

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Specifications for particular types of winding wires –
Part 44: Aromatic polyimide tape wrapped rectangular copper wire, class 240**

**Spécifications pour types particuliers de fils de bobinage –
Partie 44: Fil de section rectangulaire en cuivre recouvert d'un ruban de
polyimide aromatique, classe 240**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

**Part 44: Aromatic polyimide tape wrapped
rectangular copper wire, class 240**

FOREWORD

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The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience. A vertical line in the margin shows where the base publication has been modified by amendment 1. Additions and deletions are displayed in red, with deletions being struck through.

International Standard IEC 60317-44 has been prepared by IEC technical committee 55: Winding wires.

The committee has decided that the contents of the base publication and its amendments 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

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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) methods of test (IEC 60851);
- 2) specifications (IEC 60317);
- 3) packaging (IEC 60264).

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SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –

Part 44: Aromatic polyimide tape wrapped rectangular copper wire, class 240

1 Scope

This part of IEC 60317 specifies the requirements of tape wrapped rectangular copper winding wire of class 240. The insulation consists of one or two wrappings of aromatic polyimide tape.

Class 240 is a thermal class that requires a temperature index of 240 and a heat shock temperature of at least 260 °C.

NOTE In some countries, e.g. Canada, Russia, USA, this product is assigned a class 220.

The tape is coated on one or both sides with a suitable adhesive, for instance, fluorinated ethylene propylene. After wrapping, the tape is heat-sealed to form a continuous and adherent sheath.

Specific requirements may be subject to contract.

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

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

- width: min. 2,00 mm, max. 16,00 mm;
- thickness: min. 0,80 mm, max. 5,60 mm.

The specified combinations of width and thickness as well as the specified ratio width/thickness are given in IEC 60317-0-2.

When a reference is made to winding wire according to this standard, the following information should be given:

- reference to IEC 60317-44;
- dimension of the nominal conductor (width x thickness);
- grade.

Example: 60317-44 IEC 4,00 mm x 1,00 mm grade A2

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 60172:~~1987~~, *Test procedure for the determination of the temperature index of enamelled winding wires*

IEC 60317-0-2:1990, *Specifications for particular types of winding wires – Part 0: General requirements – Section 2: Enamelled rectangular copper wire*

IEC 60851, *Methods of test for winding wires*

ISO 3:1973, *Preferred numbers – Series of preferred numbers*

3 Definitions and general notes on methods of test

3.1 Terms and definitions

For the purpose of this part of IEC 60317, the following definitions apply.

3.1.1

class

the thermal performance of a wire expressed by the temperature index and the heat shock temperature

3.1.2

conductor

the bare metal after removal of the insulation

3.1.3

covering

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

3.1.4

crack

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

3.1.5

grade

a range of thickness of the insulation of a wire

3.1.6

insulation

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

3.1.7

nominal conductor dimension

the designation of the conductor size in accordance with IEC 60317

3.1.8

winding wire

a wire used for winding a coil to provide a magnetic field

3.1.9

wire

a conductor coated or covered with an insulation

3.2 General notes on methods of test

All methods of test used in this part of IEC 60317 are given in IEC 60851.

The clause numbers used in this standard are identical with the respective test numbers of IEC 60851.

In case of inconsistencies between IEC 60851 on methods of test and this part of IEC 60317, the latter shall prevail.