ICS 53.040.20 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2026

STN	**Ľahké dopravné pásy Stanovenie modulu pružnosti po relaxácii (ISO 21181: 2025)**	**STN EN ISO 21181** 26 0367

Light conveyor belts - Determination of the relaxed elastic modulus (ISO 21181:2025)

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. 03/26

Obsahuje: EN ISO 21181:2025, ISO 21181:2025

Oznámením tejto normy sa ruší
STN EN ISO 21181 (26 0367) z júna 2013

141848

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 21181

November 2025

ICS 53.040.20 Supersedes EN ISO 21181:2013

English Version

Light conveyor belts - Determination of the relaxed elastic modulus (ISO 21181:2025)

Courroies transporteuses légères - Détermination du module d'élasticité relaxé (ISO 21181:2025)

Leichte Fördergurte - Bestimmung des relaxierten Elastizitätsmoduls (ISO 21181:2025)

This European Standard was approved by CEN on 4 November 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

Ref. No. EN ISO 21181:2025 E

Contents

Page

European foreword

This document (EN ISO 21181:2025) has been prepared by Technical Committee ISO/TC 41 “Pulleys and belts (including veebelts)” in collaboration with Technical Committee CEN/TC 188 “Conveyor belts” the secretariat of which is held by SNV.

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 2026, and conflicting national standards shall be withdrawn at the latest by May 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 21181:2013.

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 21181:2025 has been approved by CEN as EN ISO 21181:2025 without any modification.

International Standard

ISO 21181

Light conveyor belts — Determination of the relaxed elastic modulus

Courroies transporteuses légères — Détermination du module d'élasticité relaxé

Third edition
2025-11

Reference number
ISO 21181:2025(en)

COPYRIGHT PROTECTED DOCUMENT

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

Contents

Page

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 documents 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 41, *Pulleys and belts (including veebelts)*, Subcommittee SC 3, *Conveyor belts,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 188, *Conveyor belts,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 21181:2013), which has been technically revised.

The main changes are as follows:

— addition of test room condition in 8.1.

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.

Introduction

For many applications for light conveyor belts, the belt must be initially tensioned and there must not be a subsequent change in belt length by adjustment of any rollers. In such cases, the tensioning force in the belt changes throughout the life of the belt because of two effects:

— permanent stretch;

— relaxation of the belt.

Both effects change the real elastic modulus of the belt. There must be a means of establishing the way in which the tensioning forces change; and this test method applies a cyclic stretching between two specified states of elongation over a large number of cycles. It has been found experimentally that the tensioning force drops in an exponential way. It is possible to measure the tensioning force and then to calculate what is specified in this document as the “relaxed elastic modulus”. However, this is not a true elastic modulus because it includes an element of permanent stretch; but, except in cases where the permanent stretch is relatively large, it is a measure of great practical value in determining final tensioning forces. This document is designed to meet the requirements for such applications.

International Standard **ISO 21181:2025(en)**

Light conveyor belts — Determination of the relaxed elastic modulus

1 Scope

This document specifies a test method for the determination of the relaxed elastic modulus of light conveyor belts according to ISO 21183-1 or other conveyor belts where ISO 9856 does not apply.

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 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*

ISO 9856, *Conveyor belts — Determination of elastic and permanent elongation and calculation of elastic modulus*

ISO 18573, *Conveyor belts — Test atmospheres and conditioning periods*