

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 –
Partie 1: Tubes et tiges de section circulaire**



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IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

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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 first edition of IEC 60855-1 cancels and replaces the first edition of IEC 60855 published in 1985, and constitutes a technical revision.

It includes the following significant technical changes from the previous IEC 60855:

- the clarification of the limitation of the standard to foam-filled tubes and solid rods of circular cross section;
- the review of the maximum tolerances on the outer diameter;
- the addition of a requirement for the individual packaging of the product;
- the addition of a requirement for the marking of the outer diameter on the product;

- the review of the requirements and test provisions (except for some mechanical test provisions) to permit any diameters of foam-filled tubes and solid rods:
 - the table of electrical tests specifying the limit of current is replaced by a formula;
- the introduction of a subclause for the electrical requirements (4.2) and the clarification of test results (temperature rise, 5.4.1 and 5.4.3.3);
- the dielectric test before exposure to humidity is replaced by a dielectric test under dry condition with different test set-up and different sanction;
- the application of the dye penetration test to the insulating solid rods;
- the introduction of a test for the durability of marking;
- the implementation of the outputs of IEC 61318, focusing on the classification of defects and practicability of test provisions.

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

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

FDIS	Report on voting
78/817/FDIS	78/828/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 of 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.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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 International Standard is intended to define essential characteristics necessary for the safe use of the tubes and rods, to determine appropriate requirements and to provide testing provisions.

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

The product covered by this standard 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 of short-term or long-term, and occur at the global, regional or local level.

This standard 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.

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 and intended to be used for the manufacture and construction of tools and equipment for carrying out live work on electrical systems operating at voltages above 1 kV.

Tubes and rods of cross-section other than circular are not covered by this part of IEC 60855.

2 Normative references

The following referenced documents are indispensable for the application 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 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*¹⁾

IEC 60212:1971, *Standard conditions for use prior to and during the testing of solid electrical insulating materials*

IEC 61318:2007, *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 insulating tube

long-shaped hollow piece, normally of circular cross section, which is constructed or formed from synthetic insulating and rigid material and is normally reinforced, the interior of which can be foam-filled

[Definition 2.4.6 of IEC 60743]

¹⁾ A third edition of IEC 60060-1 is in preparation.