



SLOVENSKI STANDARD
SIST EN 60851-3:2009/A2:2019

01-december-2019

Navijalne žice - Preskusne metode - 3. del: Mehanske lastnosti - Dopolnilo A2 (IEC 60851-3:2009/A2:2019)

Winding wires - Test methods - Part 3: Mechanical properties (IEC 60851-3:2009/A2:2019)

Wickeldrähte - Prüfverfahren - Teil 3: Mechanische Eigenschaften (IEC 60851-3:2009/A2:2019)

Fils de bobinage - Méthodes d'essai - Partie 3: Propriétés mécaniques (IEC 60851-3:2009/A2:2019)

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Ta slovenski standard je istoveten z: EN 60851-3:2009/A2:2019

ICS:

29.060.10 Žice Wires

SIST EN 60851-3:2009/A2:2019 en

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EUROPEAN STANDARD

EN 60851-3:2009/A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2019

ICS 29.060.10

English Version

**Winding wires - Test methods - Part 3: Mechanical properties
(IEC 60851-3:2009/A2:2019)**

Fils de bobinage - Méthodes d'essai - Partie 3: Propriétés
mécaniques
(IEC 60851-3:2009/A2:2019)

Wickeldrähte - Prüfverfahren - Teil 3: Mechanische
Eigenschaften
(IEC 60851-3:2009/A2:2019)

This amendment A2 modifies the European Standard EN 60851-3:2009; it was approved by CENELEC on 2019-09-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC 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 Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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

EN 60851-3:2009/A2:2019 (E)**European foreword**

The text of document 55/1781/FDIS, future IEC 60851-3/A2, prepared by IEC/TC 55 "Winding wires" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60851-3:2009/A2:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-06-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-09-27

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The text of the International Standard IEC 60851-3:2009/A2:2019 was approved by CENELEC as a European Standard without any modification.



IEC 60851-3

Edition 3.0 2019-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 2
AMENDEMENT 2

Winding wires – Test methods –
Part 3: Mechanical properties

Fils de bobinage – Méthodes d'essai –
Partie 3: Propriétés mécaniques

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONALE

ICS 29.060.10

ISBN 978-2-8322-7208-4

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FOREWORD

This amendment has been prepared by IEC technical committee 55: Winding wires.

The text of this amendment is based on the following documents:

FDIS	Report on voting
55/1781/FDIS	55/1798/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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5.5 Adherence test

Replace the existing subclause by the following:

5.5 Adherence test

A straight piece of wire of about 300 mm length shall be elongated in accordance with Clause 3 to the percentage specified in the relevant standard.

5.5.1 Enamelled rectangular wire

Before elongation, the coating shall be cut circumferentially through to the conductor at a point approximately in the centre of the measured length. After elongation, the specimen shall be examined for loss of adhesion.

One specimen shall be tested. If loss of adhesion is observed, as determined by longitudinal measurement from the cut, it shall be reported. If so, the length of loss of adhesion shall be measured in one direction from the cut. The maximum value observed shall be reported after examining all sides of the specimen, under a magnification of six to ten times.

5.5.2 Impregnated fibre covered round and rectangular wire

Before elongation, the insulation shall be cut circumferentially at two places 100 mm apart in the centre of the wire specimen through to the conductor. After elongation, the specimen shall be examined for loss of adhesion under a magnification of six to ten times.

One specimen shall be tested. If loss of adhesion is observed according to the relevant specification, it shall be reported.

5.5.3 Fibre covered enamelled round and rectangular wire

Before elongation, the insulation shall be cut circumferentially at two places 100 mm apart in the centre of the wire specimen through to the conductor. After elongation, the specimen shall be examined for loss of adhesion under a magnification of six to ten times.

One specimen shall be tested. If loss of adhesion is observed according to the relevant specification, it shall be reported.

5.5.4 Tape wrapped round and rectangular wire (for adhesive tape only)

Before elongation, the insulation shall be cut circumferentially through to the conductor at a point approximately in the centre of the measured length. After elongation, the specimen shall be examined for loss of adhesion under a magnification of six to ten times.

7 Test 18: Heat bonding (applicable to enamelled round wire with a nominal conductor diameter over 0,050 mm up to and including 2,000 mm)

Replace the title of Clause 7 by the following:

7 Test 18: Heat bonding (applicable to enamelled round wire with a nominal conductor diameter over 0,050 mm up to and including 2,000 mm and to enamelled rectangular wire)

Add the following new subclause 7.3:

7.3 Enamelled rectangular wire heat bonding

Five specimens, composed each of two straight pieces of wire of about 100 mm length, are prepared according to Figure 15 and placed in a clamping device with an overlap length (L) (25 ± 5) mm under a pressure of 1,00 MPa. Other overlap lengths and clamping pressures may be agreed upon between user and supplier.

The total length of each specimen between jaws shall be about 125 mm.

The required load (P) for this pressure is calculated as:

$$P = 1,00 \times 25 \times (h-2R)$$

where

R is the corner radius of the wire (mm)

h is the width of the wire

The specimens shall be cured in an oven at $(120 \pm 2) ^\circ\text{C}$ for (24 to 24,5) h or as agreed upon between user and supplier.

After being cooled to ambient temperature, the specimens shall be subjected to a lap shear test by applying a gradually increasing load until detachment. The load shall be applied in a way that avoids any additional shock.

Shearing stress (MPa), which shall be as agreed upon between user and supplier, is calculated as:

$$T = \frac{F}{(h - 2 \times R) \times L}$$

where

F is the maximum measured force in N

h is the width of the wire

L is the overlap contact length between the wires

R is the corner radius of the wire (mm)

T is the shearing stress

The overlap length and the temperature for bonding the specimen shall be reported.

Insert the following new Figure 15 at the end of the new subclause 7.3:

Dimensions in millimetres

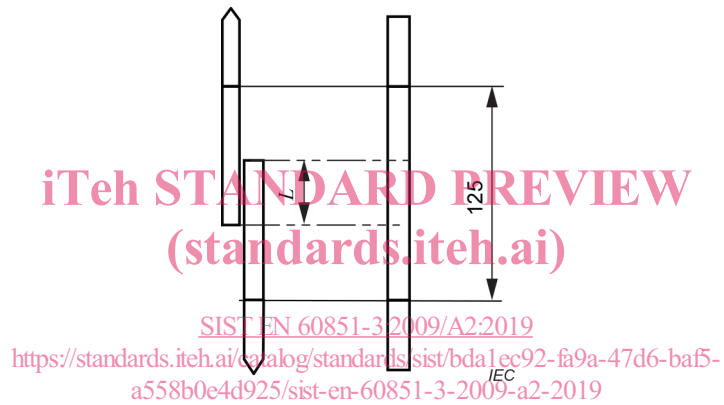


Figure 15 – Samples for heat bonding