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Standards

Irish Standard  
I.S. EN 60317-0-4:2016

Specifications for particular types of winding wires - Part 0-4: General requirements - Glass-fibre wound, resin or varnish impregnated, bare or enamelled rectangular copper wire

**I.S. EN 60317-0-4:2016**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN 60317-0-4:2016 is the adopted Irish version of the European Document EN 60317-0-4:2016, Specifications for particular types of winding wires - Part 0-4: General requirements - Glass-fibre wound, resin or varnish impregnated, bare or enamelled rectangular copper wire

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EUROPEAN STANDARD

**EN 60317-0-4**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2016

ICS 29.060.10

Supersedes EN 60317-0-4:1998

English Version

**Specifications for particular types of winding wires - Part 0-4:  
General requirements - Glass-fibre wound, resin or varnish  
impregnated, bare or enamelled rectangular copper wire  
(IEC 60317-0-4:2015)**

Spécifications pour types particuliers de fils de bobinage -  
Partie 0-4: Exigences générales - Fil de section  
rectangulaire en cuivre nu ou émaillé, guipé de fibres de  
verre imprégnées de vernis ou de résine  
(IEC 60317-0-4:2015)

Technische Lieferbedingungen für bestimmte Typen von  
Wickeldrähten - Teil 0-4: Allgemeine Anforderungen -  
Flachdrähte aus Kupfer, blank oder lackisoliert und umhüllt  
mit Glasgewebe, imprägniert mit Harz oder Lack  
(IEC 60317-0-4:2015)

This European Standard was approved by CENELEC on 2015-11-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard 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 European Standard 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: Avenue Marnix 17, B-1000 Brussels**

## **European foreword**

The text of document 55/1550/FDIS, future edition 3 of IEC 60317-0-4, prepared by IEC/TC 55 "Winding wires" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60317-0-4:2016.

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) 2016-08-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-11-27

This document supersedes EN 60317-0-4:1998.

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

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In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60264	NOTE	Harmonized in EN 60264 series.
IEC 60317	NOTE	Harmonized in EN 60317 series.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60851	series	Winding wires - Test methods	EN 60851	series

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**IEC 60317-0-4**

Edition 3.0 2015-10

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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**Specifications for particular types of winding wires –  
Part 0-4: General requirements – Glass-fibre wound, resin or varnish  
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Partie 0-4: Exigences générales – Fil de section rectangulaire en cuivre nu ou  
émaillé, guipé de fibres de verre imprégnées de vernis ou de résine**





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**IEC 60317-0-4**

Edition 3.0 2015-10

# **INTERNATIONAL STANDARD**

# **NORME INTERNATIONALE**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

#### **Part 0-4: General requirements – Glass-fibre wound, resin or varnish impregnated, bare or enamelled rectangular copper wire**

#### FOREWORD

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International Standard IEC 60317-0-4 has been prepared by IEC technical committee 55: Winding wires.

This third edition cancels and replaces the second edition published in 1997, Amendment 1:1999 and Amendment 2:2005. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) addition of dimensional requirements for grade 1 enamelled wire in Table 4;
- b) addition of dielectric breakdown requirements for grade 1 enamelled wire in Table 7.

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

FDIS	Report on voting
55/1550/FDIS	55/1565/RVD

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

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

A list of all the parts in the IEC 60317 series, published under the general title *Specifications for particular types of winding wires*, can be found on the IEC website.

This standard is to be read in conjunction with the IEC 60851 series. The clause numbers used in this standard are identical with the respective test numbers of the IEC 60851 series.

In case of inconsistencies between IEC 60851 and this standard, the latter prevails.

The numbering of clauses in this standard is not continuous from Clauses 21 through 30 in order to reserve space for possible future wire requirements prior to those for wire packaging.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

## INTRODUCTION

This part of IEC 60317 is one of a series which deals with insulated wires used for windings in electrical equipment. The series has three groups describing:

- 1) Winding wires – Test methods (IEC 60851);
- 2) Specifications for particular types of winding wires (IEC 60317);
- 3) Packaging of winding wires (IEC 60264).



## SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

### Part 0-4: General requirements – Glass-fibre wound, resin or varnish impregnated, bare or enamelled rectangular copper wire

#### 1 Scope

This part of IEC 60317 specifies general requirements of glass-fibre wound, resin or varnish impregnated, bare or enamelled rectangular copper wire.

The range of nominal conductor dimensions is given in the relevant specification sheet.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60851 (all parts), *Winding wires – Test methods*

#### 3 Terms, definitions and general notes on tests and appearance

##### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

##### 3.1.1 coating

material which is deposited on a conductor or wire by a suitable means and then dried and/or cured

##### 3.1.2 conductor

bare metal after removal of the insulation

##### 3.1.3 covering

material which is wound, wrapped or braided around a bare or insulated conductor

##### 3.1.4 crack

opening in the insulation which exposes the conductor to view at the stated magnification

##### 3.1.5 enamelled wire

wire coated with an insulation of cured resin

##### 3.1.6 grade

range of thickness of the insulation of a wire

**3.1.7****insulation**

coating or covering on the conductor with the specific function of withstanding voltage

**3.1.8****nominal conductor dimension**

designation of the conductor size in accordance with IEC 60317

**3.1.9****normal vision**

20/20 vision, with corrective lenses if necessary

**3.1.10****winding wire**

wire used for winding a coil to provide a magnetic field

**3.1.11****wire**

conductor coated or covered with an insulation

**3.2 General notes****3.2.1 Methods of test**

All methods of test to be used for this part of IEC 60317 are given in the IEC 60851 series of standards.

The clause numbers used in this part of IEC 60317 are identical with the respective test numbers in the IEC 60851 series of standards.

In case of inconsistencies between the publication on test methods and this part of IEC 60317, the latter shall prevail.

Where no specific range of nominal conductor dimensions is given for a test, the test applies to all nominal conductor dimensions covered by the specification sheet.

Unless otherwise specified, all tests shall be carried out at a temperature from 15 °C to 40 °C and a relative humidity from 45 % to 75 %. Before measurements are made, the specimens shall be preconditioned under these atmospheric conditions for a time sufficient to allow the specimens to reach stability.

The wire to be tested shall be removed from the packaging in such a way that it is not subjected to tension or unnecessary bends. Before each test, sufficient wire should be discarded to ensure that any damaged wire is not included in the test specimens.

**3.2.2 Winding wire**

When reference is made to a winding wire according to a standard of the IEC 60317 series, the following information is given in the description:

- reference of the IEC specification;
- nominal conductor dimensions in millimetres (width × thickness);
- grade.

EXAMPLE IEC 60317-31 – 4,00 × 1,00 Grade 2GL1

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