



NSAI
Standards

Irish Standard
I.S. EN 60855-1:2017

Live working - Insulating foam-filled tubes and solid rods - Part 1: Tubes and rods of a circular cross-section

I.S. EN 60855-1:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 60855-1:2017 is the adopted Irish version of the European Document EN 60855-1:2017, Live working - Insulating foam-filled tubes and solid rods - Part 1: Tubes and rods of a circular cross-section

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EUROPEAN STANDARD

EN 60855-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2017

ICS 13.260; 29.240.20; 29.260

Supersedes EN 60855:1996

English Version

**Live working - Insulating foam-filled tubes and solid rods - Part 1:
Tubes and rods of a circular cross-section
(IEC 60855-1:2016)**

Travaux sous tension - Tubes isolants remplis de mousse
et tiges isolantes pleines - Partie 1: Tubes et tiges de
section circulaire
(IEC 60855-1:2016)

Arbeiten unter Spannung - Isolierende schaumgefüllte
Rohre und massive Stäbe - Teil 1: Rohre und Stäbe mit
kreisförmigem Querschnitt
(IEC 60855-1:2016)

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN 60855-1:2017

European foreword

The text of document 78/1147/FDIS, future edition 2 of IEC 60855-1, prepared by IEC/TC 78 "Live working" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60855-1:2017.

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) 2017-08-10
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-02-10

This document supersedes EN 60855:1996.

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In the official version, for Bibliography, the following note has to be added for the standard indicated.

IEC 61477

NOTE Harmonized as EN 61477.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60060-1	-	High-voltage test techniques -- Part 1: General definitions and test requirements	EN 60060-1	-
IEC 60060-2	-	High-voltage test techniques -- Part 2: Measuring systems	EN 60060-2	-
IEC 60212	2010	Standard conditions for use prior to and during the testing of solid electrical insulating materials	EN 60212	2011
IEC 61318	-	Live working - Conformity assessment applicable to tools, devices and equipment	EN 61318	-

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IEC 60855-1

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Live working – Insulating foam-filled tubes and solid rods –
Part 1: Tubes and rods of a circular cross-section**

**Travaux sous tension – Tubes isolants remplis de mousse et tiges isolantes
pleines –
Partie 1: Tubes et tiges de section circulaire**





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IEC 60855-1

Edition 2.0 2016-04

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Live working – Insulating foam-filled tubes and solid rods –
Part 1: Tubes and rods of a circular cross-section**

**Travaux sous tension – Tubes isolants remplis de mousse et tiges isolantes
pleines –
Partie 1: Tubes et tiges de section circulaire**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

LIVE WORKING – INSULATING FOAM-FILLED TUBES AND SOLID RODS –**Part 1: Tubes and rods of a circular cross-section**

FOREWORD

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International Standard IEC 60855-1 has been prepared by technical committee 78: Live working.

This second edition cancels and replaces the first edition published in 2009. This edition constitutes a technical revision.

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

- reintroduction of specific diameters of foam-filled tubes and solid rods of circular cross-section with its tolerances;
- reintroduction of the dielectric tests before and after exposure to humidity, as included in IEC 60855-1:2009;
- specification of an alternative test (after exposure to immersion) in case of foam-filled tubes and solid rods having completed the production phase;
- review of phase angle maximum specified values;

- review of the wet test procedure and the improvement of the associated test arrangement.

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

FDIS	Report on voting
78/1147/FDIS	78/1156/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60855 series, published under the general title *Live working – Insulating foam-filled tubes and solid rods*, can be found on the IEC website.

Terms defined in Clause 3 are given in *italic* print throughout this standard.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This part of IEC 60855 has been prepared in accordance with the requirements of IEC 61477.

The product covered by this part of IEC 60855 may have an impact on the environment during some or all stages of its life cycle. These impacts can range from slight to significant, be short-term or long-term, and occur at the global, regional or local level.

This part of IEC 60855 does not include requirements and test provisions for the manufacturers of the product, or recommendations to the users of the product for environmental improvement. However, all parties intervening in its design, manufacture, packaging, distribution, use, maintenance, repair, reuse, recovery and disposal are invited to take account of environmental considerations.

Technical committee 78 is considering the preparation of IEC 60855-2, which would cover foam-filled tubes and solid rods of cross-section other than circular.

LIVE WORKING – INSULATING FOAM-FILLED TUBES AND SOLID RODS –

Part 1: Tubes and rods of a circular cross-section

1 Scope

This part of IEC 60855 is applicable to *insulating foam-filled tubes* and solid rods, of a circular cross-section, made of synthetic materials with reinforced fibreglass and intended to be used in the manufacture and construction of tools, devices and equipment for carrying out live working on electrical systems operating at voltages above 1 kV.

Foam-filled tubes and solid rods of cross-section other than circular and/or made with material other than synthetic materials with reinforced fibreglass are not covered by this part of IEC 60855.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60060-2, *High-voltage test techniques – Part 2: Measuring systems*

IEC 60212:2010, *Standard conditions for use prior to and during the testing of solid electrical insulating materials*

IEC 61318, *Live working – Conformity assessment applicable to tools, devices and equipment*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61318 and the following apply.

3.1

foam

insulating material composed of closed cells, generally made of polyurethane, used to prevent the ingress and migration of moisture

Note 1 to entry: *Foam* is the inner support to manufacture the *foam*-filled tubes covered by this part of IEC 60855.

[SOURCE: IEC 60050-651:2014, 651-22-03, modified – The note has been changed to refer specifically to the *foam* filled tubes covered by this part of IEC 60855.]

3.2

insulating foam-filled tube

foam-filled tube

tube of uniform circular cross-section supplied in straight lengths, manufactured on a *foam* and constructed or formed of synthetic insulating rigid material with reinforced fibreglass

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