

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Industrial cable reels

Enrouleurs de câble industriels



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INDUSTRIAL CABLE REELS

FOREWORD

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International Standard IEC 61316 has been prepared by subcommittee 23H: Plugs, socket-outlets and couplers for industrial and similar applications, and for electric vehicles, of IEC technical committee 23: Electrical accessories.

This third edition cancels and replaces the second edition, published in 1999. This edition constitutes a technical revision.

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

- Implementation of the latest tests and requirements previously included in IEC 60309-1.

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

FDIS	Report on voting
23H/483/FDIS	23H/489/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. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

In this document, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- notes: in smaller roman type.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under 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- withdrawn,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.

INDUSTRIAL CABLE REELS

1 Scope

This document applies to cable reels provided with a non-detachable flexible cable with a rated operating voltage not exceeding 690 V DC and/or 690 V AC with a frequency not exceeding 500 Hz and a rated current not exceeding 63 A, primarily intended for industrial use, either indoors or outdoors, for use with accessories complying with IEC 60309-1, IEC 60309-2 or IEC 60309-4.

This document applies to:

- portable cable reels equipped with one plug or appliance-inlet complying with IEC 60309-1 or IEC 60309-2 and at least one socket-outlet complying with IEC 60309-1, IEC 60309-2 or IEC 60309-4;
- fixed cable reels equipped with at least one socket-outlet complying with IEC 60309-1, IEC 60309-2 or IEC 60309-4;
- cable reels suitable for use at ambient temperature normally within the range of $-25\text{ }^{\circ}\text{C}$ to $+40\text{ }^{\circ}\text{C}$.

The use of this equipment on construction sites and for agricultural, commercial and domestic appliances is not precluded.

This document also applies to cable reels intended to be used in extra-low voltage installations.

In locations where special conditions prevail, for example, on board ships, in vehicles and the like, or where explosions are liable to occur, additional requirements can be necessary.

NOTE 1 This document was not developed for Electric Vehicle (EV) application, but it can be used as guide for cable reels for EV application

NOTE 2 Additional requirements for cable reels for currents higher than 63 A are under consideration.

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 60068-2-75, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60112, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60245 (all parts), *Rubber insulated cables – Rated voltages up to and including 450/750 V*

IEC 60245-4, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 4: Cords and flexible cables*

IEC 60309-1:2021, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial purposes – Part 1: General requirements*

IEC 60309-2, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial purposes – Part 2: Dimensional compatibility requirements for pin and contact-tube accessories*

IEC 60309-4, *Plugs, fixed or portable socket-outlets and appliance inlets for industrial purposes – Part 4: Switched socket-outlets with or without interlock*

IEC 60529, *Degrees of protection provided by enclosures (IP Code)*

IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage systems – Part 1: Principles, requirements and tests*

IEC 60664-3, *Insulation coordination for equipment within low-voltage systems – Part 3: Use of coating, potting or moulding for protection against pollution*

IEC 60695-2-11, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products (GWEPT)*

IEC 60695-10-2, *Fire hazard testing – Part 10-2: Abnormal heat – Ball pressure test method*

IEC 60730-2-9, *Automatic electrical controls – Part 2-9: Particular requirements for temperature sensing control*

IEC 61000-6-1, *Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity standard for residential, commercial and light-industrial environments*

IEC 61000-6-3, *Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for equipment in residential environments*

IEC 61032, *Protection of persons and equipment by enclosures – Probes for verification*

ISO 1456, *Metallic and other inorganic coatings – Electrodeposited coatings of nickel, nickel plus chromium, copper plus nickel and of copper plus nickel plus chromium*

ISO 2081, *Metallic and other inorganic coatings – Electroplated coatings of zinc with supplementary treatments on iron or steel*

ISO 2093, *Electroplated coatings of tin – Specification and test methods*

ISO/IEC Guide 51, *Safety aspects – Guidelines for their inclusion in standards*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

NOTE Where the terms "voltage" and "current" are used, they imply the direct current (DC) or alternating current (AC) root mean square (RMS) values.