IEC TR 60092-370

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TECHNICAL REPORT

Electrical installations in ships –
Part 370: Guidance on the selection of cables for telecommunication and data transfer including radio-frequency cables

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FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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The main task of IEC technical committees is to prepare International Standards. However, a technical committee may propose the publication of a Technical Report when it has collected data of a different kind from that which is normally published as an International Standard, for example "state of the art".

IEC TR 60092-370, which is a Technical Report, has been prepared by subcommittee 18A: Electric cables for ships and mobile and fixed offshore units, of IEC technical committee 18: Electrical installations of ships and of mobile and fixed offshore units.

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 change with respect to the previous edition: 30 V AC was added in voltage rating for data cables.

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

Draft TR	Report on voting
18A/421/DTR	18A/422/RVDTR

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

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

A list of all parts of the IEC 60092 series, published under the general title *Electrical installations in ships*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://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.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

IEC 60092 (all parts) concerns electrical installations in sea-going ships, and fixed and mobile offshore units, incorporating good practice and co-ordinating as far as possible existing rules.

These standards form a code of practical interpretation and amplification of the requirements of the International Convention on Safety of Life at Sea, a guide for future regulations which may be prepared and a statement of practice for use by shipowners, shipbuilders, mobile and fixed offshore units owners and builders and appropriate organisations.

Cables selected for installation on board ships and on offshore installations are usually installed and are expected to operate in much harsher environments than equivalent land based types. The risk of mechanical abuse during installation, physical dislocation due to tension and bending allied with extremes of temperature are examples of the conditions to which these cables may be subject. If faults occur unlike onshore installations, trained experienced technicians may not always be readily available to affect a repair or replacement.

ELECTRICAL INSTALLATIONS IN SHIPS –

Part 370: Guidance on the selection of cables for telecommunication and data transfer including radio-frequency cables

1 Scope

This part of IEC 60092, which is a Technical Report, gives guidance and lays down the basic recommendations for the selection and installation of shipboard and offshore unit cables intended for electrical systems used in both essential and non-essential analogue or digital signal communication, transmission and control networks, including types suitable for high-frequency signals (i.e. signals with a frequency of more than 10^5 Hz). These cables are not suitable for direct connection to low impedance supplies. Where such cables are required, attention is drawn to IEC 60092-353.

Cables intended to have limited circuit integrity (fire resistance) when affected by fire are not covered by this document.

Fibre optical cables are not included.

Sub-sea or umbilical cables are not included.

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 60092-350, *Electrical installations in ships – Part 350: General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60092-350 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

4 Selection of cables

Cables with physical and electrical characteristics in accordance with IEC 60092 (all parts) are recommended for use in the marine environment.

Cables constructed in accordance with the following standards are acceptable provided that due consideration has been given to their use in a marine environment: IEC 60189-1, IEC 60189-2, IEC 60189-3, and IEC 60096-0-1.