

Australian Standard[®]

INFLATABLE BOATS

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Association of Australian Port and Marine Authorities
Australian Boating Industry Association Ltd
Australian British Trade Association
Australian Consumers Association
Australian Federation of Consumer Organisations Inc.
Confederation of Australian Industry
Department of Consumer Affairs, N.S.W.
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PREFACE

This standard was prepared by the Association's Committee on Inflatable Pleasure Boats. It is technically identical with ISO 6185—1982, Shipbuilding and Marine Structures—Inflatable Boats—Boats Made of Reinforced Elastomers or Plastomers, with the exception of the formulas used in Clauses 6.2.3 and 6.2.9. These formulas have been corrected to overcome an error in the constant used in the International standard.

The International standard was adopted as a result of the need to set basic safety standards for inflatable boats coupled with the fact that the vast majority of inflatable boats used in Australia are imported. It would have been preferable if the International standard had included more stringent requirements, and Australia attempted to make a number of changes to the standard during its preparation. These were, however, not adopted by the ISO committee and, as a result, Australia voted negatively on the final document.

Notwithstanding the above, the standard provides a means of differentiating between inflatable boats suitable for use on public waterways and other inflatable devices which should not be used outside of swimming pools and similar controlled situations.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
INFLATABLE BOATS

1 SCOPE. This standard specifies requirements for the design, materials and construction of inflatable boats.

2 APPLICATION. This standard is applicable to all inflatable boats intended for use on public waterways. The boat may be propelled by sails, engine or manual means.

This standard is not applicable to inflatable life rafts.

3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

ISO 1817	Vulcanized Rubbers—Resistance to Liquids—Methods of Test
ISO 2411	Fabrics Coated with Rubber or Plastics—Determination of the Coating Adhesion
ISO 3011	Rubber or Plastics Coated Fabrics—Determination of Resistance to Ozone Cracking Under Static Conditions
ISO 4646	Rubber or Plastics Coated Fabrics— Low Temperature Impact Test
ISO 4674	Fabrics Coated with Rubber or Plastics—Determination of Tear Resistance.

4 DEFINITION. For the purposes of this standard, the following definition applies:

Inflatable boat—a vessel which achieves its intended shape and buoyancy through the medium of inflation.

NOTE: An example of inflatable boat is shown in Fig. 1.

5 GENERAL REQUIREMENTS.

5.1 Maximum load capacity. The maximum load which may be carried by the boat shall be rated, in kilograms, at not greater than 0.75 of the inflated buoyancy chamber volume, at the design working pressure (see Clause 5.4) calculated at a proportion of 1000 kg/m³ of chamber volume, less the mass of the boat.

Example of calculation:

$$m = (0.75 \times V \times 1000) - M$$

where

m = maximum load capacity (total mass on board including persons, equipment, motor and fuel), in kilograms

V = volume of the inflated buoyancy chambers, in cubic metres

M = total mass of the boat as supplied by the manufacturer (inclusive of all equipment supplied with the boat, hull, fittings and similar items but without engine and fuel), in kilograms.

NOTE: In the calculation of the maximum load capacity, account should be taken of the keels, thwarts and any similar inflatable compartments complying with the following three requirements:

- (a) They provide useful buoyancy for the boat in flooded conditions.

(b) They are permanently attached to the hull and inflated independently of it.

(c) Their construction and the material used are in compliance with the requirements of this standard.

5.2 Passenger accommodation—passengers carried.

The number of passengers carried shall be calculated as a function of buoyancy and accommodation. As far as buoyancy is concerned, allowance shall be made for a mass of 75 kg per passenger.

As far as accommodation is concerned, sufficient space shall be provided for each passenger without taking into account the area available on the floats but taking account of the area included under the spray hood. For adults, a minimum area of 0.3 m² shall be provided per passenger.

The maximum number of passengers carried shall be at most equal to the smaller of the following two figures:

- (a) The quotient of the internal available area, in square meters, divided by 0.3. The value shall always be rounded down to the nearest integer but, if the first decimal place is greater than 5, one child shall be added to the number (N) of adults thus determined; the number of passengers will then become N + 1 child. Children over 10 years are considered as adults.
- (b) The quotient of the maximum load capacity, in kilograms (less the maximum recommended mass of engine and fuel), divided by 75.

NOTES:

- For the calculation of the internal available area, account is to be taken of the internal surface defined by a plane tangent to the boat side and perpendicular to the floor.
- According to service requirements, the number of passengers may be reduced to suit State regulations.

5.3 Compartmentation. The minimum number of compartments shall be as specified in Table 1.

TABLE 1
MINIMUM NUMBER OF BUOYANCY
COMPARTMENTS

Maximum permissible power, kW	Dimensional factor F (d)		
	F(d) < 5	5 ≤ F(d) ≤ 9	F(d) > 9
7.36	2	2	3
18.37	2	3	3
> 18.37	3	3	4

LEGEND:

$$F(d) = L \times b$$

where

L = boat length, overall, from the bow to the extremity of the rear float (excluding hand-holds or other fittings), in metres

b = boat width, overall (excluding hand-holds or other fittings), in metres.