SLOVENSKI STANDARD
SIST EN ISO 3386-1:2000

01-maj-2000

Penjeni polimerni materiali - Mehke pene - Določanje diagrama napetost/raztezek - 1. del: Materiali z nizko gostoto (ISO 3386-1:1986)

Polymeric materials, cellular flexible - Determination of stress-strain characteristic in compression - Part 1: Low-density materials (ISO 3386-1:1986)

Weichelastische Schaumstoffe - Bestimmung der Druckspannungs-Verformungseigenschaften - Teil 1: Materialien mit niedriger Dichte (ISO 3386-1:1986)

Matériaux polymeres alvéolaires souples - Détermination de la caractéristique de contrainte-déformation relative en compression - Partie 1: Matériaux a basse masse volumique (ISO 3386-1:1986)

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83.100	Penjeni polimeri	Cellular materials

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Polymeric materials, cellular flexible - Determination of stress-strain characteristic in compression - Part 1: Low-density materials (ISO 3386-1:1986)

Matériaux polymères alvéolaires souples - Détermination de la caractéristique de contrainte-déformation relative en compression - Partie 1: Matériaux à basse masse volumique (ISO 3386-1:1986)

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This European Standard was approved by CEN on 16 October 1997.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN ISO 3386-1:1997 E

Foreword

The text of the International Standard from Technical Committee ISO/TC 61 "Plastics" of the International Organization for Standardization (ISO) has been taken over as an European Standard by Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

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 May 1998, and conflicting national standards shall be withdrawn at the latest by May 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 3386-1:1986 has been approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

Annex ZA (normative)
Normative references to international publications with their relevant European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

Publication	Year	Title	EN	Year
ISO 1923		Cellular plastics and rubbers - Determination of linear dimensions	EN ISO 1923	1995

International Standard 3386/1

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Polymeric materials, cellular flexible — Determination of stress-strain characteristic in compression — Part 1 : Low-density materials

Matériaux polymères alvéolaires souples — Détermination de la caractéristique de contrainte-déformation relative en compression — Partie 1 : Matériaux à basse masse volumique

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 3386/1 was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*.

This second edition cancels and replaces the first edition (ISO 3386/1-1979), of which it constitutes a minor revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Printed in Switzerland

Polymeric materials, cellular flexible — Determination of stress-strain characteristic in compression — Part 1 : Low-density materials

1 Scope and field of application

This part of ISO 3386 specifies a method for the determination of the compression stress/strain characteristic of low-density flexible cellular materials up to 250 kg/m³. It also indicates a method for the calculation of the compression stress value of such materials.

The compression stress/strain characteristic is a measure of the load-bearing properties of the material, though not necessarily of its capacity to sustain a long-term load.

The compression stress/strain characteristic differs from the indentation hardness characteristics (as determined in accordance with ISO 2439), which are known to be influenced by the thickness and the tensile properties of the flexible cellular material under test, by the shape of the compression plate and by the shape and size of the test piece.

ISO 3386/2 specifies a method for high-density materials and differs from part 1 in the following ways:

— it is mainly concerned with materials of density above 250 kg/m³;

— compression stress values have been deleted;

— it does not permit the use of a cylindrical test piece.

2 References

ISO 1923, *Cellular materials — Determination of linear dimensions.*

ISO 2439, *Polymeric materials, cellular flexible — Determination of hardness (indentation technique).*

3 Definitions

For the purposes of this International Standard the following definitions apply.

3.1 compression stress/strain characteristic (CC): The stress, expressed in kilopascals*, required to produce a compression, at a constant rate of deformation during the fourth loading cycle of the test specified below, expressed as a function of the compression.

3.2 compression stress value (CV_{40}): The compression stress/strain characteristic for a compression of 40 %.

4 Apparatus

4.1 Test machine

The test machine shall be capable of compressing the test piece between a support surface (see 4.2) and a compression plate (see 4.3), which shall have a uniform relative rate of motion in the vertical direction of 100 ± 20 mm/min.

The test machine shall be capable of measuring the force required to produce the specified compression with a precision of ± 2 % and of measuring the test piece thickness under load with a precision of ± 0,2 mm. Autographic recording of the stress-strain values is preferred.

4.2 Supporting surface

Unless otherwise specified, the test piece shall be supported on a smooth, flat, horizontal and rigid surface, larger than the test piece, which may be vented with holes about 6 mm in diam-

* 1 kPa = 10^3 N/m²