BS EN 60317-56:2017

BSI Standards Publication

Specifications for particular types of winding wires

Part 56: Solderable fully insulated (FIW) zero-defect polyurethane enamelled round copper wire, class 180 (IEC 60317-56:2017)

bsi.

National foreword

This British Standard is the UK implementation of EN 60317-56:2017. It is identical to IEC 60317-56:2017. It supersedes BS EN 60317-56:2012, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee L/-/99, Miscellaneous Standards - Electrical.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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EUROPEAN STANDARD

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English Version

Specifications for particular types of winding wires - Part 56: Solderable fully insulated (FIW) zero-defect polyurethane enamelled round copper wire, class 180 (IEC 60317-56:2017)

Spécifications pour types particuliers de fils de bobinage - Partie 56: Fil brasable de section circulaire, isolé en continu, en cuivre émaillé avec polyuréthane sans défaut électrique, classe 180
(IEC 60317-56:2017)

Technische Lieferbedingungen für bestimmte Typen von Wickeldrähten - Teil 56: Isolationsfehlerfreie Runddrähte (FIW) aus Kupfer, verzinnbar, lackisoliert mit Polyurethan, mit Nenndurchmesser von 0,040 mm bis 1,600 mm, Klasse 180
(IEC 60317-56:2017)

This European Standard was approved by CENELEC on 2017-09-13. 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.

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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

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European foreword

The text of document 55/1616/FDIS, future edition 2 of IEC 60317-56, prepared by IEC/TC 55 "Winding wires" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60317-56:2017.

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)	2018-06-13
latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2020-09-13

This document supersedes EN 60317-56:2012.

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.

Endorsement notice

The text of the International Standard IEC 60317-56:2017 was approved by CENELEC as a European Standard without any modification.

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

IEC 60264 (series)	NOTE	Harmonized as EN 60264 (series).
IEC 60317 (series)	NOTE	Harmonized as EN 60317 (series).
IEC 60851 (series)	NOTE	Harmonized as EN 60851 (series).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

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.

Publication	Year	Title	EN/HD	Year
IEC 60317-0-7	-		FprEN 60317-0-7	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Part 56: Solderable fully insulated (FIW) zero-defect polyurethane enamelled round copper wire, class 180

FOREWORD

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International Standard IEC 60317-56 has been prepared by IEC technical committee 55: Winding wires.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

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

a) Clause 1: revision of the scope, reducing the number of grades of FIW from 3 through 9 to 4, 6 and 8 only;
b) Clause 1: revision of the scope, reducing the wire diameter range from (0,040 to 1,600) mm to (0,090 to 0,900) mm;
c) addition of an informative annex for abrasion resistance requirements for grades FIW 3 to 9.

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

FDIS	Report on voting
55/1616/FDIS	55/1622/RVD

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

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

This International standard is to be read in conjunction with IEC 60317-0-7:–[1].

The numbering of clauses in this standard is not continuous from Clauses 20 and 30 in order to reserve space for possible future wire requirements prior to those for wire packaging.

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.

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

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

1 Under preparation. Stage at the time of publication: IEC/FDIS 60317-0-7:2017.

INTRODUCTION

The IEC 60317 series is part of a group of International Standards which define insulated wires used for windings in electrical equipment:

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

SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

Part 56: Solderable fully insulated (FIW) zero-defect polyurethane enamelled round copper wire, class 180

1 Scope

This part of IEC 60317 specifies the requirements of solderable fully insulated (FIW) zero-defect enamelled round copper wire, class 180, with a single coating based on polyurethane resin, which may be modified providing it retains its chemical identity and satisfies all the required technical specifications.

The range of nominal conductor diameters of the wires covered by this standard is as follows:

- Grade of FIW 4, 6, 8: 0,090 mm up to and including 0,900 mm.

Nominal conductor diameters are specified in IEC 60317-0-7–.

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.

IEC 60317-0-7:–, *Specifications for particular types of winding wires – Part 0-7: General requirements – Fully insulated (FIW) zero-defect enamelled round copper wire*

3 Terms and definitions, general notes and appearance

3.1 Terms and definitions

Subclause 3.1 of IEC 60317-0-7:– applies.

3.2 General notes

3.2.1 Methods of test

Subclause 3.2 of IEC 60317-0-7:– applies.

In case of inconsistencies between IEC 60317-0-7 and this document, the latter shall prevail.

3.2.2 Winding wire

A modified resin is one that has undergone a chemical change or contains one or more additives to enhance certain performance or application characteristics.

Class 180 is a thermal class requiring a temperature index of at least 180 °C and a heat shock temperature of at least 200 °C.

The temperature in °C corresponding to the temperature index is not necessarily the temperature recommended as the wire's temperature in use, since this temperature depends on many factors, including the type of electrical equipment involved.