

© Copyright SEK Svensk Elstandard. Reproduction in any form without permission is prohibited.

Lindningstråd och lindningsband – Specifikationer –

Del 62: Blank eller lackerad rektangulär lindningstråd av koppar, omspunnen med impregnerat polyesterglasfibergarn av minst klass 200, temperaturindex 200

Specifications for particular types of winding wires –

*Part 62: Polyester glass fibre wound, minimum class 200 resin or varnish impregnated, bare or enamelled
rectangular copper wire, temperature index 200*

Som svensk standard gäller europastandarden EN IEC 60317-62:2020. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60317-62:2020.

Nationellt förord

Europastandarden EN IEC 60317-62:2020

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60317-62, Second edition, 2020 - Specifications for particular types of winding wires -
Part 62: Polyester glass fibre wound, minimum class 200
resin or varnish impregnated, bare or enamelled rectangular
copper wire, temperature index 200**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN IEC 60317-0-8, utgåva 2, 2019.

Tidigare fastställd svensk standard SS-EN 60317-62, utgåva 1, 2013, gäller ej fr o m 2023-07-15.

ICS 29.060.10

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard

Box 1284
164 29 Kista
Tel 08-444 14 00
www.elstandard.se

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN IEC 60317-62

July 2020

ICS 29.060.10

Supersedes EN 60317-62:2012 and all of its
amendments and corrigenda (if any)

English Version

**Specifications for particular types of winding wires - Part 62:
Polyester glass-fibre wound, silicone resin or varnish
impregnated, bare or enamelled rectangular copper wire,
temperature index 200
(IEC 60317-62:2020)**

Spécifications pour types particuliers de fils de bobinage -
Partie 62: Fil de section rectangulaire en cuivre nu ou
émaillé, guipé de fibres de verre polyester imprégnées de
résine silicone ou de vernis, d'indice de température 200
(IEC 60317-62:2020)

Technische Lieferbedingungen für bestimmte Typen von
Wickeldrähten - Teil 62: Flachdrähte aus Kupfer, blank oder
lackisiert und umhüllt mit Polyesterglasgewebe,
imprägniert mit Harz oder Lack oder unimprägniert,
Temperaturindex 200
(IEC 60317-62:2020)

This European Standard was approved by CENELEC on 2020-07-15. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

© 2020 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

Ref. No. EN IEC 60317-62:2020 E

European foreword

The text of document 55/1849/FDIS, future edition 2 of IEC 60317-62, prepared by IEC/TC 55 "Winding wires" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60317-62:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2021-04-15
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-07-15

This document supersedes EN 60317-62:2012 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60317-62:2020 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60264 (series) NOTE Harmonized as EN 60264 (series)

IEC 60317 (series) NOTE Harmonized as EN 60317 (series)

IEC 60851 (series) NOTE Harmonized as EN 60851 (series)

Annex ZA
 (normative)

**Normative references to international publications
 with their corresponding European publications**

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60317-0-8	2019	Specifications for particular types of winding wires - Part 0-8: General requirements - Polyester glass-fibre wound unvarnished and fused, or resin or varnish impregnated, bare or enameled rectangular copper wire	EN IEC 60317-0-8	2019

CONTENTS

FOREWORD	3
INTRODUCTION	5
1 Scope	6
2 Normative references	6
3 Terms, definitions, general notes and appearance	6
3.1 Terms and definitions	6
3.2 General notes	6
3.2.1 Methods of test	6
3.2.2 Winding wire	7
3.3 Appearance	7
4 Dimensions	7
5 Electrical resistance	7
6 Elongation	7
7 Springiness	7
8 Flexibility and adherence	7
9 Heat shock	8
10 Cut-through	8
11 Resistance to abrasion	8
12 Resistance to solvents	8
13 Breakdown voltage	8
14 Continuity of insulation	8
15 Temperature index	8
16 Resistance to refrigerants	8
17 Solderability	8
18 Heat or solvent bonding	8
19 Dielectric dissipation factor	8
20 Resistance to transformer oil	8
23 Pin hole test	9
30 Packaging	9
Bibliography	10

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SPECIFICATIONS FOR PARTICULAR TYPES OF WINDING WIRES –**Part 62: Polyester glass-fibre wound, silicone resin or varnish impregnated, bare or enamelled rectangular copper wire, temperature index 200****FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60317-62 has been prepared by IEC technical committee 55: Winding wires.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

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

- revision to the title of the standard to more precisely describe the construction of the wire;
- revision to Clause 1, the scope of the standard, to provide more detail of the wire construction;
- revision to 3.2.2, general winding wire requirements of the glass fibre covering.

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

FDIS	Report on voting
55/1849/FDIS	55/1868/RVD

Full information on the voting for the approval of this document 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.

This International standard is to be used in conjunction with the IEC 60317-0-8:2019.

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 document is not continuous from Clauses 20 and 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
- amended.

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. 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 62: Polyester glass-fibre wound, silicone resin or varnish impregnated, bare or enamelled rectangular copper wire, temperature index 200

1 Scope

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

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

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

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.

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 60317-0-8:2019, *Specifications for particular types of winding wires – Part 0-8: General requirements – Polyester glass-fibre wound unvarnished and fused, or resin or varnish impregnated, bare or enamelled rectangular copper wire*