BS EN 12882:2015

BSI Standards Publication

Conveyor belts for general purpose use — Electrical and flammability safety requirements

This British Standard is the UK implementation of EN 12882:2015. It supersedes BS EN 12882:2008 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PRI/67, Conveyor belts.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Conveyor belts for general purpose use - Electrical and flammability safety requirements

Courroies transporteuses à usage général - Prescriptions de sécurité électrique et protection contre l'inflammabilité

Fördergurte für allgemeine Anwendung - Elektrische und brandtechnische Sicherheitsanforderungen

This European Standard was approved by CEN on 27 June 2015.

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European foreword

This document (EN 12882:2015) has been prepared by Technical Committee CEN/TC 188 “Conveyor belts”, the secretariat of which is held by SNV.

This document supersedes EN 12882:2008.

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of an identical text or by endorsement, at the latest by February 2016, and conflicting national standards shall be withdrawn at the latest by February 2016.

The main changes with respect to the previous edition are listed below:

— electrical conductivity test requirements for light conveyor belts have been removed from all categories except 1, 2A and 2B;

— the requirement for flame retardation testing has been added to category 4A, 4B, 5A, 5B and 5C;

— alternative fire simulation tests have been added to category 4A, 4B, 5A, 5B and 5C.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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.

Introduction

This document is a type C standard as stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions of this type C standard.

During the preparation of this European Standard, the hazards which have been identified as being directly related to the use of conveyor belts are:

a) hazards associated with the discharge of static electrical energy;

b) hazards associated with the impingement of small naked flames on the cover and/or carcass of a conveyor belt at rest;

c) hazards caused by the stalling of a conveyor belt and the continued operation of the driving mechanism causing localized heating of the conveyor belt through contact with the driving drum or cylinder or some other source of frictional heat;

d) hazards caused by the propagation of a flame along a belt which has been exposed to a relatively high energy source such as a fire.

The risk, or probable rate of occurrence of these hazards and the degree of harm they can cause will vary depending upon the particular circumstances of the application or site of application, which are many and varied. Consequently, the level of safety required will vary from one application to another, depending upon the risks judged to be pertinent. The hazards listed above should not be taken as the only properties affecting safety in operation. Other aspects such as health or environmental requirements should be considered. Depending on the individual end use requirement, these other factors can affect the category of belt selected and additional safety precautions may need to be employed.

This European Standard is therefore designed to enable the user to select the category of conveyor belt most suited to the particular circumstances of the application.

1 Scope

This European Standard specifies electrical and flammability safety requirements for general purpose conveyor belts not intended for use in underground installations and a means of categorizing conveyor belts in terms of the level of safety sought in their end use application. This European Standard does not provide electrical safety requirements for volume resistance which may be measured by the methods in EN ISO 21178 and which is relevant to some types of light conveyor belts.

This European Standard is not applicable to conveyor belts which are manufactured before the date of publication of this document by CEN.

NOTE 1 Directive 94/9/EC concerning equipment and protective systems intended for use in potentially explosive atmospheres can be applicable to the type of machine or equipment covered by this European Standard. The present standard is not intended to provide means of complying with the essential health and safety requirements of Directive 94/9/EC, this being covered in EN 14973.

NOTE 2 EN 12882 is not a product standard but is intended to help users of conveyor belts to select the required electrical and flammability safety properties needed following a suitable risk assessment. No requirements are, therefore, included for marking, information to be supplied, etc., these matters being covered in relevant product standards such as EN ISO 14890 and EN ISO 15236-1.

2 Normative references

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

EN 1554:2012, *Conveyor belts - Drum friction testing*

EN 12881-1:2014, *Conveyor belts - Fire simulation flammability testing - Part 1: Propane burner tests*

EN ISO 284, *Conveyor belts - Electrical conductivity - Specification and test method (ISO 284)*

EN ISO 340, *Conveyor belts - Laboratory scale flammability characteristics - Requirements and test method (ISO 340)*

EN ISO 21178, *Light conveyor belts - Determination of electrical resistances (ISO 21178)*

EN ISO 21179, *Light conveyor belts - Determination of the electrostatic field generated by a running light conveyor belt (ISO 21179)*

EN ISO 21183-1, *Light conveyor belts - Part 1: Principal characteristics and applications (ISO 21183-1)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
afterflame
flame which persists after the ignition source has been removed

3.2
afterglow
persistence of glowing, after cessation of flaming or, if no flaming occurs, after the ignition source has been removed