

ICS 29.060.20

CCS K 13



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 9331-2008

Replacing GB 9331.1-1988

**Single and multicore non-radial field power cables with
extruded solid insulation for rated voltages 1kV and 3 kV**

船舶电气装置 额定电压1kV和3kV挤包绝缘非径向电场单芯和多芯电力电缆

(English Translation)

Issued on: June 30, 2008

Implemented on: April 1, 2009

Issued by: Standardization Administration of China

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Foreword

This standard is identical with IEC 60092-353 "Ship for rated voltages 1kV and 3kV extruded insulation single non-radial electric field Core and multi-core power cables, "(1995, in English), No. 2001, which amendments are included in the content of the text, and they are involved in article Paragraph margin identified by the vertical wire.

For ease of use, this standard made the following editorial changes.

--- Remove the IEC 60092-353 foreword;

--- With a decimal point instead of a comma as the decimal point, "";

--- IEC IEC 60092-350 referenced in the original terms of the corresponding error number, has according to GB/T 20637-2006 terms into numbers Line the appropriate changes;

--- Increase the informative Appendix A and Appendix B data to guide use.

Since the implementation of this standard replaces GB 9331.1-1988 "rated voltage 0.6/1kV ships Shipboard power cables and wires Provisions ", compared with the present standard GB 9331.1-1988 The main changes are as follows.

--- Standard name was changed to "Ship for rated voltages 1kV and 3kV extruded insulation non-radial electric field single and multi-core Power cable ";

--- Scope changed to "suitable for fixed installation rated voltage of 0.6/1 (1.2) kV and 1.8/3 (3.6) kV extruded insulation boat Power cable "(1988 version 1.1; this version 1.1);

--- Specifies the type of insulating material and a mixture of uses (edition 2.2 and 3.1);

- Insulation canceled mixture of natural SBR insulation (edition 2.2);
 - Specifies the type of material and the use of a mixture of the sheath (edition 2.3 and 3.1);
 - Provides cable marking shall "and have made Made rated voltage" (1988 version 9.11, this version 2.4.1);
 - Increasing the continuity and durability requirements of flags, and specifies the test methods (Excerpts 2.4.2, 2.4.3 and 4.1.2);
 - Specifies the use of metal shielding principle (edition 3.1 and 3.6);
 - Specifies the thickness (this version 3.5.2) in the sheath;
 - Canceled armor layer metal tape armor (version 1988 8.4.3.3);
 - Provides 1.8/3kV cable 5min voltage test voltage values (see Table 3);
 - Flame test and performance requirements referenced in IEC 60332-3 bunched Class A requirements (see IEC 60092-350 in 13.5) [1988 version 9.6.2; this edition 4.2.4f)];
 - Increase the smoke density test halogen-free cable insulation and jacketing materials [Excerpts 4.2.4g)];
 - Canceled watertight performance test requirements (1988 version 9.8);
 - Canceled the length of cable delivery, testing and acceptance, packaging requirements (Edition 1988 Chapter 10, Chapter 11 and Chapter 12);
 - Increase the informative appendix "rated voltage 450/750V cable alternative enhanced insulation thickness" (see the edition of Appendix A);
 - Canceled the 1988 version of Appendix A;
 - Increase the informative appendix "Product Name" (see the edition of Appendix B);
 - Canceled the 1988 version of Annex B;
 - Modify the product family code (1988 version 4.1.1, this version of Appendix B.1.1);
 - Canceled conductor Code (1988 version 4.1.2);
 - Modify the insulation series code (1988 version 4.1.3, this version of Appendix B.1.2);
 - Modify jacket series code (1988 version 4.1.4, this version of Appendix B.1.3);
 - Modify the combustion characteristics symbol (version 4.1.5 1988, edition of Appendix B.1.4);
- GB/T 9331-2008/IEC 60092-353:1995
- Modify the product representation (version 4.2.1 1988, edition of B.2);

--- Increase the informative appendix "The Standard Model and JB/T 8140.1 ~ 8140.2 and 8140.4-1995 Model represent Collation method "(see the edition of Appendix C);

--- Remove Appendix G "galvanized steel plating adhesion test method", K "watertight test" appendix;

--- Mechanical and physical properties of the finished cable and associated test methods for cable materials not given in detail (version 1988 in the appendix Appendix C, Appendix D, Appendix E, Appendix F, Appendix H, Appendix I, Appendix J, this version 4.2.4).

The Standard Appendix A, Appendix B and Appendix C are informative appendix.

The standard proposed by China Electrical Equipment Industrial Association.

This standard by the national wire and cable Standardization Technical Committee (SAC/TC213) centralized.

1.1 Scope and purpose

This standard applies to fixed installation rated voltage of 0.6/1 (1.2) kV and 1.8/3 (3.6) kV (see 2.1) extruded insulation marine power electricity cable.

NOTE: If necessary, fire resistant (to maintain the integrity of the line under certain conditions) the terms of the cable has been developed.

Structure of the various types of cable requirements of section 3.1. Unless otherwise specified in this standard, the structure should meet the requirements and test methods GB/T 20637-2006 requirements.

The purpose of this standard.

--- Designed to press GB/T 13029.1-2003 requirements when laying, safety and reliability are guaranteed cable energy standardization;

--- Directly or indirectly, the safety provisions of the laying, production requirements and characteristics of this type of cable;

--- Specifies the test methods to check compliance with these requirements.

1.2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 156-2003 standard voltage (IEC 60038. 1983, NEQ) GB/T 2951-1997 (all parts) cable insulation and sheathing materials test methods (idt IEC 60811) GB/T 13029.1-2003

Electrical installations in ships low-voltage power cable systems selection and installation (IEC 60092-352.

1997, IDT)

Test equipment. GB/T 17651.1-1998 of cables burning under defined conditions - Part 1 smoke density determination (Idt IEC 61034-1:1997) GB/T 17651.2-1998 of cables burning under defined conditions Measurement of smoke density - Part 2. Test procedure and requirements (Idt IEC 61034-2:1997) GB/T 19216.11-2003 in Circuit integrity under fire conditions - electric cables - Part 11. Apparatus - Fire Temperature not lower than 750 °C \u200b\u200bfor a separate fire (IEC 60331-11:1999, IDT) GB/T 19216.21-2003 in Part 21 Circuit integrity under fire conditions - cable or fiber optic cable. To test procedure and Seek rated voltage 0.6/1kV and below cables (IEC 60331-21:1999, IDT) GB/T 19666-2005 retardant and fire-resistant wire and cable General GB/T 20637-2006 Electrical installations in ships shipboard power cables - General construction and test requirements (IEC 60092-350.

2001, IDT)

IEC 60092-351:2004 Electrical installations in ships and marine oil platforms with power, control, instrumentation, communication and data cables must Insulating material IEC 60092-359:1999 Electrical installations in ships shipboard power and telecommunication cables with sheathing material

1.3 Definitions

Definitions GB/T 20637-2006 apply to this standard.

GB/T 9331-2008/IEC 60092-353:1995