

# TECHNICAL REPORT

**Live working – Guidelines for the installation of transmission and distribution line conductors and earth wires – Stringing equipment and accessory items**



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**Live working – Guidelines for the installation of transmission and distribution line conductors and earth wires – Stringing equipment and accessory items**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**LIVE WORKING – GUIDELINES FOR THE INSTALLATION  
OF TRANSMISSION AND DISTRIBUTION LINE CONDUCTORS AND  
EARTH WIRES – STRINGING EQUIPMENT AND ACCESSORY ITEMS**

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IEC TR 61328 has been prepared by IEC technical committee 78: Live working. It is a Technical Report.

This fourth edition cancels and replaces the third edition published in 2017. It incorporates some technical changes to update equipment work methods and procedures, bringing them in line with the state of the art. This edition constitutes a technical revision.

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

- a) Keeping the content of the previous edition but without mandatory terms as required by IEC ISO Directives 2 for a Technical Report.

The text of this Technical Report is based on the following documents:

Draft	Report on voting
78/1455/DTR	78/1475/RVDTR

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 Technical Report 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/publications](http://www.iec.ch/publications).

In this document, the following print types are used:

- Terms defined in Clause 3 are given in *italic* font.

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](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
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## INTRODUCTION

This document discusses general tensions, *stringing* methods of transmission and distribution line *conductors*. Special attention is given to the equipment involved, such as *tensioners*, *pullers*, grips, *blocks* and rollers. Due to the hazards involved in *stringing* near *energized* lines, the general concepts of electric and magnetic induction are presented along with safe application methods of earthing equipment.

The overall intent of this document is to provide state of the art methods in an informative manner, recognizing that there are several procedural variations within the industry. There are also multiple standards and regulatory jurisdictions which prescribe methods and requirements beyond the scope of this document.

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# LIVE WORKING – GUIDELINES FOR THE INSTALLATION OF TRANSMISSION AND DISTRIBUTION LINE CONDUCTORS AND EARTH WIRES – STRINGING EQUIPMENT AND ACCESSORY ITEMS

## 1 Scope

This document, which is a Technical Report, provides information for the selection of *conductor stringing, earthing* and *bonding* equipment used for the installation of bare and insulated overhead distribution *conductors*, as well as overhead transmission *conductors* and overhead *earth wires*.

Procedures are given for installation and maintenance of distribution and transmission conductors. A discussion of electric hazards is provided as well as relevant *earthing* and *bonding* techniques.

## 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 60050-466:1990, *International Electrotechnical Vocabulary (IEV) – Part 466: Overhead lines* (available at [www.electropedia.org](http://www.electropedia.org))

IEC 60050-651:2014, *International Electrotechnical Vocabulary (IEV) – Part 651: Live working* (available at [www.electropedia.org](http://www.electropedia.org))

IEC 60743:2013, *Live working – Terminology for tools, devices and equipment*

## 3 Terms, definitions and acronyms

NOTE Terminology for equipment and procedures associated with the installation of overhead *conductors* and *earth wires* varies widely throughout the utility industry.

For the purposes of this document, the terms and definitions given in IEC 60050-466, IEC 60050-651, IEC 60743 and the following apply.

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

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

### 3.1 Terms and definitions

#### 3.1.1

##### **anchor**

anchor log

deadman

sledge

snub

device that serves as a reliable support to hold an object firmly in place