# Light conveyor belts - Determination of the electrostatic field generated by a running light conveyor belt (ISO 21179:2013)



EESTI STANDARDIKESKUS
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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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| See Eesti standard EVS-EN ISO 21179:2013 sisaldab Euroopa standardi EN ISO 21179:2013 ingliskeelset teksti. | This Estonian standard EVS-EN ISO 21179:2013 consists of the English text of the European standard EN ISO 21179:2013. |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.03.2013. | Date of Availability of the European standard is 20.03.2013. |
| Standard on kättesaadav Eesti Standardikeskusest. | The standard is available from the Estonian Centre for Standardisation. |



Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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# EN ISO 21179

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English Version

## Light conveyor belts - Determination of the electrostatic field generated by a running light conveyor belt (ISO 21179:2013)

Courroies transporteuses légères - Détermination du champ électrostatique engendré par une courroie transporteuse légère en marche (ISO 21179:2013)

This European Standard was approved by CEN on 2 March 2013.

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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.

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

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# Foreword

This document (EN ISO 21179:2013) 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 September 2013, and conflicting national standards shall be withdrawn at the latest by September 2013.

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

This document supersedes EN ISO 21179:2006.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**Endorsement notice**

The text of ISO 21179:2013 has been approved by CEN as EN ISO 21179:2013 without any modification.

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## 1 Scope

This International Standard specifies a test method for the determination of the electrostatic field generated by a running light conveyor belt according to ISO 21183-1.

This dynamic procedure is required because the antistatic behaviour of light conveyor belts cannot in many cases be sufficiently described by measurement of the electrical resistances in accordance with ISO 21178.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable to its application. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 22, *Belt drives — Flat transmission belts and corresponding pulleys — Dimensions and tolerances*

ISO 4287, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters*

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

ISO 21181, *Light conveyor belts — Determination of the relaxed elastic modulus*

## 3 Principle

The test piece is run under specified conditions and produces an electrostatic field, the variation of which is recorded with time.

The test is carried out successively with both sides of the belt in contact with the pulleys.

## 4 Apparatus (see Figure 1)

### 4.1 Pair of pulleys, as follows:

a) electrically connected and earthed;

b) made of steel;

c) diameter 200 mm or larger, rim width 120 mm;

d) raw, unplated surface roughness, maximum $Ra$ = 1,6 µm, in accordance with ISO 4287;

e) final coating of chromium plating;

f) drive pulley, fixed, cylindrical;

g) driven pulley moveable for tensioning, crowned in accordance with ISO 22 ($h$ = 0,6 mm).

**4.2 Tensioning device**, such that the test piece can be loaded according to the relevant $k_{1\,\%}$ value given in Table 1 to achieve uniform surface pressures.