IEC 60317-73

Edition 1.1 2024-06
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

colour inside

Specifications for particular types of winding wires – Part 73: Polyester or polyesterimide overcoated with polyamide-imide enamelled rectangular aluminium wire, class 200

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FOREWORD

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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 60317-73 edition 1.1 contains the first edition (2018-02) [documents 55/1634/FDIS and 55/1639/RVD] and its amendment 1 (2024-06) [documents 55/2000/CDV and 55/2036/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 60317-73 has been prepared by IEC technical committee 55: Winding wires.

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.

This International Standard is to be used in conjunction with IEC 60317-0-9:2015 and its Amendment 1:2024.

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 and its amendment will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

IMPORTANT – The *'colour inside'* logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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).

SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

Part 73: Polyester or polyesterimide overcoated with polyamide-imide enamelled rectangular aluminium wire, class 200

1 Scope

This part of IEC 60317 specifies the requirements of enamelled rectangular aluminium winding wire of class 200 with a dual coating. The underlying coating is based on polyester or polyesterimide resin, which can be modified providing it retains the chemical identity of the original resin and meets all specified wire requirements. The superimposed coating is based on polyamide-imide resin.

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

The range of nominal conductor dimensions covered by this standard is:

– width: min. 2,0 mm max. 16,0 mm;
– thickness: min. 0,80 mm max. 5,60 mm.

Wires of grade 1 and grade 2 are included in this specification and apply to the complete range of conductors.

The specified combinations of width and thickness as well as the specified width/thickness ratio are given in IEC 60317-0-9:2015.

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 60317-0-9:2015, *Specifications for particular types of winding wires – Part 0-9: General requirements – Enamelled rectangular aluminium wire*.
IEC 60317-0-9:2015/AMD1:2024

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 60317-0-9 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 60317-0-9:2015 and IEC 60317-0-9:2015/AMD1:2024 applies.

In case of inconsistencies between IEC 60317-0-9 and this document, IEC 60317-73 shall prevail.

3.2.2 Winding wire

Class 200 is a thermal class that requires a minimum temperature index of 200 and a heat shock temperature of at least 220 °C.

The temperature in degrees Celsius corresponding to the temperature index is not necessarily that at which it is recommended that the wire be operated and this will depend on many factors, including the type of equipment involved.

3.3 Appearance

Subclause 3.3 of IEC 60317-0-9:2015 applies.

4 Dimensions

Clause 4 of IEC 60317-0-9:2015 applies.

5 Electrical resistance

Clause 5 of IEC 60317-0-9:2015 and IEC 60317-0-9:2015/AMD1:2024 applies.

6 Elongation

Clause 6 of IEC 60317-0-9:2015 applies.

7 Springiness

~~Test appropriate but no requirements specified.~~

Test inappropriate.

8 Flexibility and adherence

Clause 8 of IEC 60317-0-9:2015 applies.

9 Heat shock

Clause 9 of IEC 60317-0-9:2015 applies. The minimum heat shock temperature shall be 220 ºC.

10 Cut-through

Test inappropriate.

11 Resistance to abrasion

Test inappropriate.

12 Resistance to solvents

Clause 12 of IEC 60317-0-9:2015 applies.

13 Breakdown voltage

Clause 13 of IEC 60317-0-9:2015 applies. The elevated temperature shall be 200 ºC.

14 Continuity of insulation

Test inappropriate.

15 Temperature index

Clause 15 of IEC 60317-0-9:2015 applies. The minimum temperature index shall be 200 ºC.

16 Resistance to refrigerants

Test inappropriate.

17 Solderability

Test inappropriate.

18 Heat or solvent bonding

Test inappropriate.

19 Dielectric dissipation factor

Test under consideration.

20 Resistance to transformer oil

Test under consideration.

21 Loss of mass

Test inappropriate.

23 Pin hole test

Test inappropriate.