

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

Specifications for particular types of winding wires –
Part 0-3: General requirements – Enamelled round aluminium wire
(standards.iteh.ai)

Spécifications pour types particuliers de fils de bobinage –
Partie 0-3: Exigences générales – Fil de section circulaire en aluminium émaillé

<https://standards.iteh.ai/catalog/standards/sis/6ad2ca94-5d2a-44cc-0720-da097f1aefde/iec-60317-0-3-2008-amd1-2013>





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**Specifications for particular types of winding wires –
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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
55/1405/FDIS	55/1426/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- withdrawn,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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1 Scope

Delete the third paragraph, the dashed items and the example from the Scope.

2 Normative references

Add the following normative reference:

IEC 60317 (all parts), *Specifications for particular types of winding wires*

3 Terms, definitions and general notes on methods of tests and appearance

Replace the title of this clause by the following:

3 Terms, definitions, general notes and appearance

3.1 Definitions

3.1.10

Replace the text of this entry by the following:

nominal conductor dimension
designa-tion of the conductor size in accordance with the IEC 60317 series

3.2 General notes on methods of test

Replace the title of this subclause by the following title:

3.2 General notes

Add the following new subclause:

3.2.1 Methods of test

Move the text of the existing 3.2 into this new subclause.

Add the following new subclause:

3.2.2 Winding wire

See the relevant specification sheet.

In addition, when reference is made to a winding wire according to a standard of the IEC 60317 series mentioned under Clause 2, the following information is given in the description:

- reference to IEC specification;
- nominal conductor diameter in millimetres;
- grade.

EXAMPLE IEC 60317-1 – 0,500 Grade 2

4.1 Conductor diameter

After the third paragraph of this subclause, add the following new paragraph:

For intermediate nominal conductor diameters, the minimum increase figure corresponding to the next larger nominal conductor diameter applies.

Table 1 – Dimensions of enamelled wires (R 20)

Delete Notes 1 and 2 from this table.

Table 2 – Dimensions of enamelled wires with a bonding layer (R 20)

Delete Notes 1 and 2 from this table.

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13.2 Nominal conductor diameters up to and including 2,500 mm

After the first paragraph of this subclause, add the following new paragraph:

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For intermediate nominal conductor diameters, the figure of the next larger nominal conductor diameter applies.

Table 6 – Breakdown voltage

Delete the note from this table.

15 Temperature index

Replace the first paragraph by the following:

The test shall be carried in accordance with IEC 60172.

Annex A – Dimensions for intermediate nominal conductor diameters (R 40)

Add the following paragraph after the first paragraph:

Minimum overall diameter requirements may be used in lieu of the maximum overall diameters in Table A.1 or A.2 provided they are based on the minimum increases.

Table A.1 – Dimensions of enamelled wires (R 40)

Delete the note from this table.

Table A.2 – Dimensions of enamelled wires with a bonding layer (R 40)

Delete the note from this table.

Annex B – Method for the calculation of the linear resistance

Replace the existing text of this annex by the following:

The limits of electrical resistance are calculated on the following basis.

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B.1 For nominal conductor diameters up to and including 1,000 mm

The minimum and the maximum values of resistance are calculated from the nominal value of the resistivity by taking into account for each conductor diameter the relevant dimensional tolerance.

The linear resistance is calculated from:

$$R_{\min} = \rho_{\min} \times q^{-1}_{\max} (\Omega \cdot \text{m}^{-1})$$

$$R_{\max} = \rho_{\max} \times q^{-1}_{\min} (\Omega \cdot \text{m}^{-1})$$

where:

$$\rho_{\min} = 1/36,2 \Omega \text{ mm}^2 \cdot \text{m}^{-1};$$

$$\rho_{\max} = 1/35,5 \Omega \text{ mm}^2 \cdot \text{m}^{-1};$$

q is the cross-section of the conductor, in square millimetres.

where

q_{\max} is the maximum cross-section of the conductor in square millimetres, calculated from the nominal conductor diameter minus the dimensional tolerance;

q_{\min} is the minimum cross-section of the conductor in square millimetres, calculated from the nominal conductor diameter plus the dimensional tolerance.

Annex C – Resistance

Replace the existing text of this annex by the following:

The figures for nominal resistance in Table C.1 are given for information only. They are calculated on the basis of the nominal conductor diameter and a nominal resistivity of $1/35,85 \Omega \text{ mm}^2 \cdot \text{m}^{-1}$.

The minimum and maximum resistance figures for nominal conductor diameter up to and including 1,000 mm are derived from calculations made according to Annex B.

Table C.1 – Electrical resistances

Nominal conductor diameter mm	Resistance at 20 °C Ω/m		
	Minimum	Nominal	Maximum
0,250	0,5452	0,5683	0,5927
0,280	0,4361	0,4530	0,4708
0,315	0,3456	0,3579	0,3708
0,355	0,2729	0,2818	0,2911
0,400	0,2144	0,2220	0,2299
0,450	0,1699	0,1754	0,1811
0,500	0,1379	0,1421	0,1464
0,560	0,1098	0,1133	0,1169
0,630	0,08695	0,08948	0,09211
0,710	0,06842	0,07045	0,07257
0,800	0,05387	0,05549	0,05718
0,900	0,04257	0,04385	0,04518
1,000	0,03448	0,03552	0,03659

Bibliography

Delete the bibliography.



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