IEC 60840

Edition 4.0 2011-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Power cables with extruded insulation and their accessories for rated voltages above 30 kV (U_m = 36 kV) up to 150 kV (U_m = 170 kV) – Test methods and requirements

Câbles d'énergie à isolation extrudée et leurs accessoires pour des tensions assignées supérieures à 30 kV (U_m = 36 kV) et jusqu'à 150 kV (U_m = 170 kV) – Méthodes et exigences d'essai

IEC 60840:2011

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

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Tél.: +41 22 919 02 11
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POWER CABLES WITH EXTRUDED INSULATION AND THEIR ACCESSORIES FOR RATED VOLTAGES ABOVE 30 kV (U_m = 36 kV) UP TO 150 kV (U_m = 170 kV) – TEST METHODS AND REQUIREMENTS

FOREWORD

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International Standard IEC 60840 has been prepared by IEC technical committee 20: Electric cables.

This fourth edition cancels and replaces the third edition, published in 2004, and constitutes a major technical revision.

The significant technical change with respect to the previous edition is as follows:

– introduction of a prequalification test procedure for cables with high electrical stresses and tested as a cable system including accessories.

NOTE For a more detailed history of events leading up to this fourth edition, see the Introduction.

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

FDIS	Report on voting
20/1267/FDIS	20/1277A/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.

The committee has decided that the contents of this publication will remain unchanged until the stability 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- withdrawn,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

The first edition of IEC 60840, published in 1988, dealt only with cables. Accessories were added to the second edition, published in February 1999, which separately covered test methods and test requirements for

a) cables alone,

b) cables together with accessories (a cable system).

Some countries then suggested that a better discrimination be made between systems, cables and accessories, particularly for the lower voltages of the scope, e.g. 45 kV. This was taken into account in the third edition and is retained in this revision, which gives the type approval requirements and the range of approvals for

a) cable systems,

b) cables alone,

c) accessories alone.

Manufacturers and users may choose the most appropriate option for type approval.

At its meeting in November 2004, TC 20 decided to prepare a further major revision of IEC 60840 and concluded that this edition should incorporate the recommendations for testing HV and EHV extruded cables that were under preparation by CIGRE study committee B1 WG B1.06. This work was made available as CIGRE technical brochure No. 303, before the meeting of TC 20 in October 2006. The brochure, entitled "Revision of qualification procedures for extruded (extra) high voltage a.c. underground cables", has therefore been considered by TC 20, and considerable parts implemented in this standard. Cables with high electrical stresses at the conductor screen and/or insulation screen are now required to undergo a prequalification test procedure (simplified compared to that in IEC 62067) as a cable system inclusive of accessories.

Additionally the following other significant changes to this standard have been introduced:

a) The clause numbering of this standard and IEC 62067 (which has been revised at the same time as this standard) has been coordinated to achieve as much commonality as possible to assist users who use both standards.

b) In the case of the sample test, the lightning impulse voltage test is no longer followed by a power frequency voltage test.

A list of relevant CIGRE references is given in the bibliography.