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Electrical insulating protective clothing for low-voltage installations

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. 12/25

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EN 50286

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Supersedes EN 50286:1999

English Version

Electrical insulating protective clothing for low-voltage installations

Vêtements de protection isolants électriques pour installations basse tension

Elektrisch isolierende Schutzkleidung für Arbeiten an Niederspannungsanlagen

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (EN 50286:2025) has been prepared by CLC/TC 78, “Equipment and tools for live working”.

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2026-10-31
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2028-10-31

This document supersedes EN 50286:1999 and all of its amendments and corrigenda (if any).

EN 50286:2025 includes the following significant technical changes with respect to EN 50286:1999.

— update of referenced documents;

— update definitions and terms;

— addition of tear resistance and tensile strength;

— addition of change due to laundering and cleaning;

— up-date of marking and instruction for use;

— up-date on testing conditions;

— update on pre-conditioning;

— up-date of conformity assessment;

— addition of Annex D on classification of defects;

— addition of Annex E on rationale of classification of defects;

— addition of Annex ZZ.

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

This document has been prepared under a standardization request addressed to CENELEC by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZZ, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national committee. A complete listing of these bodies can be found on the CENELEC website.

Introduction

This document complies with the electrical insulating requirements set out by CLC/TC 78 and with the non-electrical requirements set out by CEN/TC 162. This insulating clothing is recognized as a PPE according to PPE Regulation 2016-425.

Electrical insulating protective clothing was developed primarily for use by workers for work on low-voltage overhead lines.

For the moment, there is no withstand test applicable to products where the principle risk is of unintentional contact with live parts, and such a test is not included in the present document. However, despite this lack, it is considered that a satisfactory level of electrical protection is provided by compliance with this document for both the proof tests and the periodic electrical inspections.

For the moment, no test is available in relation to the risk of workers exposure to an electrical arc generated by low-voltage installations. This task is presently under study by CLC/TC 78 WG 7.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

Terms and definitions defined in Clause 3 are given in italic print throughout this document.

1 Scope

This document is applicable to *electrical insulating protective clothing* used by skilled persons when they are working on or near live parts of low-voltage installations at nominal voltages up to 500 V AC.

The purpose of this clothing is to prevent dangerous current from passing through persons when there is a risk of unintentional contact with several live parts located in and around the working area.

This document does not deal with protection against the effects of an electric arc, DC applications and voltages higher than 500 AC.

The products designed and manufactured according to this document contribute to the safety of the users provided they are used by skilled persons, in accordance with safe methods of work and the instructions for use.

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.

EN 343:2019, *Protective clothing - Protection against rain*

EN 60060-1:2010, *High-voltage test techniques - Part 1: General definitions and test requirements*

EN 60060-2:2011, *High-voltage test techniques - Part 2: Measuring systems*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code)*

EN IEC 61318:2021, *Live working - Methods for assessment of defects and verification of performance applicable to tools, devices and equipment*

EN ISO 811:2018, *Textiles - Determination of resistance to water penetration - Hydrostatic pressure test (ISO 811:2018)*

EN ISO 4674-1:2016, *Rubber- or plastics-coated fabrics - Determination of tear resistance - Part 1: Constant rate of tear methods (ISO 4674-1:2016)*

EN ISO 5077:2008, *Textiles - Determination of dimensional change in washing and drying (ISO 5077:2007)*

EN ISO 11092:2014, *Textiles - Physiological effects - Measurement of thermal and water-vapour resistance under steady-state conditions (sweating guarded-hotplate test) (ISO 11092:2014)*

EN ISO 13688:2013[1], *Protective clothing - General requirements (ISO 13688:2013)*

EN ISO 13934-1:2013, *Textiles - Tensile properties of fabrics - Part 1: Determination of maximum force and elongation at maximum force using the strip method (ISO 13934-1:2013)*

EN ISO 13937-2:2000, *Textiles - Tear properties of fabrics - Part 2: Determination of tear force of trouser-shaped test specimens (Single tear method) (ISO 13937-2:2000)*

EN ISO 15025:2016, *Protective clothing - Protection against flame - Method of test for limited flame spread (ISO 15025:2016)*

[1] As impacted by EN ISO 13688:2013/A1:2021.