

Uniform Shipping Laws Code 2008

Section 10: Life-Saving Appliances (CTH, NSW, NT, TAS, VIC & WA)

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The official version is that last published by the Australian Government Publishing Service,
Canberra, copies of which can be obtained from the National Marine Safety Committee.

SECTION 10

Life-Saving Appliances

Vessels must comply with the [National Standard for Commercial Vessels \(NSCV\) Part C Design and Construction, Section 7 Equipment, Subsection 7A Safety Equipment](#), with the following specific provisions to apply:

- USL Code Section 10, Part 3 (as amended)
- USL Code Section 10, Appendix N (as amended)
- USL Code Section 10, Appendix O (as amended)
- USL Code Section 10, Appendix R (as amended)
- USL Code Section 10, Appendix V (as amended)

With the following notes added to Clause 1.1, *Scope*, of the referenced NSCV Part C Section 7 Subsection 7A:

NOTES:

1. Part C Section 7 Subsection 7A of the NSCV includes the requirements to cover both:
 - Section 10, *Life Saving Appliances*, and
 - those parts of Section 13 which also impose safety equipment obligations.
2. Where the referenced NSCV Part C Section 7 Subsection 7A refers to the NSCV Part C Section 6, this is taken to be a reference to Section 10 Appendix N of the USL Code.

(Amendment dated 1 October 2008)

PART 3-SCALES OF LIFE-SAVING APPLIANCES

The requirements for life-saving appliances are replaced by those requirements contained in the [NSCV Part C Section 7 Subsection 7A](#), Chapter 4 (which in part replaces Section 10 of the USL Code).

(Amendment dated 1 October 2008)

APPENDIX N

INTERNAL BUOYANCY IN SMALL VESSELS

1. The material shall have the following properties:
 - 1.1 Density – 32kg/m³ minimum
 - 1.2 Compressive Strength (at 10 per cent strain) - 235 kPa minimum
 - 1.3 Closed Cell Content - 92 per cent minimum
 - 1.4 Water Uptake – 400 cc/m³ maximum
 - 1.5 Dimensional Stability-(original linear dimension = 100)
 - 1.5.1 Temperature Cycling - -15°C to + 70°C
 - 1.5.2 14 days under 100 mm head of kerosene, toluene (conforming to ASTM/D841/1977), xylene (conforming to ASTM/D843/1977) or distillate (90 minimum).
 - 1.6 Self-extinguishing to A.S.T.M. D-1692/68 - Burning rate maximum 10 cm per minute.
 - 1.7 High resistance to kerosene, petrol, distillate and oils.
2. Tests to confirm the above properties shall be carried out as described in Appendix 0.
3. The required quantity of material in cubic metres shall be calculated by:
 - 3.1 Wooden Vessels

$$\frac{1.2 \times F}{1000 - D}$$
 - 3.2 Other Vessels

$$\frac{1.2 (MK + F)}{1000 - D}$$

where

M = dry mass of hull material in kgs

$K = \frac{\text{density of hull material} - \text{density of fresh water}}{\text{density of hull material}}$

F = total dry mass of fittings and equipment, and machinery installation if fitted, in kgs

D = density of buoyancy material in kg/m³

Note:

Unless otherwise determined by the Authority K may be taken as:

Aluminium 0.62

G.R.P. 0.375

Steel 0.87
4. The material shall not be sprayed in, in situ, but shall be manufactured in slab form under controlled conditions, cut into the required size and fitted into the vessel.
5. Before fitting into position, each slab of the material shall be coated on all surfaces with an approved fire retardant paint or fire retardant resin.
6. The material shall be fitted into the vessel so that:

- 6.1 the centre of mass of the material is above the flooded centre of gravity of the vessel;
- 6.2 it is protected from physical damage;
- 6.3 it is protected from direct sunlight;
- 6.4 it is at least 0.5 metres away from any dry exhaust line or other source of heat;
- 6.5 it is secured to the satisfaction of the Surveyor.

APPENDIX O

TESTING OF FOAM BUOYANCY MATERIALS FOR LIFE-SAVING APPLIANCES

1. General

1.1 The tests detailed in 2, 3 and 4 of this appendix are to be carried out on foam buoyancy materials intended for use in lifeboats, rigid rescue boats, rigid liferafts, buoyant appliances, lifejackets and lifebuoys.

1.1.1 The tests need not be carried out on foam buoyancy material intended for use in SOLAS lifeboats, rescue boats, liferafts, lifejackets or lifebuoys where the prototype articles have satisfactorily completed the tests required by Marine Orders Part 25.

(Amendment dated 15 August 1995)

1.2 A foam buoyancy material shall be used solely in connection with the buoyancy of those types of life-saving appliances for which the material has been satisfactorily tested.

1.3 Other inherent properties, not mentioned in this appendix, may render a material unsuitable for use in certain appliances or for particular applications. For example, a material acceptable for use as buoyancy material in lifeboats may be too brittle for other applications, e.g. in lifejackets. The suitability of a material will also depend on the way in which it is to be used in relation to the appliance under consideration.

1.4 Except for the fire resistance test and bonding test and for those tests carried out on completed lifebuoys the tests are to be carried out on specimens (without skin or coverings) measuring initially 150 mm x 150 mm x 150 mm. However, where the standard thickness of the material as manufactured is less than 150 mm, sufficient layers of material should be bonded together with an adhesive compatible with the foam and any materials used in the tests to obtain the required test thickness.

1.5 The density, in kg/m³ of each specimen is to be determined before test and included in the test report.

1.6 The tests are to be carried out by an independent testing authority, acceptable to the Authority and their report forwarded for consideration to the Authority. Wherever possible details of the precise way in which the material is intended to be used in the appliance should be included with the report.

2. Lifeboats, rigid liferafts, buoyant apparatus

2.1 The following tests should be carried out on specimens of buoyancy materials intended for use in lifebuoys, rigid liferafts and buoyant apparatus and appliances.

2.1.1 Test for Stability under Temperature Cycling

(a) Six specimens are to be alternately submitted to surrounding air temperatures of $-40^{\circ} \pm 5^{\circ}\text{C}$ and $66^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for periods of 8 hours each. Ten complete cycles of cooling and warming are to be carried out.

(b) For the convenience of the testing authority, these alternating cycles need not follow immediately after each other and the following procedure is acceptable:

(i) An 8 hour cycle at $66^{\circ}\text{C} \pm 1^{\circ}\text{C}$ to be completed in one day.

(ii) The specimens removed from the warming chamber that same day and left exposed under ordinary room conditions until the next day.

(iii) An 8 hour cycle at $-40^{\circ} \pm 1^{\circ}\text{C}$ to be completed the next day.

(iv) The specimens removed from the cold chamber that same day and left exposed under ordinary room conditions until the next day.

(v) Repeated for ten cycles.

(c) The dimensions of the specimens are to be recorded at the beginning and end of the ten cycle period. At the end of the tests the specimens are to be carefully examined externally for signs of cracking, and two of the specimens are to be cut open and examined for change of internal structure.

(d) The remaining four specimens are to be submitted to further tests as follows:

(i) two specimens shall undergo the tests for water absorption; and

(ii) two specimens shall undergo the test for oil resistance with toluene (conforming to ASTM/D841/1977) or xylene (conforming to ASTM/D843/1977) and shall then undergo the tests for water absorption.

(e) The test report shall include a reference to any loss of rigidity under high temperature.

2.1.2 Test for Petrol and Oil Resistance

(a) Ten additional specimens not previously subjected to any other tests are to be tested as follows:

(i) two specimens are to be immersed for a period of 14 days under a 100 mm head of Crude Oil;

(ii) two specimens are to be immersed for a period of 14 days under a 100 mm head of Fuel Oil;

(iii) two specimens are to be immersed for a period of 14 days under a 100 mm head of Diesel Oil;

(iv) two specimens are to be immersed for a period of 14 days under a 100mm head of toluene (conforming to ASTM/D841/1977) or xylene (conforming to ASTM/ D843/1977);

(v) two specimens are to be immersed for a period of 14 days under a 100 mm head of Kerosene.

(b) The tests shall be carried out at normal room temperature (approximately 20°C).

(c) The dimensions of the specimens are to be recorded at the beginning and end of these tests.

(d) The results should state the mass in kilograms which each specimen could support out of the liquid after 1, 7 and 14 days immersion.

(e) The specimens should be examined on completion of the tests for evidence of attack by solvents and a report included in the final test report.

(f) Two additional specimens which have already been subjected to the temperature cycling tests are to be tested against toluene (conforming to ASTM/D841/1977) or xylene (conforming to ASTM/D843/1977) and afterwards subjected to the water absorption test.

2.1.3 Test for Water Absorption

(a) The tests are to be carried out in fresh water and the specimens are to be immersed for a period of 14 days under a 1.2 m head of water.

(b) The following tests are required:

(i) On two specimens not previously subjected to any other tests;

(ii) On two specimens which have been subjected to the temperature cycling test.

(iii) On two specimens which have been subjected to the temperature cycling test followed by the toluene or xylene test.

(c) The dimensions of the specimens are to be recorded at the beginning and end of these tests.

(d) The results should state the mass in kilograms which each specimen could support out of the water after 1, 7 and 14 days immersion (the selection of a test method suitable for obtaining this form of result directly or indirectly is left to the discretion of the testing authority).

2.1.4 Fire Resistance

(a) Tests should be carried out in accordance with American Standard for Testing Materials (ASTM) D 1692/68.

2.1.5 Combustion Products

(a) The test report shall include details of any gases given off on combustion, and the concentration of such gases.

2.1.6 Chemical and Physical Effects

(a) Manufacturers shall guarantee that the material does not contain any elements which would have an adverse effect on, or be adversely affected by, wood, steel, aluminium alloy, polyester/epoxide glass fibre laminates, paints or varnishes. Additionally, manufacturers shall confirm that the material contains no water soluble elements which on leaching out would adversely affect the above materials.

2.1.7 Bonding Tests

- (a) The following adhesives shall be used to bond specimens of the buoyancy material 25 mm x 50 mm x 50 mm to form cubes 50 mm x 50 mm x 50 mm. Three such cubes shall be formed for each adhesive to be used in the test:
 - (i) an epoxy-resin adhesive,
 - (ii) a synthetic rubber adhesive, solvent based.
 - (iii) any adhesive recommended by the manufacturer.
- (b) When the adhesive has cured, the test specimens are to be cut open perpendicular to glue line and the buoyancy material examined for any deterioration due to the adhesive.

3. Lifejackets

- 3.1 For buoyancy material intended for use in lifejackets the requirements of the tests in 2 are to be applied, except that:
 - 3.1.1 In 2.1.1 (d) the reference to 'toluene (conforming to ASTM/D841/1977) or xylene (conforming to ASTM/ D843/1977)' should be to 'diesel oil' and 'fuel oil';
 - 3.1.2 In 2.1.2 (a) (ii) and (iii) the test shall be for 24 hours and not 14 days; and
 - 3.1.3 In 2.1.3 (a) the tests shall be for 7 days and not 14 days.
- 3.2 Manufacturers of lifejackets shall guarantee to the Authority that the buoyancy material of the lifejacket is compatible with the covering material.

4. Lifebuoys

(Amendment dated 15 August 1995)

APPENDIX R

COASTAL LIFEJACKETS AND LIFEJACKET LIGHTS AND WHISTLES

The requirements for life-saving appliances are replaced by those requirements contained in the [NSCV Part C Section 7 Subsection 7A](#), Chapter 2, Clause 2.12, including Table 1 and the Annexes and standards mentioned therein (which in part replaces Section 10 Parts 1, 2 and 4 of the USL Code).

(Amendment dated 1 October 2008)

APPENDIX V

PYROTECHNIC DISTRESS SIGNALS

The requirements for life-saving appliances are replaced by those requirements contained in the [NSCV Part C Section 7 Subsection 7A](#), Chapter 2, Clause 2.12, including Table 1 and the Annexes and standards mentioned therein (which in part replaces Section 10 Parts 1, 2 and 4 of the USL Code).

(Amendment dated 1 October 2008)