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Ships and marine technology — Maritime safety — Gas inflation systems for inflatable life-saving appliances

Navires et technologie maritime — Sécurité maritime — Systèmes de gonflage au gaz pour dispositifs de sauvetage gonflables

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 1, *Maritime safety*.

This second edition cancels and replaces the first edition (ISO 15738:2002), which has been technically revised.

The main changes compared to the previous edition are as follows:

— addition of the salt water exposure test for cylinders;

— modifications of the exposure period of the salt water exposure test according to ISO 9227:2017;

— restructuring of clauses of gas cylinder valves and operating heads;

— changes from the absolute values to the relative values in the test pressure of the pressure tests;

— modifications of the test pull loads of operating heads considering the friction in containers of liferafts; and

— additions of the torque test, the valve thread strength test, the plug test, and the valve pull test for necessary valves

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

A gas inflation system for inflatable life-saving appliances is a vital system to inflate life-saving appliances appropriately.

This document addresses the performance and testing of the gas inflation systems for inflatable life-saving appliances including those specified in the 1974 Safety of Life at Sea Convention (SOLAS 74), as amended, and the IMO International Life-Saving Appliance Code (LSA Code), adopted by IMO Resolution MSC.48(66), as amended. In this sense, it supplements the International Maritime Organization (IMO) requirements for inflatable lifesaving appliances.

Ships and marine technology — Maritime safety — Gas inflation systems for inflatable life-saving appliances

1 Scope

This document specifies performance and testing requirements for gas inflation systems for inflatable life-saving appliances.

NOTE It is suitable for inflatable life-saving appliances complying with the requirements of the 1974 Safety of Life at Sea Convention (SOLAS 74), as amended, and the IMO International Life-Saving Appliance Code (LSA Code) as amended, adopted by IMO Resolution MSC.48(66).

This document applies to gas inflation systems which consist of an inflation gas, a gas cylinder valve, a gas cylinder operating head, high-pressure hoses, and pressure-relief/transfer, inflate/deflate and non-return valves. This document addresses only systems in which compressed inflation gas in cylinders is used as the inflation medium.

National requirements for qualification, use, and testing of gas cylinders vary widely. Such requirements for gas cylinders are not addressed in this document, but it is presupposed that gas cylinders meet the requirements of the applicable regulatory bodies. The systems addressed in this document are of the type generally used in life-saving appliances, such as survival craft, marine evacuation systems, and means of rescue. Systems used in personal life-saving appliances, such as inflatable lifejackets, are addressed in ISO 12402-7.

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.

ISO 9227:2017, *Corrosion tests in artificial atmospheres — Salt spray tests*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
approved gas cylinder
gas cylinder which has been approved by a competent authority as complying with an appropriate recognized national or international standard

3.2
gas cylinder valve
closure on a gas cylinder designed to control the transfer of the inflation gas from the cylinder to the inflatable compartments

3.3
siphon tube
device or means to effect the transfer of the liquid phase from the gas cylinder before the gas phase