SLOVENSKI STANDARD

SIST EN 60851-5:2001/A2:2004

september 2004

Navijalne žice - Preskusne metode - 5. del: Električne lastnosti

Winding wires - Test methods - Part 5: Electrical properties

ICS 29.060.10

Referenčna številka
SIST EN 60851-5:2001/A2:2004(en)

EUROPEAN STANDARD **EN 60851-5/A2**

NORME EUROPÉENNE

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English version

Winding wires – Test methods Part 5: Electrical properties
(IEC 60851-5:1996/A2:2004)

Fils de bobinage – Méthodes d'essai Partie 5: Propriétés électriques (CEI 60851-5:1996/A2:2004)

Wickeldrähte – Prüfverfahren Teil 5: Elektrische Eigenschaften (IEC 60851-5:1996/A2:2004)

This amendment A2 modifies the European Standard EN 60851-5:1996; it was approved by CENELEC on 2004-07-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

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Ref. No. EN 60851-5:1996/A2:2004 E

Foreword

The text of document 55/903A/FDIS, future amendment 2 to IEC 60851-5:1996, prepared by IEC TC 55, Winding wires, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60851-5:1996 on 2004-07-01.

The following dates were fixed:

– latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-04-01

– latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2007-07-01

Endorsement notice

The text of amendment 2:2004 to the International Standard IEC 60851-5:1996 was approved by CENELEC as an amendment to the European Standard without any modification.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60851-5

1996

AMENDEMENT 2
AMENDMENT 2
2004-06

Amendement 2

Fils de bobinage – Méthodes d'essai –

Partie 5: Propriétés électriques

Amendment 2

Winding wires – Test methods –

Part 5: Electrical properties

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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
55/903A/FDIS	55/906/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 the base publication and its amendments will remain unchanged until the maintenance result 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.

Page 9

1 Scope

Add the following test:

— Test 23: Pin hole.

3 Test 5: Electrical resistance

Replace the text of the formula with the following:

t is the actual temperature in degrees Celsius during the measurement;

α is the temperature coefficient in K^{-1}.

On page 11, replace the coefficients in the fifth paragraph of Test 5 with the following:

– for copper: $\alpha_{20} = 3{,}96 \times 10^{-3}\ K^{-1}$;

– for aluminium: $\alpha_{20} = 4{,}07 \times 10^{-3}\ K^{-1}$.

4.2 Equipment

Add the following tolerance for the polished metal cylinder:

– polished metal cylinder, 25 mm ± 1 mm in diameter…

Add the following new text:

– metal mandrel, 50 mm ± 2 mm in diameter;
– metal mandrel, 25 mm ± 1 mm in diameter;

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4.4.1 Test at room temperature

Replace the text of Subclause 4.4.1 by the following:

A straight piece of wire, approximately 400 mm in length, with the insulation removed at both ends, shall be twisted back on itself for a distance of (125 ± 5) mm on the twisting device as shown in Figure 2. The ends of the wire shall be joined, and the load applied with the number of twists, as given in Table 3. The loop at the end of the twisted section shall be cut at two places to provide a maximum spacing between the cut ends. Any bending to ensure adequate separation between the two wire ends shall avoid sharp bends or damage to the coating.

The test voltage shall be applied according to 4.1 between the conductors of the wires.

Five specimens shall be tested. The five single values shall be reported.

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Replace the title of Table 3 by the following new title:

Table 3 – Loads applied to the wire and number of twists

4.5.1 Test at room temperature

Replace the first, second and third paragraphs of Subclause 4.5.1 with the following:

A straight piece of wire of sufficient length, with the insulation removed at one end, shall be bent around a mandrel as shown in Figure 3.

The diameter of the mandrel shall be 50 mm ± 2 mm.

The specimen shall be placed in the container and shall be surrounded by at least 5 mm of shot. The ends of the specimen shall be sufficiently long to avoid flashover.

4.5.2 Test at elevated temperature

Replace the text of Subclause 4.5.2 with the following:

A specimen prepared according to 4.5.1 shall be placed in the oven preheated to the specified test temperature ±3 °C. The shot and container shall be preheated within the oven at the test temperature and kept there during the loading of the test specimen. The loading operation of the test specimen shall be performed very gently in order to avoid damage to the specimen.

The test voltage shall be applied according to 4.1 between the conductor and the shot in not less than 15 min after placing the specimen in the oven. The test shall be completed within 30 min.

The temperature shall be kept within ±3 °C.

Five specimens shall be tested. The five single values shall be reported.

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4.6 Rectangular wire

Replace the title and the text of Subclause 4.6 by the following:

4.6 Fibre wound round wire

4.6.1 Test at room temperature

A straight piece of wire of sufficient length with the insulation removed at one end shall be bent 10 turns around a mandrel as shown in Figure 3a. The diameter of the mandrel shall be

– 25 mm ± 1 mm for nominal diameter up to and including 2,500 mm;

– 50 mm ± 2 mm for nominal diameter over 2,500 mm.

The specimen shall be placed in the container as shown in Figure 3a and shall be surrounded by at least 5 mm of shot. The ends of the specimen shall be sufficiently long to avoid flashover.

The shot shall be poured gently into the container until the specimen is covered by at least 5 mm of shot. The metal shot shall not be more than 2 mm in diameter; balls of stainless steel, nickel or nickel-plated iron have been found suitable. The shot shall be cleaned once per year.

The test voltage shall be applied according to 4.1 between the conductor of the wire and the shot.

NOTE By agreement between the purchaser and the supplier, the test may be carried out with the specimen under oil.

Five specimens shall be tested. The five single values shall be reported.

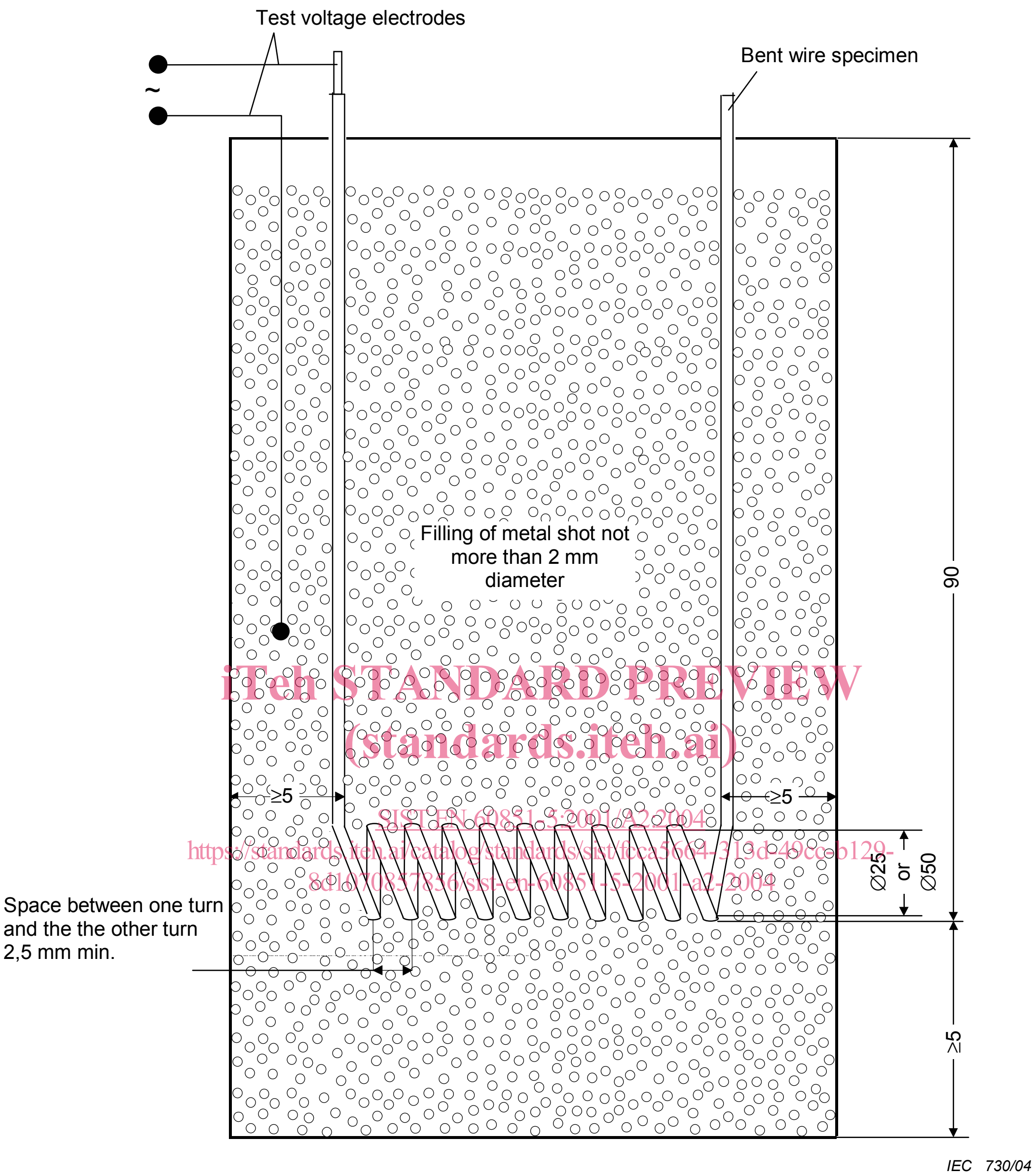

Figure 3a – Specimen for the breakdown voltage test