Australian/New Zealand Standard™

Electrical installations in ships

Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables

STANDARDS Australia

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PAEREWA AOTEAROA

AS/NZS IEC 60092.360:2020

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The following are represented on Committee EL-003:

Australian Cablemakers Association
Australian Industry Group
Electrical Compliance Testing Association of Australia
Electrical Regulatory Authorities Council (Australia)
Engineers Australia
Institute of Electrical Inspectors (Australia)
Master Electricians (New Zealand)
National Electrical and Communications Association (Australia)
Queensland University of Technology
WorkSafe New Zealand

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First published as AS/NZS IEC 60092.360:2020.

Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-003, Electric Wires and Cables.

The objective of this Standard is to specify the requirements for electrical, mechanical and particular characteristics of insulating and sheathing materials intended for use in shipboard and fixed and mobile offshore unit power, control, instrumentation and telecommunication cables.

The different insulating and sheathing materials have been divided into three categories as listed in the following Table 1.

Table 1 — Categories and types of materials

Title	Compounds included
Cross-linked insulating compounds	EPR; HEPR; XLPE; S 95; HF 90
Cross-linked sheathing compounds	SE; SH; SHF 2
Thermoplastic sheathing compounds	SHF 1; ST 2

This Standard is identical with, and has been reproduced from, IEC 60092-360:2014, *Electrical installations in ships — Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables*.

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ELECTRICAL INSTALLATIONS IN SHIPS –

Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables

FOREWORD

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International Standard IEC 60092-360 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 first edition cancels and replaces IEC 60092-351 Ed. 3 published in 2004 and IEC 60092-359 Ed. 1 published in 1987, Amendment 1:1994 and Amendment 2:1992. This edition constitutes a technical revision.

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

a) rationalization of the number of insulating and sheathing materials. In particular polyvinyl chloride based insulation (PVC) and sheath (ST 1) have been removed. PVC sheath ST 2 is permitted even though it releases harmful fumes under fire conditions. SE and SH also release harmful fumes under fire conditions;

b) updated temperature limit for thermoplastic sheath in line with the operating temperature on the conductor;

c) new optional categories of sheathing materials with enhanced oil resistance, and resistance to drilling fluids;

d) removal of the air bomb test for EPR and HEPR insulating types;

e) there has been some redistribution of test methods between IEC 60092-350 and this new standard to remove all tests carried out on complete cables.

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

FDIS	Report on voting
18A/360/FDIS	18A/361/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 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 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.

ELECTRICAL INSTALLATIONS IN SHIPS –

Part 360: Insulating and sheathing materials for shipboard and offshore units, power, control, instrumentation and telecommunication cables

1 Scope

This part of IEC 60092 specifies the requirements for electrical, mechanical and particular characteristics of insulating and sheathing materials intended for use in shipboard and fixed and mobile offshore unit power, control, instrumentation and telecommunication cables.

The different insulating and sheathing materials have been divided into three categories as listed in the following Table 1.

Table 1 – Categories and types of materials

Title	Compounds included
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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 60092-350:—[1], *Electrical installations in ships – Part 350: General construction and test methods of power, control and instrumentation cables for shipboard and offshore applications*

IEC 60754-1, *Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content*

IEC 60754-2, *Test on gases evolved during combustion of materials from cables – Part 2: Determination of acidity (by pH measurement) and conductivity*

IEC 60684-2:2011, *Flexible insulating sleeving – Part 2: Methods of test*

IEC 60811-201, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 201: General tests – Measurement of insulation thickness*

IEC 60811-202:2012, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 202: General tests – Measurement of thickness of non-metallic sheath*

IEC 60811-401, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 401: Miscellaneous tests – Thermal ageing methods – Ageing in an air oven*

[1] To be published.