INTERNATIONAL MARITIME ORGANIZATION

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Agenda item 10

IMO

RESOLUTION A.689(17)
adopted on 6 November 1991

TESTING OF LIFE-SAVING APPLIANCES

THE ASSEMBLY,

RECALLING Article 15(j) of the Convention on the International Maritime Organization concerning the functions of the Assembly in relation to regulations and guidelines concerning maritime safety,

RECALLING ALSO resolution A.521(13) - Recommendation on Testing of Life-saving Appliances,

CONSIDERING resolution MSC.6(48) whereby the Maritime Safety Committee adopted a revised chapter III of the International Convention for the Safety of Life at Sea (SOLAS), 1974,

BEARING IN MIND that life-saving appliances should be adequately tested to ensure that they meet the requirements of chapter III of the 1974 SOLAS Convention, as amended,

DESIRING to facilitate reciprocal recognition by Contracting Governments to SOLAS 1974 of approved life-saving appliances by ensuring that they meet established safety standards and have demonstrated their ability to function satisfactorily by passing appropriate tests,

HAVING CONSIDERED the recommendation made by the Maritime Safety Committee at its fifty-ninth session,

1. ADOPTS the Recommendation on Testing of Life-Saving Appliances, set out in the annex to the present resolution;

2. RECOMMENDS Governments to ensure that life-saving appliances are subjected to the tests recommended in the annex to this resolution or to such tests as the Administration is satisfied are substantially equivalent to those recommended;

3. AUTHORIZES the Maritime Safety Committee to keep this Recommendation under review and to adopt, when appropriate, amendments thereto;

4. REVOKES resolution A.521(13).

ANNEX

RECOMMENDATION ON TESTING OF LIFE-SAVING APPLIANCES

CONTENTS

NOTE: 1. Part I, paragraphs 1.1 through 1.9, are the only paragraphs that pertain to Lifebuoys. All other paragraphs in Parts I and II do not pertain to Lifebuoy testing and are not shown.

2. The A.17/Res.689 text as been reformatted to 12 point Times New Roman without reference to page numbers from the original document.

INTRODUCTION

The tests in this Recommendation have been developed on the basis of the requirements of chapter III of the International Convention for the Safety of Life at Sea. 1974, as amended.

Life-saving appliances which are tested on or after 1 May 1992 should meet the applicable requirements of this Recommendation or substantially equivalent ones, as may be specified by the Administration.

Life-saving appliances which are tested before 1 May 1992 may meet the applicable requirements of the Recommendation on Testing of Life-saving Appliances adopted by resolution A.521(13) or substantially equivalent ones, as may be specified by the Administration.

Tests for requirements referred to in chapter III, as amended, which are not included in this Recommendation, should be to the satisfaction of the Administration.

It should be verified that life-saving appliances not covered by tests referred to in this Recommendation meet the applicable requirements of regulations 30 to 50 of chapter III of the International Convention for the Safety of Life at Sea, 1974, as amended.

PART 1

PROTOTYPE TESTS FOR LIFE-SAVING APPLIANCES

LIFEBUOYS

1.1 Lifebuoys specification

It should be established by measurement, weighing and inspection that:

.1 the lifebuoy has an outer diameter of not more than 800 mm and an inner diameter of not less than 400 mm;

.2 the lifebuoy has a mass of not less than 2.5 kg;

.3 if it is intended to operate the quick-release arrangement provided for a self-activated smoke signal and self-igniting light, the lifebuoy has a mass sufficient to operate such quick-release arrangement or 4 kg, whichever is greater (see 1.8); and

.4 the lifebuoy is fitted with a grabline of not less than 9.5 mm in diameter and of not less than four times the outside diameter of the body of the buoy in length and secured in four equal loops.

1.2 Temperature cycling test

The following test should be carried out on two lifebuoys.

1.2.1 The lifebuoys should be alternately subjected to surrounding temperatures of -30ºC and +65ºC. These alternating cycles need not follow immediately after each other and the following procedure, repeated for a total of 10 cycles, is acceptable:

.1 an 8 h cycle at +65ºC to be completed in one day; and

.2 the specimens removed from the warm chamber that same day and left exposed under ordinary room conditions until the next day;

.3 an 8 h cycle at -30ºC to be completed the next day; and

.4 the specimens removed from the cold chamber that same day and left exposed under ordinary room conditions until the next day.

1.2.2 The lifebuoys should show no sign of loss of rigidity under high temperatures and, after the tests, should show no sign of damage such as shrinking, cracking, swelling, dissolution or change of mechanical qualities.

1.3 Drop test

The two lifebuoys should be dropped into the water from the height at which they are intended to be stowed on ships in their lightest seagoing condition, or 30 m, whichever is the greater, without suffering damage. In addition, one lifebuoy should be dropped three times from a height of 2 m on to a concrete floor.

1.4 Test for oil resistance

One of the lifebuoys should be immersed horizontally for a period of 24 h under a 100 mm head of diesel oil at normal room temperature. After this test the lifebuoy should show no sign of damage such as shrinking, cracking, swelling, dissolution or change of mechanical qualities.

1.5 Fire test

The other lifebuoy should be subjected to a fire test. A test pan 30 x 35 x 6 cm should be placed in an essentially draught-free area. Water should be put in the bottom of the test pan to a depth of 1 cm followed by enough petrol to make a minimum total depth of 4 cm. The petrol should then be ignited and allowed to burn freely for 30 s. The lifebuoy should then be moved through flames in an upright, forward, free-hanging position, with the bottom of the lifebuoy 25 cm above the top edge of the test pan so that the duration of exposure to the flames is 2 s. The lifebuoy should not sustain burning or

continue melting after being removed from the flares.

1.6 Flotation test

The two lifebuoys subjected to the above tests should be floated in fresh water with not less than 14.5 kg of iron suspended from each of them and should remain floating for a period of 24 h.

1.7 Strength test

A lifebuoy body should be suspended by a 50 mm wide strap. A similar strap should be passed around the opposite side of the body with a 90 kg mass suspended from it. After 30 min, the lifebuoy body should be examined. There should be no breaks, cracks or permanent deformation.

1.8 Test for operation with a light and smoke signal

A lifebuoy intended for quick release with a light and smoke signal should be given this test. The lifebuoy should be arranged in a manner simulating its installation on a ship for release from the navigating bridge. A lifebuoy light and smoke signal should be attached to the lifebuoy in the manner recommended by the manufacturers. The lifebuoy should be released and should activate both the light and the smoke signal.

1.9 Lifebuoy self-activating smoke signal tests

1.9.1 Nine self-activating smoke signals should be subjected to temperature cycling as prescribed in 1.2.1 and, after the tests, should show no sign of damage such as shrinking, cracking, swelling, dissolution or change of mechanical qualities..

1.9.2 The first three smoke signals should be subjected to a temperature of -30ºC for at least 48 hours, then taken from this stowage temperature and be activated and operated in seawater at a temperature of -1ºC and the next three smoke signals should be subjected to a temperature of +65ºC for at least 48 hours then taken from this stowage temperature and be operated in seawater at a temperature of +30ºC. After the smoke signals have been emitting smoke for seven minutes, the smoke-emitting ends of the smoke signals should be immersed to a depth of 25 mm for 10 seconds. On being released the smoke signals should continue operating for a total period of smoke emission of not less than 15 minutes. The signals should not ignite explosively or in a manner dangerous to persons close by.

1.9.3 The last three smoke signals taken from ordinary room conditions and attached by a line to a lifebuoy should undergo the drop test into water prescribed in 1.3. The lifebuoy should be dropped from a quick-release fitting. The smoke signals should not be damaged, and should function for a period of at least 15 min.

1.9.4 Smoke signals should also be subjected to the tests and examinations prescribed in

4.2.4, 4.3.1, 4.3.3, 4.4.2, 4.5.5, 4.5.6, 4.8.2 and 4.8.3.

1.9.5 A smoke signal should be tested in waves at least 300 mm high. The signal should function effectively and for not less than 15 minutes.

[Note the remaining Sections, 2 through 6.2.7 (pages 8 through 65) are not shown.]