



BSI Standards Publication

## **Conductors for overhead lines — Coated or clad metallic wire for concentric lay stranded conductors**

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## National foreword

This British Standard is the UK implementation of EN IEC 63248:2022+A11:2022. It is derived from IEC 63248:2022, incorporating CENELEC amendment A11:2022. It supersedes BS EN 61232:1997 and BS EN 50189:2000, which are withdrawn.

The start and finish of text introduced or altered by amendment A11 is indicated in the text by tags. Tags indicating changes to text carry the number of the CENELEC amendment. For example, text altered by CENELEC amendment A11 is indicated by A11 A11.

The UK participation in its preparation was entrusted to Technical Committee GEL/7, Overhead electrical conductors.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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30 September 2022	Implementation of CENELEC amendment A11:2022

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## EUROPÄISCHE NORM

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Supersedes EN 61232:1995/corrigendum Feb. 1996,  
EN 50189:2000, EN 61232:1995 + A11:2000

English Version

Conductors for overhead lines - Coated or clad metallic wire  
for concentric lay stranded conductors  
(IEC 63248:2022)

Conducteurs pour lignes aériennes - Fil métallique revêtu  
ou recouvert pour conducteurs toronnés à couches  
concentriques  
(IEC 63248:2022)

Leiter für Freileitungen - Beschichtete oder ummantelte  
Metalldrähte für Leiter aus konzentrisch verseilten Drähten  
(IEC 63248:2022)

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## **European foreword**

The text of document 7/715/FDIS, future edition 1 of IEC 63248, prepared by IEC/TC 7 "Overhead electrical conductors" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63248:2022.

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) 2023-04-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-04-11

This document supersedes EN 61232:1995 and EN 50189:2000, and all of their amendments and corrigenda (if any).

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## European foreword to amendment A11

This document (EN IEC 63248:2022/A11:2022) has been prepared by CLC/TC 7X "Overhead electrical conductors".

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- latest date by which this document has to be implemented (dop) 2023-04-11  
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NOTE 1 When 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](http://www.cenelec.eu)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050	(series)	International Electrotechnical Vocabulary (IEV)	-	-
IEC 60468	-	Method of measurement of resistivity of metallic materials	-	-
ISO 752	-	Zinc ingots	-	-
ISO 6892-1	-	Metallic materials - Tensile testing - Part 1: Method of test at room temperature	EN ISO 6892-1	-
ISO 7500-1	-	Metallic materials - Calibration and verification of static uniaxial testing machines - Part 1: Tension/compression testing machines - Calibration and verification of the force-measuring system	EN ISO 7500-1	-
ISO 7800	-	Metallic materials - Wire - Simple torsion test -	-	-
ISO 7801	-	Metallic materials - Wire - Reverse bend test -	-	-
ISO 7802	-	Metallic materials - Wire - Wrapping test	-	-
ISO 7989-2	-	Steel wire and wire products - Non-ferrous metallic coatings on steel wire - Part 2: Zinc or zinc-alloy coating	-	-

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



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

**Conducteurs pour lignes aériennes – Fil métallique revêtu ou recouvert pour conducteurs toronnés à couches concentriques**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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IEC 63248 has been prepared by IEC technical committee 7: Overhead electrical conductors. It is an International Standard.

This first edition cancels and replaces the first edition of IEC 61232 published in 1993 and the first edition of IEC 60888 published in 1987. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous editions of IEC 61232 and IEC 60888:

- a) wire designations have been modified and grouped;
- b) wires with zinc coating class 2 were removed;
- c) new wire designations have been added;
- d) aluminium-clad FeNi36 wires have been added;
- e) advanced zinc-aluminium alloy coated steel wires have been added.

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

Draft	Report on voting
7/715/FDIS	7/720/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

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## INTRODUCTION

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

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

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## CONDUCTORS FOR OVERHEAD LINES – COATED OR CLADDED METALLIC WIRE FOR CONCENTRIC LAY STRANDED CONDUCTORS

### 1 Scope

This document specifies the properties of wires in the diameter range of, but not limited to, 1,25 mm to 5,50 mm. This document is applicable to coated or clad metallic wires before stranding used either as concentric lay overhead stranded conductors, or in the manufacture of cores for concentric lay overhead stranded conductors, for power transmission purposes.

The various wire types and their designations are listed in Table A.1. For calculation purposes the values listed in Annex B are used.

### 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 60050 (all parts), *International Electro-technical Vocabulary (IEV)* (available at [www.electropedia.org](http://www.electropedia.org))

IEC 60468, *Method of measurement of resistivity of metallic materials*

ISO 752, *Zinc ingots*

ISO 6892-1, *Metallic materials – Tensile testing – Part 1: Method of test at room temperature*

ISO 7500-1, *Metallic materials – Calibration and verification of static uniaxial testing machines – Part 1: Tension/compression testing machines – Calibration and verification of the force-measuring system*

ISO 7800, *Metallic materials – Wire – Simple torsion test*

ISO 7801, *Metallic materials – Wire – Reverse bend test*

ISO 7802, *Metallic materials – Wire – Wrapping test*

ISO 7989-2, *Steel wire and wire products – Non-ferrous metallic coatings on steel wire – Part 2: Zinc or zinc-alloy coating*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050 (all parts) and the following apply.