IEC 60317-72

Edition 2.0 2020-04
REDLINE VERSION

INTERNATIONAL STANDARD

colour inside

Specifications for particular types of winding wires – Part 72: Polyester glass-fibre wound ~~fused~~ silicone resin ~~or~~/varnish impregnated, bare or enamelled round copper wire, temperature index 200

IEC 60317-72:2020-04 RLV(en)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

Part 72: Polyester glass-fibre wound ~~fused,~~ silicone resin ~~or~~ /varnish impregnated, bare or enamelled round copper wire, temperature index 200

FOREWORD

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International Standard IEC 60317-72 has been prepared by IEC technical committee 55: Winding wires.

This second edition cancels and replaces the first edition published in 2017. The document 55/1768/CDV, circulated to the National Committees as Amendment 1, led to the publication of this new edition.

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

– modification of the title;
– revision to the Scope;
– revision to 3.2.2.

The text of this standard is based on the first edition, its Amendment 1 and the following documents:

CDV	Report on voting
55/1768/CDV	55/1817/RVC

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.

A list of all 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 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 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- withdrawn,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
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INTRODUCTION

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

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

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SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

Part 72: Polyester glass-fibre wound ~~fused,~~ silicone resin ~~or~~ /varnish impregnated, bare or enamelled round copper wire, temperature index 200

1 Scope

This part of IEC 60317 specifies the requirements of polyester glass-fibre wound ~~fused,~~ silicone resin ~~or~~ /varnish impregnated, bare, grade 1 or grade 2 enamelled round copper winding wire, temperature index 200. ~~The impregnating agent is a silicone containing resin or varnish.~~

NOTE For this type of wire, the heat shock test is inappropriate and therefore a heat shock temperature cannot be established. Consequently, a class based on the requirements for temperature index and heat shock temperature cannot be specified.

The nominal conductor diameters are specified in IEC 60317-0-10:2017, Clause 4.

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 60317-0-10:2017, *Specifications for particular types of winding wires – Part 0-10: General requirements – Polyester glass-fibre wound fused, unvarnished, or resin or varnish impregnated, bare or enamelled round copper wire*

3 Terms, definitions, general notes and appearance

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60317-0-10 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.2 General notes

3.2.1 Methods of test

Subclause 3.2.1 of IEC 60317-0-10:2017 applies. In case of inconsistencies between IEC 60317-0-10 and this document, the latter shall prevail.

3.2.2 Winding wire

The fibre covering shall consist of a combination of polyester and glass fibres. The glass fibres shall be electrical-grade continuous-filament glass yarn. The polyester fibre shall be a high-grade yarn resulting from the linear polymerization of ethylene glycol and terephthalic acid. The maximum content by weight of polyester fibre in the yarn shall not exceed 50 %.

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The enamelled wire shall have a temperature index of at least 200 and shall be agreed between purchaser and supplier.

The temperature index of the wire is dependent upon the type of impregnating agent used.

The silicone-containing impregnating agent applied to the polyester glass fibres shall have a minimum temperature index of 200.

The ~~coating~~ covering shall ~~be characterized by~~ have one of the following ~~different~~ grades of thickness:

– PG1: bare conductor with 1 layer of polyester glass fibre or 2 layers of finer polyester glass fibres that together, comply with the dimensional requirements in IEC 60317-0-10;
– PG2: bare conductor with 2 layers of polyester glass fibre;
– grade 1 PG1: enamelled grade 1 (grade 1) with 1 layer of polyester glass fibre (PG1);
– grade 1 PG2: enamelled grade 1 (grade 1) with 2 layers of polyester glass fibre (PG2);
– grade 2 PG1: enamelled grade 2 (grade 2) with 1 layer of polyester glass fibre (PG1);
– grade 2 PG2: enamelled grade 2 (grade 2) with 2 layers of polyester glass fibre (PG2).

3.3 Appearance

Subclause 3.3 of IEC 60317-0-10:2017 applies.

4 Dimensions

Clause 4 of IEC 60317-0-10:2017 applies.

5 Electrical resistance

Clause 5 of IEC 60317-0-10:2017 applies.

6 Elongation

Clause 6 of IEC 60317-0-10:2017 applies.

7 Springiness

Clause 7 of IEC 60317-0-10:2017 applies.

8 Flexibility and adherence

Clause 8 of IEC 60317-0-10:2017 applies.

9 Heat shock

Test inappropriate.

10 Cut-through

Test inappropriate.

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11 Resistance to abrasion

Test inappropriate.

12 Resistance to solvents

Test inappropriate.

13 Breakdown voltage

Clause 13 of IEC 60317-0-10:2017 applies.

14 Continuity of insulation

Test inappropriate.

15 Temperature index

Clause 15 of IEC 60317-0-10:2017 applies.

16 Resistance to refrigerants

Test inappropriate.

17 Solderability

Test inappropriate.

18 Heat or solvent bonding

Test inappropriate.

19 Dielectric dissipation factor

Test inappropriate.

20 Resistance to transformer oil

Test inappropriate.

21 Loss of mass

Test inappropriate.

23 Pin hole test

Test inappropriate.

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30 Packaging

Clause 30 of IEC 60317-0-10:2017 applies.

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