaces the second edition (ISO 604:1993), which has been technically revised.

- a method of correcting for curvature at the beginning of the stress/strain curve is given (see 10.2.2);
- a method of correcting for the compliance of the test machine is given (see annex C).

Annexes A and C form a normative part of this International Standard. Annex B is for information only.

# Plastics — Determination of compressive properties

## 1 Scope

This International Standard specifies a method for determining the compressive properties of plastics under defined conditions. A standard test specimen is defined but its length may be adjusted to prevent buckling under load from affecting the results. A range of test speeds is included.

The method is used to investigate the compressive behaviour of the test specimens and for determining the compressive strength, compressive modulus and other aspects of the compressive stress/strain relationship under the conditions defined.

The method applies to the following range of materials:

- rigid and semi-rigid<sup>[1]</sup> thermoplastic moulding and extrusion materials, including compounds filled and reinforced by e.g. short fibres, small rods, plates or granules in addition to unfilled types; rigid and semi-rigid thermoplastic sheet;
- rigid and semi-rigid thermoset moulding materials, including filled and reinforced compounds; rigid and semi-rigid thermoset sheet;
- thermotropic liquid-crystal polymers.

In agreement with ISO 10350-1 and ISO 10350-2, this International Standard applies to fibre-reinforced compounds with fibre lengths  $\leq 7,5$  mm prior to processing.

The method is not normally suitable for use with materials reinforced by textile fibres (see references [2] and [5]), fibre-reinforced plastic composites and laminates (see [5]), rigid cellular materials (see [3]) or sandwich structures containing cellular material or rubber (see [4]).

The method is performed using specimens which may be moulded to the chosen dimensions, machined from the central portion of a standard multipurpose test specimen (see ISO 3167) or machined from finished or semi-finished products such as mouldings or extruded or cast sheet.

The method specifies preferred dimensions for the test specimen. Tests which are carried out on specimens of different dimensions, or on specimens which are prepared under different conditions, may produce results which are not comparable. Other factors, such as the test speed and the conditioning of the specimens, can also influence the results. Consequently, when comparable data are required, these factors must be carefully controlled and recorded.