INTERNATIONAL STANDARD

IEC 60092-506

Second edition
2003-06

Electrical installations in ships –

Part 506: Special features – Ships carrying specific dangerous goods and materials hazardous only in bulk

Installations électriques à bord des navires –

Partie 506: Caractéristiques spéciales – Navires transportant des matières ou des marchandises spécifiques dangereuses, seulement en vrac

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICAL INSTALLATIONS IN SHIPS –

Part 506: Special features – Ships carrying specific dangerous goods and materials hazardous only in bulk

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The 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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6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60092-506 has been prepared by IEC technical committee 18: Electrical installations of ships and of mobile and fixed offshore units.

This second edition of IEC 60092-506 cancels and replaces the first edition published in 1996 and constitutes a technical revision.

The major changes with respect to the first edition are as follows:

a) the latest revisions of the IMO Conventions have been incorporated;
b) cognisance has been taken of the publication of IEC 60092-502, fifth edition, by giving comparisons with zones 1 and 2 hazardous areas and the incorporation of protection by overpressure.

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

FDIS	Report on voting
18/937/FDIS	18/940/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.

This standard is based on the following IMO documents:

– *International Convention for the Safety of Life at Sea (SOLAS)*
  - Chapter II-2, Regulation 19 Part G: Special requirements for ships carrying dangerous goods
  - Chapter VII: Carriage of dangerous goods
– *Code of safe practice for solid bulk cargoes (BC-Code)*
– *International Maritime Dangerous Goods Code (IMDG Code)*

The committee has decided that the contents of this publication will remain unchanged until 2009. At this date, the publication will be

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

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

INTRODUCTION

The Regulations and Codes of the International Maritime Organization (IMO) applicable to the carriage of dangerous goods and materials hazardous only in bulk are contained in several chapters and paragraphs spread over a number of publications. The conditions necessary for the stowage of particular types and sources of ignition etc. are laid down in these IMO publications. These conditions are updated from time to time as ships become more complex with advancing technology. This part of IEC 60092 summarizes the present IMO electrical requirements and gives in a single publication details of suitable measures regarding the explosion protection of electrical equipment, where such cargoes might cause risk of fire or explosion.

ELECTRICAL INSTALLATIONS IN SHIPS –

Part 506: Special features – Ships carrying specific dangerous goods and materials hazardous only in bulk

1 Scope

1.1 This part of IEC 60092 is applicable to the electrical installations on the following types of ships and cargo spaces:

a) ships and cargo spaces not specifically designed for the carriage of freight containers but intended for the carriage of dangerous goods in packaged form including goods in freight containers and portable tanks;

b) purpose-built container ships and cargo spaces intended for the carriage of dangerous goods in freight containers and portable tanks;

c) ro/ro ships and ro/ro cargo spaces intended for the carriage of dangerous goods;

d) ships and cargo spaces intended for the carriage of solid dangerous goods in bulk and materials hazardous only in bulk (MHB);

e) ships and cargo spaces intended for the carriage of dangerous goods, other than liquids and gases in bulk, in shipborne barges.

1.2 Dangerous goods, for which safety measures may be required with respect to the electrical equipment, are specified in the IMO documents listed in the Foreword and grouped into the following classes.

a) Dangerous goods in packaged form

- Class 1 Explosives, except goods in division 1.4, compatibility group S of the IMDG Code
- Class 2.1 All flammable gases, compressed, liquefied or dissolved under pressure
- Class 3 All flammable liquids having a flashpoint from –18 °C up to 23 °C (closed-cup test)
- Class 6.1 All toxic substances having a flashpoint below 23 °C (closed-cup test)
- Class 8 All corrosive liquids having a flashpoint 23 °C and below (closed-cup test)

b) Solid dangerous goods in bulk

- Class 4.1 Flammable solids
- Class 4.2 Substances liable to spontaneous combustion
- Class 4.3 Substances which, in contact with water, emit flammable gases
- Class 5.1 Oxidizing substances
- Class 9 Miscellaneous dangerous substances, that is, any other substance which experience has shown, or may show, to be of such a dangerous character that the provisions of this part will apply to it.

c) MHB Materials which, when carried in bulk, present sufficient hazards to require specific precautions

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 60079 (all parts), *Electrical apparatus for explosive gas atmospheres*

IEC 60092-101:1994, *Electrical installations in ships – Part 101: Definitions and general requirements*

IEC 60092-502:1999, *Electrical installations in ships – Part 502: Tankers – Special features*

IEC 60529:1989, *Degrees of protection provided by enclosures (IP code)*