

STN	Polymérne flexibilné ľahčené materiály Stanovenie charakteristík napätia a pomerného predĺženia pri stlačení Časť 1: Materiály s nízkou hustotou (ISO 3386-1: 2025)	STN EN ISO 3386-1 64 5445
------------	--	---

Polymeric materials, cellular flexible - Determination of stress-strain characteristics in compression - Part 1: Low-density materials (ISO 3386-1:2025)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 10/25

Obsahuje: EN ISO 3386-1:2025, ISO 3386-1:2025

Oznámením tejto normy sa ruší
STN EN ISO 3386-1 (64 5445) zo septembra 2001

141151

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2025
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii
v znení neskorších predpisov.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 3386-1

July 2025

ICS 83.100

Supersedes EN ISO 3386-1:1997, EN ISO 3386-1:1997/A1:2010

English Version

Polymeric materials, cellular flexible - Determination of stress-strain characteristics in compression - Part 1: Low-density materials (ISO 3386-1:2025)

Matériaux polymères alvéolaires souples -
Détermination de la caractéristique de contrainte-
déformation relative en compression - Partie 1:
Matériaux à basse masse volumique (ISO 3386-1:2025)

Polymere Materialien, weich-elastische Schaumstoffe -
Bestimmung der Druckspannungs-
Verformungseigenschaften - Teil 1: Materialien mit
niedriger Dichte (ISO 3386-1:2025)

This European Standard was approved by CEN on 27 June 2025.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 3386-1:2025 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 3386-1:2025) has been prepared by Technical Committee ISO/TC 45 "Rubber and rubber products " 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 January 2026, and conflicting national standards shall be withdrawn at the latest by January 2026.

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

This document supersedes EN ISO 3386-1:1997.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 3386-1:2025 has been approved by CEN as EN ISO 3386-1:2025 without any modification.



International Standard

ISO 3386-1

Polymeric materials, cellular flexible — Determination of stress-strain characteristics 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

**Third edition
2025-07**

ISO 3386-1:2025(en)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2025

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

ISO 3386-1:2025(en)**Contents**

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Apparatus	1
4.1 Test machine	1
4.2 Supporting surface	2
4.3 Compression plate	2
5 Test piece	2
5.1 Form and dimensions	2
5.2 Samples showing orientation	2
5.3 Number of test pieces	2
5.4 Conditioning	2
6 Procedure	3
7 Expression of results	4
7.1 Compression stress/strain characteristic	4
7.2 Compression stress value	4
8 Repeat tests	4
9 Test report	4
Bibliography	6

ISO 3386-1:2025(en)**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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 4, *Products (other than hoses)*, 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 3386-1:1986), which has been revised. It also incorporates the Amendment ISO 3386-1:1986/Amd 1:2010.

The main changes are as follows:

- revision of the text in the Scope, [Clause 2](#) and [3](#);
- addition of a schematic representation of the test procedure in [Clause 6](#);

A list of all parts in the ISO 3386 series can be found on the ISO website.

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.

ISO 3386-1:2025(en)

Introduction

The compression stress/strain characteristics 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 characteristics 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.

This document specifies a method for low-density materials and differs from part 2 in the following ways:

- It is mainly concerned with materials of density up to 250 kg/m³;
- Requires a compression stress value for a compression of 40%;
- It permits the use of a cylindrical test piece.

Polymeric materials, cellular flexible — Determination of stress-strain characteristics in compression —

Part 1: Low-density materials

1 Scope

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

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

ISO 7500-1, *Metallic materials — Calibration and verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Calibration and verification of the force-measuring system*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN