

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Specifications for particular types of winding wires –
Part 58: Polyamide-imide enamelled rectangular copper wire, class 220

Spécifications pour types particuliers de fils de bobinage –
Partie 58: Fil de section rectangulaire en cuivre émaillé avec polyamide-imide,
classe 220



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

H

ICS 29.060.10

ISBN 978-2-88912-143-4

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SPECIFICATIONS FOR PARTICULAR
TYPES OF WINDING WIRES –****Part 58: Polyamide-imide enamelled
rectangular copper wire, class 220**

FOREWORD

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International Standard IEC 60317-58 has been prepared by IEC technical committee 55: Winding wires.

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

CDV	Report on voting
55/1138/CDV	55/1168A/RVC

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.

This International Standard is to be read in conjunction with IEC 60317-0-2 (1997).

The numbering of clauses in this standard is not continuous from Clauses 21 to 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, 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 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- withdrawn,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
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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).

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SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

Part 58: Polyamide-imide enamelled rectangular copper wire, class 220

1 Scope

This part of IEC 60317 specifies the requirements of enamelled rectangular copper winding wire of class 220 with a sole coating based on polyamide-imide resin, which may be modified providing it retains the chemical identity of the original resin and meets all specified wire requirements.

Class 220 is a thermal class that requires a minimum temperature index of 220 and a heat shock temperature of at least 240 °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.

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

- 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 ratio width/thickness are given in IEC 60317-0-2.

2 Normative references

The following referenced documents are indispensable for the application 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 60317-0-2:1997, *Specifications for particular types of winding wires – Part 0: General requirements – Section 2: Enamelled rectangular copper wire*
Amendment 1 (1999)
Amendment 2 (2005)

3 Definitions and general notes on methods of test and appearance

3.1 Definitions and general notes on methods of test

For definitions and general notes on methods of test, see Clause 3 of IEC 60317-0-2.

In case of inconsistencies between IEC 60317-0-2 and this standard, IEC 60317-58 shall prevail.

3.2 Appearance

See Subclause 3.3 of IEC 60317-0-2.

4 Dimensions

See Clause 4 of IEC 60317-0-2.

5 Electrical resistance

See Clause 5 of IEC 60317-0-2.

6 Elongation

See Clause 6 of IEC 60317-0-2.

7 Springiness

See Clause 7 of IEC 60317-0-2.

8 Flexibility and adherence

See Clause 8 of IEC 60317-0-2.

9 Heat shock

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See Clause 9 of IEC 60317-0-2, where the minimum heat shock temperature shall be 240 °C.

10 Cut-through

Test requirements under consideration.

11 Resistance to abrasion

Test inappropriate.

12 Resistance to solvents

See Clause 12 of IEC 60317-0-2.

13 Breakdown voltage

See Clause 13 of IEC 60317-0-2, where the elevated temperature shall be 220 °C.

14 Continuity of insulation

Test inappropriate.

15 Temperature index

See Clause 15 of IEC 60317-0-2, where the minimum temperature index shall be 220.

16 Resistance to refrigerants

Test inappropriate.

17 Solderability

Test inappropriate.

18 Heat bonding

Test inappropriate.

19 Dielectric dissipation factor

Test inappropriate.

20 Resistance to transformer oil

Test under consideration.

21 Loss of mass

Test inappropriate.

23 Pin hole test

Test inappropriate.

30 Packaging

See Clause 30 of IEC 60317-0-2.

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