

# REDLINE VERSION



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**Specifications for particular types of winding wires –  
Part 2: Solderable polyurethane enamelled round copper wire, class 130,  
with a bonding layer**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –****Part 2: Solderable polyurethane enamelled round copper wire,  
class 130, with a bonding layer**

## FOREWORD

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**This Redline version provides you with a quick and easy way to compare all the changes between this standard and its previous edition. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.**

International Standard IEC 60317-2 has been prepared by IEC technical committee 55: Winding wires.

This fifth edition cancels and replaces the fourth 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) addition of heat bonding test loads for nominal conductor diameters up to and including 0,050 mm;
- b) addition of pin hole test requirements according to IEC 60317-0-1:2013.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
55/1785/FDIS	55/1797/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.

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.

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## INTRODUCTION

This part of IEC 60317 ~~is one~~ forms an element of a series of standards which deals with insulated wires used for windings in electrical equipment. It is composed of the following series:

- 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 2: Solderable polyurethane enamelled round copper wire, class 130, with a bonding layer

#### 1 Scope

This part of IEC 60317 specifies the requirements of solderable enamelled round copper winding wire of class 130 with a dual coating. The underlying coating is based on polyurethane resin, which may be modified providing it retains the chemical identity of the original resin and meets all specified wire requirements. The superimposed coating is a bonding layer based on a thermoplastic 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 diameters covered by this standard is:

- Grade 1B: 0,020 mm up to and including 2,000 mm;
- Grade 2B: 0,020 mm up to and including 2,000 mm.

The nominal conductor diameters are specified in Clause 4 of IEC 60317-0-1:~~2008~~2013.

#### 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 60317-0-1:~~2008~~2013, *Specifications for particular types of winding wires – Part 0-1: General requirements – Enamelled round copper wire*

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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**Specifications for particular types of winding wires –  
Part 2: Solderable polyurethane enamelled round copper wire, class 130,  
with a bonding layer**

**Spécifications pour types particuliers de fils de bobinage –  
Partie 2: Fil brasable de section circulaire en cuivre émaillé avec polyuréthane,  
classe 130, avec une couche adhérente**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### Part 2: Solderable polyurethane enamelled round copper wire, class 130, with a bonding layer

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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 diameters covered by this standard is:

- Grade 1B: 0,020 mm up to and including 2,000 mm;
- Grade 2B: 0,020 mm up to and including 2,000 mm.

The nominal conductor diameters are specified in Clause 4 of IEC 60317-0-1:2013.

#### 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 60317-0-1:2013, *Specifications for particular types of winding wires – Part 0-1: General requirements – Enamelled round copper wire*

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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

**SPÉCIFICATIONS POUR TYPES PARTICULIERS DE FILS DE BOBINAGE –****Partie 2: Fil brasable de section circulaire en cuivre émaillé avec polyuréthane, classe 130, avec une couche adhérente**

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La Norme internationale IEC 60317-2 a été établie par le comité d'études 55 de l'IEC: Fils de bobinage.

Cette cinquième édition annule et remplace la quatrième édition parue en 2012. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

- a) ajout des charges d'essai d'adhérence par chaleur pour les diamètres nominaux des conducteurs jusques et y compris 0,050 mm;

b) ajout des exigences d'essais pour la détection des microfissures en immersion selon l'IEC 60317-0-1:2013.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
55/1785/FDIS	55/1797/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 60317, publiées sous le titre général *Spécifications pour types particuliers de fils de bobinage*, peut être consultée sur le site web de l'IEC.

La numérotation des articles dans la présente norme n'est pas continue entre les Articles 21 et 30 afin de permettre l'introduction d'éventuelles futures exigences pour les fils avant celles concernant le conditionnement des fils

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## INTRODUCTION

La présente partie de l'IEC 60317 appartient à une série de normes traitant des fils isolés utilisés pour les enroulements des appareils électriques. L'ensemble est composé des trois séries de normes suivantes:

- 1) *Fils de bobinage – Méthodes d'essai* (série IEC 60851);
- 2) *Spécifications pour types particuliers de fils de bobinage* (série IEC 60317);
- 3) *Conditionnement des fils de bobinage* (série IEC 60264).



## SPÉCIFICATIONS POUR TYPES PARTICULIERS DE FILS DE BOBINAGE –

### Partie 2: Fil brasable de section circulaire en cuivre émaillé avec polyuréthane, classe 130, avec une couche adhérente

#### 1 Domaine d'application

La présente partie de l'IEC 60317 spécifie les exigences relatives au fil de bobinage brasable de section circulaire en cuivre émaillé de classe 130 disposant d'un double revêtement. La sous-couche est à base de résine polyuréthane, qui peut être modifiée à condition de conserver la dénomination chimique de la résine initiale et satisfaire à toutes les exigences spécifiées pour le fil. La surcouche est une couche adhérente à base de résine thermoplastique.

NOTE Une résine modifiée est une résine qui a subi une modification chimique, ou qui contient un ou plusieurs additifs pour améliorer certaines performances ou les caractéristiques d'utilisation.

La gamme des diamètres nominaux des conducteurs couverte par la présente norme est:

- Grade 1B: 0,020 mm jusques et y compris 2 000 mm;
- Grade 2B: 0,020 mm jusques et y compris 2 000 mm.

Les diamètres nominaux des conducteurs sont spécifiés dans l'Article 4 de l'IEC 60317-0-1:2013.

#### 2 Références normatives

Les documents suivants cités dans le texte constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60317-0-1:2013, *Spécifications pour types particuliers de fils de bobinage – Partie 0-1: Exigences générales – Fil de section circulaire en cuivre émaillé*