

TECHNICAL REPORT

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Shipbuilding and marine structures — Inflatable liferafts — Materials

*Construction navale et structures maritimes — Radeaux pneumatiques
de sauvetage — Matériaux*



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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 main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/TR 6065, which is a Technical Report of type 1, was prepared by Technical Committee ISO/TC 8, *Shipbuilding and marine structures*, Sub-Committee SC 9, *Lifesaving equipment*.

The reasons which led to the decision to publish this document in the form of a technical report type 1 are explained in the Introduction.

Annex A forms an integral part of this Technical Report.

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Introduction

It was initially intended to publish an International Standard on this subject: ISO/DIS 6065 was submitted for combined voting to the members of Technical Committee ISO/TC 8 and to all ISO member bodies, in 1989. This draft did not gain the necessary support for publication as an International Standard.

Sub-Committee ISO/TC 8/SC 9, *Lifesaving equipment*, during its meeting held in Tokyo in October 1990, studied the member bodies' comments and found that it would be impossible to achieve substantial support in view of the fact that many countries differ in the requirements for the materials of inflatable liferafts (tensile strength, tear strength, coating adhesion, etc.) stipulated in national rules or regulations.

It was then decided to stop the work and propose drawing up a Technical Report, of type 1, for the benefit of those member bodies who wish to refer to the result of the work.

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Shipbuilding and marine structures — Inflatable liferafts — Materials

1 Scope

This Technical Report specifies the fabrics and test procedures of fabrics for inflatable liferafts required by Regulation 30 of Section I, Regulations 38 and 39 of Section IV, Part C, Chapter III, and Recommendation on testing of lifesaving appliances in 1983 Amendments to the International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Technical Report. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Technical Report are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1421:1977, *Fabrics coated with rubber or plastics — Determination of breaking strength and elongation at break*

ISO 1817:1985, *Rubber, vulcanized — Determination of the effect of liquids*

ISO 2286:1986, *Rubber- or plastics-coated fabrics — Determination of roll characteristics*

ISO 2411:1991, *Rubber- or plastics-coated fabrics — Determination of coating adhesion*

ISO 3011:1981, *Rubber or plastics coated fabrics — Determination of resistance to ozone cracking under static conditions*

ISO 4674:1977, *Fabrics coated with rubber or plastics — Determination of tear resistance*

ISO 4675:1990, *Rubber- or plastics-coated fabrics — Low-temperature bend test*

1983 Amendments to the International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974), Chapter III, Part C, Section I, Regulation 30, Section IV, Regulations 38 and 39, and Recommendation.

3 Fabrics

3.1 General

The fabrics used in the construction of inflatable liferafts shall be

- waterproof (fabrics used for the inner lining of the canopy may simply be water-repellent);
- able to withstand a tensile stress equivalent to at least four times the hoop stress which will be induced in the gas-inflated tubes at the opening pressure of the safety valves.

3.2 Base fabric

The base fabric shall be inherently rot-proof.

3.3 Coating material

Materials shall be natural or synthetic rubber or other suitable polymer proofed to meet the requirements given in table 1. They should satisfy the requirements of Regulation 30 of Section I, Regulations 38 and 39, Section IV, Part C, Chapter III, and Recommendation on testing of lifesaving appliances of 1983 Amendments to the International Convention for the Safety of Life at Sea, 1974.

3.4 Adhesive

Adhesives used in the manufacture of liferafts shall be compatible with the material used. Where a test method requires the use of an adhesive, the method of preparation, the adhesive and its method of application shall be agreed between the liferaft manufacturer and the rubber proofer and shall be the