INTERNATIONAL STANDARD

ISO 22636

First edition
2020-02

Adhesives — Adhesives for floor coverings — Requirements for mechanical and electrical performance

Adhésifs — Adhésifs pour revêtements du sol — Exigences de performance mécanique et électrique

Reference number
ISO 22636:2020(E)

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 61, *Plastics*, Subcommittee SC 11, *Products*.

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

When developing a new product, it is an important issue for the manufacturer of floor covering adhesives to evaluate the suitability of a floor covering adhesive for use with one, or a group of floor coverings. Manufacturers of floor coverings are also expected to assess whether a particular combination of an adhesive with a group of floor coverings is capable of giving satisfactory performance in use.

Therefore, both parties need a common and accepted guideline for the requirements for testing adhesives for floor coverings in combination with floor coverings to confirm the mechanical and electrical performance of the system under laboratory conditions.

Adhesives — Adhesives for floor coverings — Requirements for mechanical and electrical performance

1 Scope

This document specifies characteristics for adhesives for floor coverings, which comprise:

— resilient floor coverings (such as those manufactured from plastics, linoleum or rubber);

— textile floor coverings.

Adhesives for floor coverings are intended for use within a building according to the manufacturer's specification.

This document specifies requirements for establishing performance characteristics of adhesives for floor coverings with regard to their determination, evaluation and expression.

This document comprises all kinds of adhesives for floor coverings irrespective of the chemical composition and the mechanism of setting. Products according to this document can be put on the market as liquids, pastes and film adhesives for floor coverings. The products can be one-component or multi-component.

This document also defines a special kind of adhesives for floor coverings, which facilitate the easy removal of the floor covering after the utilization and where the need for a permanent bond is not always required. These types of floor covering adhesives are referred to as low peel strength, release bond adhesives.

This document does not:

— cover adhesives for bonding parquet to the subfloor, adhesives for bonding laminate floor coverings and adhesives for ceramic tiles;

— make provisions for testing the bond strength of low peel strength, release bond adhesives for floor coverings;

— take account of all influences which may occur in practice.

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 472, *Plastics — Vocabulary*

ISO 10581, *Resilient floor coverings — Homogeneous poly(vinyl chloride) floor covering — Specifications*

ISO 10582, *Resilient floor coverings — Heterogeneous poly(vinyl chloride) floor covering — Specifications*

ISO 10965, *Textile floor coverings — Determination of electrical resistance*

ISO 22631, *Adhesives — Test method for adhesives for floor and wall coverings — Peel test*

ISO 22632, *Adhesives — Test method for adhesives for floor and wall coverings — Shear test*

ISO 22633, *Adhesives — Test methods for adhesives for floor coverings and wall coverings — Determination of dimensional changes of a linoleum floor covering in contact with an adhesive*

ISO 22635, *Adhesives — Test method for adhesives for plastic or rubber floor coverings or wall coverings — Determination of dimensional changes after accelerated ageing*

ISO 22637, *Adhesives. Test of adhesive for floor covering. Determination of the electrical resistance of adhesive films and composites*

ISO 24011, *Resilient floor coverings — Specification for plain and decorative linoleum*

EN 1081, *Resilient floor coverings — Determination of the electrical resistance*

EN 1307, *Textile floor coverings — Classification of pile carpets*

EN 1817, *Resilient floor coverings — Specification for homogeneous and heterogeneous smooth rubber floor coverings*

EN 12199, *Resilient floor coverings — Specifications for homogeneous and heterogeneous relief rubber floor coverings*

EN 14565, *Resilient floor coverings — Floor coverings based upon synthetic thermoplastic polymers — Specification*

EN 16776, *Resilient floor coverings — Heterogeneous polyurethane floor coverings — Specification*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 472 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
floor covering
prefabricated product in sheet or tile form, which can be used within a building to cover a floor

Note 1 to entry: Typical floor coverings are made of textiles, needle-felts, PVC and other thermoplastic polymers, linoleum, polyurethane and rubber.

3.2
adhesive for floor covering
adhesive, which is applied on a supporting subfloor and intended to produce a firm and durable bond between the subfloor and the *floor covering* (3.1)

3.3
release bond adhesive for floor covering
adhesive, which comprises low peel strength to facilitate the removal of a bonded *floor covering* (3.1) after the utilization

3.4
film adhesive for floor covering
adhesive applied in sheet, film or web form with or without an incorporated carrier

Note 1 to entry: Film adhesives for *floor covering* (3.1) can be used both as permanent adhesive or release bond adhesive.

4 Product characteristics

4.1 General

Floor coverings vary in assembly and chemical composition. They therefore require specific adhesives to obtain a satisfactory performance of the final floor.

EXAMPLE 1 PVC floor coverings can contain high amounts of plasticizers. The durability of bonded PVC floor coverings can therefore be reduced during their lifetime. To evaluate this, a typical PVC floor covering according to ISO 10581 and ISO 10582, is bonded with the adhesive under test and the peel strength is measured according to ISO 22631 and dimensional change according to ISO 22635.

EXAMPLE 2 Linoleum is sensitive to water and can show dimensional changes if in contact with water. Water based adhesives can influence the dimensional stability of linoleum to different extent depending on water content, consistency, drying properties, hardness, etc. To evaluate this, a typical linoleum floor covering according to ISO 24011 is bonded with the adhesive under test and the influence of the adhesive on the dimensional stability of linoleum is measured according to ISO 22633.

EXAMPLE 3 Floor coverings which are suitable for usage with release bond adhesives for floor coverings (such as carpet tiles according to EN 1307) can require specific testing which is not covered by this document.

Table 1 — Requirements for mechanical characteristics of adhesives for floor coverings as defined in 3.2 and 3.4

Adhesive for	Product standard for floor coverings type	Acceptance criteria and the respective test methods				
		Peel strength	Shear strength	Dimensional change (transversely)	Dimensional change (longitudinally and transversely)	Expression of test result
		N/mm	N/mm^2	%	%	passed/ failed
		ISO 22631	ISO 22632	ISO 22633	ISO 22635	
Resilient floor coverings						
Polyvinyl chloride floor coverings	ISO 10581 ISO 10582	≥1,0	≥0,3	n.a.	≤0,2	p/f
Rubber floor coverings, smooth	EN 1817	≥1,2	n.a.	n.a.	≤0,2	p/f
Rubber floor covering, profiled	EN 12199	≥2,0	n.a.	n.a.	≤0,2	p/f
Floor coverings based upon synthetic thermoplastic resin	EN 14565	≥1,0	n.a.	n.a.	≤0,2	p/f
Polyurethane floor coverings	EN 16776	≥1,0	≥0,3	n.a.	≤0,2	p/f
Linoleum floor coverings	ISO 24011	≥0,5	≥0,5	≤0,2	n.a.	p/f
Textile floor coverings						
Textile floor coverings	EN 1307	≥0,5	n.a.	n.a.	n.a.	p/f

n.a. not applicable

For the general evaluation of an adhesive a floor covering which is typical for the intended type of floor covering (see column: 'Product standard for floor covering type') shall be used in the test.