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Light conveyor belts - Determination of the coefficient of friction (ISO 21182:2025)

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This standard includes the English version of the European Standard.

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English Version

Light conveyor belts - Determination of the coefficient of friction (ISO 21182:2025)

Courroies transporteuses légères - Détermination du coefficient de frottement (ISO 21182:2025)

Leichte Fördergurte - Bestimmung des Reibwertes (ISO 21182:2025)

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

Ref. No. EN ISO 21182:2025 E

Contents

Page

European foreword..... 3

European foreword

This document (EN ISO 21182:2025) 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of an identical text or by endorsement, at the latest by May 2026, and conflicting national standards shall be withdrawn at the latest by May 2026.

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International Standard

ISO 21182

Light conveyor belts — Determination of the coefficient of friction

Courroies transporteuses légères — Détermination du coefficient de frottement

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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

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Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Principle **2**
4.1 Dynamic coefficient of friction 2
4.2 Static coefficient of friction 2

5 Apparatus **2**

6 Test pieces **3**
6.1 Test piece material 3
6.2 Number and dimensions of test pieces 3
6.3 Conditioning 4

7 Test method **6**
7.1 Test room condition 6
7.2 Procedure 6

8 Calculation and expression of results **6**
8.1 Dynamic friction, μ_D 6
8.2 Static friction, μ_S 7
8.3 Examples for recorded graph of μ_S (force/path diagrams) 7

9 Test report **8**

Bibliography **9**

Foreword

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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 21182:2013), which has been technically revised.

The main changes are as follows:

— addition of test room condition in 7.1.

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Introduction

The coefficient of friction of light conveyor belts must be seen from two different aspects relevant to the choice of the reference material. One aspect is the friction of the underside of the belt. In practice, this is not critical because it is low. Regardless of whether a table of steel or of wood is used, the coefficient of friction is within the range from 0,2 to 0,3 in most cases.

Contrary to this, the top face covers show values over an extended range dependent on their actual function. To achieve this function, the material itself can be modified as well as the surface pattern but the test procedure is the same in every case. So, it becomes clear that the chosen steel panel represents a compromise. Its main properties are reproducibility of the surface finish and uncritical friction behaviour against any kind of belt cover.

This document allows comparison of all kinds of conveyor belt to obtain reliable results as a reference. This can be helpful to buyers who need guidance in choosing the right belt for their particular application.

Tests in accordance with this document are limited to dynamic coefficients of friction (μ_D) up to 1,0 and static coefficients of friction (μ_S) up to 1,5. Higher values can show a mixture of friction, adhesion, deformation and other effects occurring, especially where the surface texture is coarse and is therefore unsuitable for this test.

The method using the standardized metallic test panel is intended especially to compare the coefficients of friction of different light conveyor belts. The values received under practice conditions always depend on the frictional partners.

To determine these effects, it is possible to choose a different frictional partner instead of the panel if required. This is covered in Clause 9.

International Standard **ISO 21182:2025(en)**

Light conveyor belts — Determination of the coefficient of friction

1 Scope

This document specifies test methods for determining the dynamic and static coefficients of friction for light conveyor belts according to ISO 21183-1.

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 3574, *Cold-reduced carbon steel sheet of commercial and drawing qualities*

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

ISO 21920-2, *Geometrical product specifications (GPS) — Surface texture: Profile — Part 2: Terms, definitions and surface texture parameters*