



DPC: 19/30395787 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

Date: 10 July 2019

Origin: International

Latest date for receipt of comments: 27 August 2019

Project No. 2019/01393

Responsible committee: GEL/7 Overhead electrical conductors

Interested committees:

Title: Draft BS IEC 63248 Conductors for overhead lines - Coated or clad metallic wire for concentric lay stranded conductors.

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD. THIS DRAFT IS NOT CURRENT BEYOND 27 August 2019

This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. **See overleaf for information on the submission of comments.**

No copying is allowed, in any form, without prior written permission from BSI except as permitted under the Copyright, Designs and Patent Act 1988 or for circulation within a nominating organization for briefing purposes. Electronic circulation is limited to dissemination by e-mail within such an organization by committee members.

Further copies of this draft may be purchased from BSI Shop <http://shop.bsigroup.com> or from BSI Customer Services, Tel: +44(0) 20 8996 9001 or email cservices@bsigroup.com. British, International and foreign standards are also available from BSI Customer Services.

Information on the co-operating organizations represented on the committees referenced above may be obtained from <https://standardsdevelopment.bsigroup.com/>.

Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
------------------	------------------------

1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



7/685/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:

IEC 63248 ED1

DATE OF CIRCULATION:

2019-07-05

CLOSING DATE FOR COMMENTS:

2019-09-27

SUPERSEDES DOCUMENTS:

7/682/NP, 7/683A/RVN

IEC TC 7 : OVERHEAD ELECTRICAL CONDUCTORS

SECRETARIAT:

China

SECRETARY:

Mr Qiu Zheng

OF INTEREST TO THE FOLLOWING COMMITTEES:

TC 11

PROPOSED HORIZONTAL STANDARD:

☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☐ EMC

☐ ENVIRONMENT

☒ QUALITY ASSURANCE

☐ SAFETY

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Conductors for overhead lines - Coated or clad metallic wire for concentric lay stranded conductors

NOTE FROM TC/SC OFFICERS:

The CD file is prepared on the basis of 7/683A/RVN and the consensus reached at the PT meeting in Frankfurt/M on 2019-05-21. The comments to this draft will be discussed at the PT meeting in Shanghai on 2019-10-15.

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	7
4 Material	8
4.1 Steel.....	8
4.2 Aluminium.....	8
4.3 Zinc	9
4.4 Zinc-aluminium alloy	9
5 Freedom from defects.....	9
6 Joints	9
7 Tests	9
7.1 Place of testing	9
7.2 Sampling rate	9
7.3 Test methods	9
7.3.1 Visual test	9
7.3.2 Diameter.....	9
7.3.3 Stress at 1% extension, tensile strength and elongation	10
7.3.4 Ductility	11
7.3.5 Coating or cladding tests	11
7.3.6 Coefficient of linear expansion.....	12
7.3.7 Resistivity.....	12
7.3.8 Coating heat resistance test	13
8 Acceptance and rejection	13
9 Certificate of compliance	13
10 Packaging	13
10.1 Type of packaging	13
10.2 Length and tolerance on length.....	13
Annex A (informative) Tables of properties for recommended IEC wire materials	14
Annex B (informative) Properties of wire for calculation purposes	22
Bibliography.....	23
Table A.1 – Wire designation	14
Table A.2 – Schedule of tests	15
Table A.3 – Zinc-aluminium alloy ingot composition	15
Table A.4 – Requirements for zinc and zinc-aluminium alloy coated steel wires (group 1, group 4 and group 5)	16
Table A.5 – Requirements for aluminium-clad FeNi36 wires (group 2).....	18
Table A.6 – Requirements for aluminium-clad steel wires (group 3)	18
Table A.7 – Initial setting for determining stress at 1% elongation.....	19

46	Table A.8 – Coating requirements for zinc and zinc-aluminium alloy coated wires.....	20
47	Table A.9 – Cladding requirements for Group 2 and Group 3 wire	20
48	Table A.10 – Coating heat resistance test for Group 4 and Group 5 wire	20
49	Table A.11 – Temperatures for linear expansion test for Group 2 wire	21
50	Table A.12 – Minimum number of dips for Zn and Zn Alloy coatings.....	21
51	Table B.1 – Properties of wire for calculation purposes	22
52		
53		
54		

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**CONDUCTORS FOR OVERHEAD LINES - COATED OR CLADDED
METALLIC WIRE FOR CONCENTRIC LAY STRANDED CONDUCTORS**

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 63248 has been prepared by IEC technical committee 7: OVERHEAD ELECTRICAL CONDUCTORS.

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

FDIS	Report on voting
XX/XX/FDIS	XX/XX/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.

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

- 107 • reconfirmed,
- 108 • withdrawn,
- 109 • replaced by a revised edition, or
- 110 • amended.

111

112 The National Committees are requested to note that for this document the stability date
113 is 20XX..

114 THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE
115 DELETED AT THE PUBLICATION STAGE.

116

117

INTRODUCTION

118 The purpose of this standard is to group together similar wire materials that share the same
119 general characteristics and therefore the same test procedures and requirements. Included in
120 this standard are existing wire types from IEC 60888 and IEC 61232 as well as new wires
121 materials that are already in use around the world in new types of conductors.

122 Zinc coating class 2 according to IEC 60888 has not been included in this standard, as the
123 demand for this class of zinc coating is extremely rare. Extra corrosion protection can be
124 provided by other means, including the use of Zinc-aluminium alloy coatings.

125 Tables of values for IEC-designated wire materials are in informative Annex A. This format
126 was chosen in order to simplify adoption of this standard by various National Committees by
127 simply inserting their national deviations and tables into this Annex. When used with IEC
128 designations, the Annex becomes normative.

129