



DIVISION 224

PLEASURE BOATS

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CONTENTS

Chapter 224-1 - General provisions

Article 224-1.01	Field of application
Article 224-1.02	Categories of navigation
Article 224-1.03	Machines of beach (decree of the 14/05/90 and 28/06/00)
Article 224-1.04	Light Boats of pleasure or nautical engine vehicles (decree of the 14/05/90 and 28/06/00)
Article 224-1.05	Sailing ship, motor ship and mixed cruiser
Article 224-1.06	Approval of a yacht (decree of the 07/11/94 and the 27/07/01)
Article 224-1.07	Ships of the same type built by several building sites
Article 224-1.08	Modifications of an approved ship or a series
Article 224-1.09	Exemptions
Article 224-1.10	Certificate of construction of a ship of series
Article 224-1.11	Approval of a built ship or or from a ship built or finished by an amateur
Article 224-1.12	Badge maker
Article 224-1.13	Identification of the hulls (decree of the 28/06/00)
Article 224-1.14	Date of application and transitional provisions

Chapter 224-2 - Provisions applicable to the yachts other than the light boats of pleasure*FIRST CHAPTER – Arrangements concerning approval.*

Article 224-2.01	File of approval of a yacht
Article 224-2.02	Construction by amateurs

SECOND CHAPTER - Construction, hull, compartments.

Article 224-2.03	Building materials
Article 224-2.04	Compartments
Article 224-2.05	Openings in the watertight bulkheads
Article 224-2.06	Openings in the hull and the superstructures
Article 224-2.07	Cockpits and coamings
Article 224-2.08	Guard rails and their fixings

THIRD CHAPTER – Arrangements concerning propulsion and electricity appliances. Installations for the use of the hydrocarbons.

Article 224-2.09	General information
Article 224-2.10	Classification of liquid fuels
Article 224-2.11	Ventilation of the motor compartments
Article 224-2.12	Fuel tanks
Article 224-2.13	Fuel supply pipes
Article 224-2.14	Carburettor
Article 224-2.15	Tests of the feeding circuit out of fuel - electric Continuity
Article 224-2.16	Engine Exhaust
Article 224-2.17	Hose clamps
Article 224-2.18	Engines onboard
Article 224-2.19	Electricity

FOURTH CHAPTER - Rescue - Bilge pumping - Insubmersibility

Article 224-2.20	Liferafts (decree of the 06/03/00)
Article 224-2.21	Lifebouys/belts (decree of the 07/11/94, 06/03/00 and 28/06/00)
Article 224-2.22	Machines floating (decree of the 06/03/00)
Article 224-2.23	Marking of the life buoys and the floating machines
Article 224-2.24	Insubmersibility of the yachts (decree of the 06/03/00)
Article 224-2.25	(decree of the 06/03/00)
Article 224-2.26	(decree of the 06/03/00)
Article 224-2.27	(decree of the 06/03/00)
Article 224-2.28	Sailing ships multihull – Insubmersibility - Provisions various (decree of the 06/03/00)
Article 224-2.29	Bilge pumping – Draining

FIFTH CHAPTER - Fire-protection

Article 224-2.30	Extinguishers (decree of the 06/03/00)
Article 224-2.31	Extinguishing by water – Network and fire pump
Article 224-2.32	Installation of fixed extinguishing by inert gas

SIXTH CHAPTER - Installations and apparatus for combustible liquid gas.

Article 224-2.33	Rules applicable
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SEVENTH CHAPTER - Habitability and hygiene

Article 224-2.34	Living accommodation - heating appliances
Article 224-2.35	Drinking water
Article 224-2.36	Medical and pharmaceutical material.

EIGHTH CHAPTER - Safety of navigation –arrangements for the control of apparatus, documents and instruments of navigation, objects of outfitting and replacement

Article 224-2.37	Navigation lights and
Article 224-2.38	Navigation bridge or cockpit
Article 224-2.39	Compasses (decree of the 06/03/00)
Article 224-2.40	Radar reflectors
Article 224-2.41	Log book
Article 224-2.42	Water skiing, participation in diving operations
Article 224-2.44	Instruments and documents nautical Material of outfitting - Objects of replacement
Article 224-2.45	Pyrotechnical distress signals (decree of the 20/01/89 and 06/03/00)
Article 224-2.46	Characteristics of the mooring tackles.
Article 224-2.47	Pneumatic rafts drawn by fast boats (decree of the 20/01/89)

Chapter 224-3 - Electronic navigation aids, signalling and distress messages

Article 224-3.01	Navigation aboard ships equipped with radar or electronic assistances to navigation
Article 224-3.02	Use of the distress or alarms
Article 224-3.03	Unjustified use of the hazard warning signals
Article 224-3.04	Distress messages – measures to be taken by the captain
Article 224-3.05	Rescue signals

Chapter 224-4 - Provisions applicable to light boats

Article 224-4.01	Zones of navigation
Article 224-4.02	Transport capacity of the rigid boats
Article 224-4.03	Transport capacity of the pneumatic boats
Article 224-4.04	Exemptions from the rules relating to the transport capacities
Article 224-4.05	Reserves of buoyancy (decree of the 28/06/00)
Article 224-4.06	Buoyancy of the pneumatic boats
Article 224-4.07	Buoyancy of the boats other than pneumatic (decree of the 28/06/00)
Article 224-4.08	Material of outfitting (decree of the 28/06/00)
Article 224-4.09	Waistcoats or life jackets (decree of the 07/11/94)
Article 224-4.10	Extinguishers
Article 224-4.11	Provisions of the chapters 224-2 and 224-3 applicable to the light boats of pleasure
Article 224-4.12	Requests for approval

**Chapter 224-5 - Provisions applicable to motor driven vessels
(decree of the 05/07/89)**

Article 224-5.01	(decree of the 14/05/90)
Article 224-5.02	Zone of navigation
Article 224-5.03	Approval
Article 224-5.04	Insubmersibility, stability
Article 224-5.05	Mode of propulsion
Article 224-5.06	Control of the propulsion
Article 224-5.07	Autonomy
Article 224-5.08	Material d'armement
Article 224-5.09	Noise level
Article 224-5.10	Notice of utilization
Article 224-5.11	Waistcoats (decree of the 07/11/94)
Article 224-5.12	Rental craft
Annexe 224-0.A.1	Constitution of the standard file of request for approval
Annexe 224-0.A.2	Attestation of construction and gauge of a yacht of series
Annexe 224-0.A.3	Rules and procedures to be applied for the granting of the exemptions envisaged by article 224-1.09 of this division
Annexe 224-0.A.4	Material and samplings of the plates port-holes, panels and in general all openings in the hull and the superstructures
Annexe 224-0.5	Construction of the fuel tanks out of reinforced plastic
Annexe 224-0.A.6	Table of the characteristics of the tackles of damping
Annexe 224-0.A.7	Determination of the payload and of the number of people which can take seat has edge of the boats covered by chapter 224-4 except for the pneumatic boats
Annexe 224-0.A.8	Lifesaving boxes

CHAPTER 224-1

GENERAL PROVISIONS

Article 224-1.01

Field of application

1. Present division applies to the yachts length lower than 25 meters
2. The rules and the procedures applicable to the yachts length equal or higher than 25 meters and their equipment are those applied to ships of the same length and the same gross tonnage, according to the regulations of divisions of this regulation on these ships.

Article 224-1.02

Categories of navigation

1. The navigations carried out by the yachts covered by the present division are classified in six categories:
 - 1st category: navigation not entering one of the categories below.
 - 2nd category: navigation during which the ship does not move away of more than 200 miles of a shelter.
 - 3rd category: navigation during which the ship does not move away of more than 60 miles of a shelter.
 - 4th category: navigation during which the ship does not move away of more than 20 miles of a shelter.
 - 5th category: navigation during which the ship does not move away of more than 5 miles of a shelter.
 - 6th category: navigation during which the ship does not move away of more than 2 miles of a shelter.
2. Ports or water areas where the ship can easily find refuge and where the embarked people can be put in safety are regarded as shelters.
3. A zone of special navigation, fixed according to each particular case by the minister in charge of the merchant navy on opinion of the national commission of safety of the pleasure sailing, can be allotted to the machines whose characteristics or design do not allow the classification in one of the categories of navigation defined in paragraph 1 above.

Article 224-1.03

(modified by decrees of the 14/05/90 and 28/06/00)

Beach Boats

Beach boats are regarded as machines of beach provided that the maximum power of the propelling apparatus does not exceed 3 kilowatts:

1. Rigid boats with sail or engine:

- traditional boats or with 2 team-members with more whose product of the three dimensions expressed in meters, length, width and hollow measured with the midship beam is lower than 2 with a width lower than 1,20;
- light centre-boards with sail as a recluse whose characteristics are as follows:
 $L \times l \times C < 1.5$ with $l < 1.15$.

2. Pneumatic boats:

- pneumatic boats with sail of which the length is lower than 3,70 m and the surface of the aerofoil lower than 7 m²;
- pneumatic engine boats of which the length is lower than 2,75 m, the width lower than 1,20 m and the reserve of buoyancy lower than 350 liters.

Dimensions will be dimensions taken outside.

3. *Boats driven exclusively by human energy: (decree of June 28, 2000)*

The boats driven exclusively by human energy whose characteristics are as follows:

- *length lower than 4 meters,*
- *width lower than 0,50 meter,*
- *L/l ratio higher than 10 (L being the length and l the width). For boats of more than 10 meters, the ratio is no more applied, but a minimal width of 1 meter is required. In event of a multihull boat, the total width is equal to the sum of the widths of the principal hull and side floats, provided that the latter have a length equal or longer than 2 meters.*

Inflatable boats driven exclusively by human energy.

Article 224-1.04
(modified by decree of the 14/05/90)

Light pleasure boats

Boats are regarded as light boats of pleasure:

1. The boats have an overall length less than 5 meters;
2. The light sailing ships of sport, boats I sails without ballast permanent and no cabin of total mass less than 300 kilogrammes;
3. Racing keel boats, that is any open sailboat, fitted ballast and intended for the competition;
- 4 pneumatic boats not covered by article 224-1.03;
5. Boats driven exclusively by human energy not covered by article 224-1.03.

However, the boats which n'ont not made l'objet d'une approval are regarded as machines of beach (decree of June 28, 2000)

Boats regarded as nautical engine vehicles:

1. Machines type scooter or motor bike of seas on which the pilot is held astride or in dynamic balance of which the maximum power propelling authorize exceeds 3 kilowatts
2. The tight ones has engine the machines of vagueness whose authorized maximum propelling power does not exceed 3 kilowatts:
3. Any machine speed or sport has total or partial carenage whose authorized maximum propelling power exceeds 3 kilowatts and whose program of use does not allow the classification in one of the categories envisaged in article 224-1.02.

Article 224-1.05

Sailing ship, motor ship and mixed cruiser

1. Definition of a type of ship:
 - 1.1. A sailing ship is a ship whose aerofoil constitutes the principal mode of propulsion.
 - 1.2. A motor ship is a ship whose one or more engines constitute the principal mode of propulsion.
 - 1.3. A mixed cruiser is a ship indifferently using the sail or the engine like principal mode of propulsion
2. Determination of the type of sailing ship been driven by an engine:
 - 2.1.

S being the total surface of the aerofoil in square meters for the calculation of this surface, one considers the total surface of the aerofoil to near: genoa or larger sail, possibly, mizzen or foresail other than the spinnaker and of the sails of stay.

L the length of the hull in meters.

D light displacement in functioning order, without empty crew and tanks, in tons.

P total power of the engines of propulsion expressed in kilowatts. This power is that measured on the outlet side of the reducer under the normal conditions of installation on board for a use uninterrupted.

A ship is regarded as sailing ship if quotient $S / \sqrt{L \times D}$ is equal or higher than 5,5
and if the quotient $P \times 1,36 / D$ is lower than 9
 - 2.2. A ship is regarded as mixed cruiser if quotient $S / \sqrt{L \times D}$ is equal or higher than 3.
and if the quotient $P \times 1,36 / D$ is equal or higher than 9.

Article 224-1.06

(modified by decrees of the 07/11/94 and the 27/07/01)

Official approval of a pleasure boat

1. No yacht can be registered if it were not approved beforehand, either by the minister in charge of the merchant navy in the case of a ship of series, or by the head of the center of safety of the ships in the case of a ship built or imported with the unit, or of a ship built by an amateur.

The decision of approval fixes in particular the category of maximum navigation of the ship and manpower authorized on board.

2. With the request of its owner, a category of navigation more restricted than that envisaged during approval can be allotted to the ship. This category registered on the title of navigation, determines the safety requirements applicable to the ship and in particular the obligatory material on board.

3. The maintenance of the approval given to a series is subordinated to the control carried out in building site, of the ships built according to a periodicity varying according to the production of the building site but which cannot be higher than one year. In the case of the imported ships, this control can be carried out near the manufacturer or, failing this, in the stores and warehouses of the importers.

4. The yachts covered of marking "EC" must have on board the material of outfitting and safety envisaged for the category of navigation retained by the yachtman within the following limits:

Categories of design	Categories of navigation
A	1, 2, 3, 4, 5, 6
B	2, 3, 4, 5, 6
C	4, 5, 6
D	6

Note:

For one three years limited period as from the publication of this decree, the boats having profited d'une exemption from the zone from navigation of the 300 meters within the framework of l'avis of June 18, 1982 of the national Commission of safety of the pleasure sailing can continue to sail in the zone d'un thousand d'un shelter.

During this period, these boats must make l'objet d'une procedure d'approbation to continue to sail beyond the 300 meters with l'issue of this one. Notwithstanding paragraph 1 of l'article 224-1.06, the decisions d'approbation with l'unity concerning these boats are made by the national technical director of the sporting federation concerned after opinion d'une commission specific d'approbation. A commission is made up with l'initiative of the French Federation of canoe-kayak or the French Federation of the companies d'aviron according to the dembarcation type and includes/understands at least two members having l'une following qualifications: police chief of race, official referee or sporting technical adviser.

However, the sailing ships of category of design C of which the length is greater than 6,49 meters, the yachtman can choose the 3rd category of navigation

Article 224.1.07

Ships of the same type built by several building sites

If the same type of ship is built by several building sites or is imported by several importers, the procedures of approval are applied to each manufacturer or each importer without the approval delivered with the one two being able to be asserted by the others.

Article 224-1.08

Modifications of an approved ship or a series

The manufacturer, the importer, the owner or the architect eager to modify a ship, a series of approved ships or a plan must submit these modifications for approval according to the procedure planned for initial approval.

Article 224-1.09

Exemptions

Pursuant to articles 54 and 55 of the decree referred to above, of the exemptions can be granted in particular in the cases hereafter:

1. Ship in sporting or experimental matter.
2. Exceptional change of category of navigation of a yacht for a voyage or a crossing.
3. Exceptional modification of the transport capacity aboard yachts.
4. Setting the number of non professional underwater divers aboard yachts.

The duration of an exemption cannot exceed one year.

Its renewal can be subordinated to the making of a visit of safety. The rules of procedure relating to these exemptions are given in appendix 224-0.A.3.

Article 224-1.10

Certificate of construction of a ship of series

1. A certificate of construction in conformity with the appendix 224-0-A.2 is delivered by the manufacturer or the importer for each marketed unit, attesting that the ship answers in all points the characteristics of an approved model.
2. The manufacturer or the importer must be with same, by the behaviour of an adapted accountancy, to justify constantly of the delivered certificates of construction and to specify for each one of them the date of construction and the number of hull of the ship corresponding as well as the name of the purchaser or the retailer to which it was delivered.

Article 224-1.11

Approval of a ship built or imported with the unit, or of a ship built or finished by an amateur

1. Any ship built or imported with the unit and any ship built or finished by an amateur must make the object of a declaration of setting in construction accompanied by the plans and documents necessary to the study of the file, near the center of safety of the place of construction or first setting to water.
2. The delivery of an official report of approval by the head of the center of safety of the ships is subordinated to the preliminary visit of the ship.

3. In the case of a ship built by an amateur, the head of the center of safety of the ships can fix a category lower than that envisaged during the approval of the plans and subject the re-establishment of the category envisaged to the realization of satisfactory tests.

4. The ships of preproduction, built before the procedure of approval of the series could not succeed, can be the subject of a provisional approval according to the procedure planned for the ships built with the unit, throughout one three month following the application of approval of the series. Nevertheless, on a purely provisional basis, pending the final approval of the series, the ship concerned cannot be authorized to sail in a zone exceeding that of the 5th category of navigation if its length is lower than 8 meters, and that of the 4th category, if its length is higher or equal to 8 meters.

Article 224-1.12

Maker Badge.

1. The maker badge envisaged by article 53 of the decree referred to above must comprise the following indications:

- 1.1. The name of the manufacturer or the importer and, if necessary, the architect.
- 1.2. The series (if it is necessary).
- 1.3. The number of approval.
- 1.4. The category of authorized maximum navigation.
- 1.5. The maximum number people being able to take seat on board for each category of navigation, or the payload in the case of the light boats of pleasure.
- 1.6. The year of construction.
- 1.7. Maximum power of the propelling apparatus.

2.1. In the case of a construction by an amateur, according to his own plans, indication 1.1 of the maker badge will be replaced by the mention has plane and construction amateur

2.2. In the case of a construction by an amateur on approved levels, indication 1.1 of the maker badge will be replaced by the mention "plan and construction amateur" and the name of the architect.

2.3. In the case of one importation to the unit, the indication "ship imported with the unit" will have to be reproduced on the plate manufacturer.

2.4. In the case of a prototype, the indication "prototype navigation restricted" - must be related to the plate.

2.5. In the case of an approved hull, built by a professional building site and finished by an amateur, the plate must be supplemented by the mention "completion amateur".

3. This plate must inalterable and be fixed in an irremovable way inside the cockpit or the steering gear.

Article 224-1.13

(modified by decree of the 28/06/00)

Identification of the hulls

Any other, yacht that construction amateur and ship built or imported with the unit, must equipped with an identification number. It must be composed of two groups of figures or letters separated by an indent, the first specifying the identification of the manufacturer or the importer and be allotted by the administration, the second defining the number of the hull allotted by the manufacturer or the importer.

This identification number must form integral part of the hull, either by estampillage or engraving, or by any other process offering the same guarantees of irremovability. It must be placed outside the hull, in top of the back table, or, if there is no table, in top of the back part of the hull. The characters of the identification number must have a minimal height of 6 millimetres and not be hidden by the marks external of identity, the fiston of the ship or any other appendix.

The identification number must appear in the accountancy of the certificates of construction delivered, like on the title of navigation of the ship.

The hulls of the boats cited in paragraph 5 of article 224-1.04 marketings after the publication of this decree must be identified according to provisions' of standard NF IN ISO 10087.

Article 224-1.14

Date of application and transitional arrangements

1. The provisions of this division are applicable to the ships whose plans were approved after March 1, 1985.
2. The ships other than those covered by chapter 224-4 and pertaining to a series approved before March 1 1985 can be in conformity only with the former regulations if their construction began before January 1, 1988. In this case, the maker badge must comprise the ranking "in conformity with the decree of 27 March 1980" or "in conformity with the decree of February 28, 1969" following the date of construction of ship
3. The light boats of pleasure belonging to a series built before March 1 1985 profit from the provisions envisaged with subparagraph 2 above, except for those brought into service before June 1 1969 which had, before May 30, 1983 to be put in conformity with the provisions of articles 69 and 71 of the decree of March 27, 1980.
4. The ships are famous approvals whose plans were approved before September 28, 1987, except for the ships built by amateurs, as well as the ships for which a navigation permit, or a chart of circulation by holding place, was delivered before this date.

CHAPTER 224-2

PROVISIONS APPLICABLE TO THE YACHTS OTHER THAN THE LIGHT BOATS OF PLEASURE

FIRST CHAPTER

PROVISIONS RELATING TO APPROVAL

Article 224-2.01

File of approval of a yacht

The file of approval of a yacht of series must be established in accordance with the model envisaged with the appendix 224-0.A.1 and transmitted in 3 copies to the Minister in charge of the Merchant Navy.

The file of approval of a ship built or imported with the unit or built by an amateur must be addressed to the head of the center of safety of the ships of the geographical site of the building site.

Article 224-2.02

Construction by amateurs

1. The plans and documents marketed for construction by amateurs are subject to approval. Mention of this approval must be related to these documents.
2. However, the documents establish by amateurs are not submitted for approval. Those can completely build their ship or as a subcontractor whole or part of construction according to the plans and documents which they themselves established. In this case, the mention "plans and construction amateur" will be related to the title of navigation.
3. The plans and documents of any marketed hull intended for a completion amateur, must be approved by the minister charged with the merchant marine after opinion of the national commission of safety.
4. Any element, or together of elements, marketed, intended for amateurs to build yachts, must have its plans approved by the minister in charge of the merchant navy after opinion of the national commission of safety and be sold with the approved documents necessary to its completion.
5. At the time of the visit preliminary to the approval of the ship, the manufacturer must present either the bundle of plans of bearing architect mention of approval envisaged at subparagraph 1, or the plans and documents which it will have established itself. The mention "construction amateur" will be affixed on the title of navigation.

SECOND CHAPTER

CONSTRUCTION, HULL, COMPARTMENTS

Article 224-2.03

Building materials

The materials are used according to techniques of setting in œuvre and assembly suitable to ensure the whole of construction a sufficient solidity. For certain types of materials, required minimal qualities and, possibly, the basic techniques for their setting in œuvre, are fixed by ministerial decree.

Article 224-2.04

Compartments

1. The yachts aimed by present division having a length of hull more than 15 meters must have a watertight bulkhead of boarding placed at a distance ranging between 5 and 10 percent of waterline length behind the forward perpendicular. This watertight bulkhead must rise to the highest interrupted deck. Exemptions from this obligation can be granted for the sailing ships if their construction or their use justifies it.
2. On the motor ships a length more than 15 meters, it must exist, moreover, watertight bulkheads forward and aft of the engine compartment and extending to the ceiling.

Article 224-2.05

Openings in the watertight bulkheads

1. No openings may be cut in the watertight bulkhead. However a hatch panel or a watertight door allowing access to the compartment may be allowed.
2. Watertight bulkheads shall not be fitted with valves or cocks emerging directly/leading to adjacent compartments; a screw plug-hole can be authorized.

If pipings, electric cables, etc..., cross the watertight bulkheads of the provisions must be taken to safeguard the sealing of the bulkheads.

3. For the motor ships covered by article 224-2.04 the number of openings cut in the watertight bulkheads must be reduced at the least. These openings must equipped with watertight closures.
4. The tight panels or doors must be held closed with the sea, and must be provided with a system of closing which can be operated on each side of the partition. Each time that they will give access to a livable compartment the indication "closure obligatory at the sea" must be related to each one of them and on each side.

Article 224-2.06

Openings in the hull and superstructures

1. Sealing of the hull and the superstructures:

For all the categories of navigation, it is required a total sealing of the openings on the hull.

A satisfactory sealing of the openings located on the superstructures must be obtained for the ships sailing in the first four categories, these openings having to be able, where necessary, to be completely closed, except for the openings of ventilation of the engine compartment which will have equipped with a system preventing the water entries.

2. All the openings on hull communicating with the interior of the ship, except for the exhausts engine, the setting to the free air of the tank and the exits of the bilge pumps always located at the point highest possible, must be provided with a material valve or tap of obturation not easily corrodible and compatible with that of the hull, always easily accessible and permanently provided with its lever or wheel with manœuvre. For the motor ships a length lower than 15 meters, only the openings located at less than 400 mm above the water line must answer this regulation. This height is increased to 700 mm for the motor ships a length equal or higher than 15 meters.
3. The hydrants of circulation of the engine must be provided with strainers or suitable filters.
4. The drain points from waterproof cockpits and self-draining devices may not be provided with valves, if pipings are of great strength, integrated into the hull and the cockpit and protected entirely from the shocks. They can be provided with a flexible element located highest possible above the floating in order to absorb the stresses.
5. All the flexible elements used for the discharges of cockpit must be of a material resistant to hydrocarbons and in conformity with the applicable standard in force.
6. In the event of risk of siphoning, the drains of discharge will have to be provided with a setting to the free air.
7.
 - 7.1. Openings giving on floodable spaces such as port-holes, windows, ports and their fittings, must be able to resist the sea and to ensure the sealing required by the provisions of paragraph 1 above.

Positioning, the materials, the scantlings and the assembly of the transparent plates are given in appendix 224-0.A.4.
 - 7.2. The particular cases, and in particular the openings of size higher than those mentioned in the appendix 224-0.A.4 are subjected to the approval of the minister charged with the merchant marine after opinion of the national commission of safety.
8. The glazed openings of the ships of navigation of 5th or 6th category, are not subjected to these specifications but to in no case, the thickness of the panels should not be lower than 4 mm.

Article 224-2.07

Cockpits and coamings

1. General provisions:

- 1.1. A cockpit is known as tight when no water entry is possible in the ship by an opening located at less than 400 mm above the bottom of the cockpit.
- 1.2. A cockpit is known as self-bailing when total volume having been filled with water to the binding-strakes, the height of the water level remaining after three minutes of self-bailing low does not exceed 100 mm above the opening of evacuation.

1.3. The cockpits of the ships sailing in 1st, 2nd, 3rd or 4th category must be tight and self-bailing.

1.4. The minimal heights of the floor of cockpit above the floating, the crew planned for the category the highest having taken seat in the outfitted boat must be higher than 100 mm in 4th category, 150 mm in 3rd category and 250 mm in 2nd and 1st category.

1.5. The panels located in bottom of cockpit as well as the engine cowlings must be provided with a seal and a system of closing ensuring the compression of this joint or to comprise coamings envisaged by subparagraphs 2.1 or 2.2 below.

1.6. The seat storage lockers of the ships carrying out a navigation of 1st category or 2nd categories should open only by the higher part and be provided with a closing and attachment unit ensuring a good sealing. Exemptions can be brought to these regulations when the minister in charge of the merchant navy, on opinion of the national commission of safety of the pleasure sailing, estimates that the assembly proposed offers a guarantee of equivalent safety.

1.7. The accesses provided with doors, placed vertically in the superstructures other than those of the cockpit must comprise a coaming of 100 mm at least.

2. Particular provisions:

2.1. Sailing ships and motor sailers:

2.1.1. No point of the floor of the cockpit of a ship classified in 1st, 2nd or 3rd category must be under the floating with 30 degrees of heel.

2.1.2. The ships carrying out a 1st navigation, 2nd, 3rd, or 4th category must at least have coamings of 400 mm in the cockpit. On the sailing ships of 3rd and 4th category, this height can be obtained by removable panels of closing. However, the bottom of the cockpit must comprise a fixed coaming of 150 mm.

2.1.3. The removable or sliding panels of closing leading to installations, must be provided with a system with locking operable both from the interior and outside of the ship.

2.2. Motor ships:

2.2.1. The coamings of cockpit of the motor ships carrying out a navigation in 1st, 2nd, 3rd or 4th category, must be 150 mm minimum. They can be folding but irremovable.

2.2.2. To replace these provisions, can be accepted irremovable doors on hinges opening on outside or of the sliding doors comprising partly low a surface full with at least 150 mm height.

Article 224-2.08

Guard rails and their fixings

1. The ships carrying out a navigation in 1st, 2nd, 3rd or 4th category must have continuous and effective protections against the fall into the sea of the embarked people:

1.1. The life lines and their fixings must be able to resist without rupture, nor wrenching, with a longitudinal force of 1,100 da N.

- 1.2. The height of protections above the bridge should not be lower than:
- 60 cm for the ships a length equal or higher than 8 meters;
 - 45 cm for the other ships.

When the height of protections exceeds 45 cm, it must be installed an intermediate rail with a height above the bridge which will not be higher than 30 cm.

2. The sailing ships carrying out a navigation in 1st, 2nd, 3rd or 4th category, must also be provided on each board a suitable device allowing the convenient and fast fixing safety straps envisaged article 224-2.44 hereafter. This device must be able to support of each one of its points a transverse traction of 1,100 daN.

2.1. For the 4th category, one or the other of the devices above can be assembled alone.

2.2. The motor ships a length lower than 8 meters which, because of the special provision of their superstructures, cannot satisfy these provisions, must at least have a handrail along the binding-strake and on the deck house. This device must ensure the continuity of before ship with the cockpit.

3. The ships carrying out a navigation of 1st, 2nd, 3rd or 4th category must be equipped with toe-rails of at least 30 mm height.

THIRD CHAPTER

PROVISIONS RELATING TO THE PROPELLING APPARATUS AND ELECTRICITY. INSTALLATIONS FOR THE USE OF THE HYDROCARBONS

Article 224-2.09

General information

1. The engines must isolated from the inhabited compartments. The position where they are located must be of sufficient size to facilitate the monitoring, the good maintenance and the accessibility of the apparatuses and everything essential.
2. The accessible parts moving in the course of operation must effectively be protected.
3. On the motor ships covered by article 224-2.04 of this division, two exits must be provided allowing the people who are there to leave the compartment easily. The access ladders must be fixed in place.
4. A metal sump/drip pan in metal or out of suitable material is installed under the motor, gearbox, the auxiliaries and the accessories of the engine:
 - 4.1. The sides of this sump are of sufficient height to avoid overflow into the bilge/hold at the time of the movements of the ship.
 - 4.2. The sumps under engine are not required if transverse floor frames ahead and behind of the engine and longitudinal frames form a tight compartment, preventing the fuel or oil leaking into other parts of the ship.
5. The electric installations must be suppressed.

6. In the case of non rigid stuffing boxes, the flexible element must be robust, resistant to hydrocarbons, in conformity with the standard in force, and be maintained at each end by two corrosion proof collars.

Article 224-2.10

Classification of liquid fuels

1. The liquid fuels used on pleasure boats covered by this division are classified in two groups:
 - 1.1. First group: liquid fuels whose point flash is lower than 55°C; this first group includes/understands in particular gasolines, high-grade petrols, white spirit, the paraffin oil.
 - 1.2. Second group: the liquid fuels whose point flash is equal or higher than 55°C; this second group includes the gas oils.
2. The determination of the point flash is in conformity with the French standards into force.

Article 224-2.11

Ventilation of the engine compartments

1. The engine compartment must be suitably ventilated in function, in particular, with the specifications of the manufacturer of the engine and the various installations existing in this compartment.
 - 1.1. The fresh air inlet must lead in theory to the point low possible. There must exist an evacuation of emerging foul air obligatorily outside, this one, as much as possible, being located contrary to the fresh air inlet/high as possible. The evacuation and intake ports must be protected from the water ingress.
 - 1.2. The cross sections of the conduits of admission and evacuation must be in connection with the volume of the engine compartment and the power of the auxiliary engines.
 - 1.3. Notwithstanding these provisions and for the engines with fuel of the second group, on the sailing ships with auxiliary engine of a power equal or lower than 8 kw, the fresh air inlet can be done through accommodation or the bilges. In this case, the evacuation of foul air must be of high capacity.
2. In addition to these provisions, the fixed motor ships using a fuel of the first group must be provided with an electric ventilator of a hold type approved by the minister in charge of the merchant navy on opinion of the commission national, functioning with the aspiration and able to entirely renew the air of the engine compartment in less than five minutes.

The electric bilge pumps to automatic release, the switchgears, their order functioning independently of the engines and located in the engine compartment, as well as the switches or switches of lighting, must also be of a type approved by the minister charged with the merchant marine after opinion of the national commission of safety of the pleasure sailing:

- 2.1. All precautions are taken so that a possible contact between moving parts does not generate sparks nor of dangerous heating.
- 2.2. The power supply of the ventilator is independent of the engine operating circuit. The French indication "Attention: to avoid the risks of explosion, to ventilate the engine compartment for five

minutes before any starting of the engine or its auxiliaries " must be posted in the immediate vicinity of the starter switch.

Article 224-2. 12

Fuel Tanks.

1. General information:

- 1.1. The fuel tanks of the fixed engines must be located in a position distant from any heat source.
- 1.2. If, because of the size of the ship and the regulations of this article, the tanks cannot be installed apart from the accommodations, they must suitably isolated from those.
- 1.3. The fuels of the first group are always placed in tanks independent of the hull and located apart from the engine compartment. Their compartment must be ventilated and the easily accessible tank.
- 1.4. The fuels of the second group can be placed either in independent tanks, or in the double bottom. They can be placed in the engine compartment.
- 1.5. In the event of use of the double bottom for the housing of fuel, it must separated by a cofferdam between the tanks containing water.
- 1.6. The tanks whose capacity exceeds 75 liters or those whose dimension taken in the direction of the width of the ship exceeds 400 mm must be provided with baffle or partition stabilizer.
- 1.7. There should not be possibility of water entry in the tank.
- 1.8. The fixing of the removable tanks must be studied in such manner that no shifting is possible in the course of navigation.
- 1.9. Auxiliary tanks known as "jerry cans" or other types shall be of a quality ready to hold hydrocarbons and are not be able to be confused with tanks of the same type standard containing water. For this purpose, these auxiliary tanks will have to be of red color or to carry in very apparent red characters the nature of the contents.
- 1.10. The metal tanks must be connected to a plate of ground connection or to the mass of the ship.

2. Construction of the fuel tanks.

- 2.1. The materials and the scantlings of the independent tanks are envisaged according to the capacity, of the group of fuel and use of the ship.
- 2.2. The materials of the tanks can be red copper, the light alloys employed in shipbuilding, cupronickel, steel sheet whether stainless steel or not. The use of other materials is subjected to approval of the minister in charge of the merchant navy after opinion of the commission of safety, brass being excluded in all the cases.
- 2.3. The tanks containing of fuels of the second group should not be galvanized internally.
- 2.4. The sealing of the metal tanks should not depend on weldings at low melting point.

2.5. The reinforced plastic tanks are allowed if they answer the specifications determined by the appendix 224-0.A.5.

3. **Filling:**

3.1. The openings of filling are located outside and provided with an effective and captive stopper. The sealing of the filling pipe passage points must be such as in the event of accidental overflow the fuel cannot be spread inside the ship. The nature of fuel must be indicated in an indelible way on the stopper or in the immediate vicinity of the opening of filler orifice. For the fuels of the first group, the opening of filling should not be located in the cockpit when the self-draining pipes emerge under the waterline.

3.2. The interior minimal bore of filling is 38 mm.

3.3. The filling pipes must follow the most direct possible course. If a flexible section is necessary, it must be made of a material resistant to hydrocarbons in conformity with the standard in force and set suitably with sufficiently long collars and sleeves on the rigid sections. If the flexible section is of the type "spiral" or ringed, smooth sleeves are envisaged with the position of connections on rigid pipings. This flexible section must be placed more close possible of the opening of filling and to remain always accessible.

3.4. In the case of reinforced plastic tanks intended to contain a fuel of the first group, in order to avoid the formation of generating fog of electrostatic loads, the lower end of the pipe of filling must be to the maximum to 100 mm of the bottom of the tank.

4. **Air vent:**

4.1. All the tanks are provided with releases of emerging air outside. Those must as much as possible being located near the filling opening and are supervised by the person carrying out the filling. The opening of exit of air must be provided with a system preventing a possible water entry and to be located at least at the same level as that of filling of the tank.

4.2. The conduits of releases of air must leave highest the point of the tank, taking into account the normal trim of the ship. They should not be located in the opening of filling. For the reserves of a capacity lower than 10 liters, it can be waived from this last regulation by a device approved by the minister in charge of the merchant navy on opinion of the national commission of safety, giving the same guarantees of effectiveness with regard to the absence of repressions and overflows during the filling.

4.3. They are metal or in a material of the quality required for the flexible sections of pipings of filling. They must be most direct possible and without counterslope.

4.4. The minimal internal diameter is of 14 mm. In the event of possibility of filling by pressure (with connection seals) the air vent must have a section equal at least with that of the filling opening.

4.5. The releases of air of the tanks containing of the fuels of the first group must have their opening towards the outside always distant from a mouth of ventilation. This opening is provided with an effective screen flame guard which can easily be cleaned and which should not reduce in an appreciable way the cross-section of the air vent vent.

4.6. In the case of double tanks placed in the wings, the releases of air of each tank will be installed so that with the list, the exit corresponding to the tank low is always above the tank highest. In this case, it could be waived from subparagraph 4.1, 2^e sentence of this article.

5. The devices of gauge on visible level must be provided with tap with automatic closing with each end, and it sight glass protected from breaking or déboîtement. If the return of the gauge is carried out by the top of the tank, it is allowed that only the lower tap must be with automatic closing. The presence of a gauge on visible level is obligatory when the tank can be filled by pressure.

Article 224-2.13

Fuel supply pipe

1. The installation must be in conformity with the specifications of the manufacturer of the engine:

1.1. Engine supply pipes are either metal, or out of flexible materials. They are fixed and protected everywhere where that is necessary. The joints or connections in piping in a number as reduced as possible and are placed in easily accessible places. The connections concerned must be in conformity with standards NF R 16207 and NF R 16-208. The sealing of the circuit should not depend on brazings at low melting point (melting point lower than 450°C).

1.2. Unless being equipped with specially designed protections, the fuel pipes should neither overhang, nor border to hot parts.

1.3. An easily dismantlable filter is installed on the fuel feed line. For fuels of the second groups a readily accessible and visible settling system shall be fitted.

1.4. Flexible pipings must be in conformity with the ISO standards/DIS 7840. Their fixing is carried out either by nipples or by clamps.

2. Gate valve:

2.1. A gate tap or valve must be installed at the tank outlet. This tap or its control system must always be easily and quickly accessible outside the engine compartment.

2.2. In the case of installation of electromechanical valves, those must be closed when the power supply is stopped.

2.3. If the fuel supply is made by pump, an exemption could be allowed for the installation of the gate valve. The departure of fuel piping will have then to be made at the top of the tank and it will have to be shown that no risk of siphoning is to be feared in the event of pipe breakage.

Article 224-2. 14

Carburettor

The carburettors must be of a type with recovery of the drops in the pipe of admission and be provided with a non-return finger device of flame.

Article 224-2.15

Test of the fuel feed circuit - Electrical continuity

1. The complete feeding circuit, from the filling to the engine, must be tested when commissioned. The test pressure must be 0,35 bar during at least thirty minutes, at constant temperature, without fall of pressure This duration must be increased to sixty minutes when the tanks consist of reinforced plastic.

2. Electric continuity since the stopper of filling to the tank must be ensured and the whole of the circuit must be with the ground of the ship.

Article 224-2.16

Engine exhaust

1. The exhaust line must be provided with a device intended to reduce the noise, with an effective system to avoid entry of water to the engine and to be in conformity with the specifications of the manufacturer of the engine. The joints are in a number as few as possible.
2. The tailpipes effectively are cooled or at least insulated and protected by a heat insulation in the parts of the ship where a rise in temperature can be dangerous. Heat insulation should not be able to soak with fuel oil nor.
3. Copper should not be used for the exhaust of the engines with lighting by compression.
4. The flexible sections of the tailpipes must answer the following conditions:
 - 4.1. To be suitably fixed by double clamps, always accessible; their provision in the engine compartment should not present of risk of abnormal wear by vibrations or frictions on adjacent parts.
 - 4.2. On the engines with dry exhaust, being metal of a material resistant to the conditions of use.
 - 4.3. On the engines with wet exhaust, being of a material resistant to hydrocarbons and a temperature of 100°C; a certificate, or a mark of manufacturing material must make it possible to the user to recognize without error the destination of this type of conduit.

Article 224-2.17

Hose clips

1. Any clamp specified by present division must answer the following conditions:
 - 1.1. To be out of material corrosion proof.
 - 1.2. To be done up in a way suitable to avoid a crushing or cutting of the flexible connection.
2. The clips, with regard to fuel lines and the discharges to the sea, must be doubled.

Article 224-2.18

Outboard engines

1. The wells intended for the installation of outboard engines should not comprise risk of flooding of the other parts of the ship. In particular, all the openings intended for the passage of the controls and the feed circuits must be provided with a system of sealing.
2. The engine wells must form a watertight compartment and self-draining.
3. In all the cases, an effective ventilation of this compartment must be ensured, except if the well leads to a tight cockpit and self-bailing.
4. Inhabitable ships, likely to be driven by an engine except edge using a fuel of the first group, must have a housing tight with the flows compared to installations for the storage of the tank or the engine with built-in tank.

Article 224-2.19

Electricity

1. General provisions:

1.1. The installations are classified according to the supply voltages in two fields:

1.1.1. Field I: voltages equal or lower than 50 volts AC and 100 volts DC.

1.1.2. Field II: voltages higher than 50 volts into AC and 100 volts DC.

1.2. The voltages at the consumer terminals should not exceed the following values:

1.2.1. 380 volts for the main power, the heating, lighting fixtures or small equipment electric household appliances.

1.2.2. 50 volts for the portable apparatuses when AC, and 100 volts DC.

1.3. All the electric installations, except the switchgear of the engine are with two poles insulated without return through the ground.

1.4. For the ships of steel construction, are also with two poles insulated without return by the ground, all the accessories of the engines except the lighting of the spark-ignition engines and the starters which must be provided with a bipolar relay.

2. Wiring:

2.1. Wiring is carried out by insulated conductors with double insulation, except when wiring is grouped in bundles in conduits that are accessible and supported every 250 mm at least.

2.1.1. The coating of the cables must resist sea water, oil, hydrocarbons and flame retardant.

2.1.2. The section of the cables is proportioned with the intensity in normal service and the length of the circuit. The voltage drop should not be higher than 5/100 at the consumer terminals.

2.1.3. Cables shall be carefully insulated and protected everywhere where that is necessary.

2.1.4. Wiring must be installed so as to avoid the creation of magnetic fields near the magnetic compasses or other instruments of navigation sensitive to such disturbing fields.

2.1.5. Cables should not be laid in the bilges, nor in places where there is even temporary risk of immersion.

2.2. The junctions are done by systems with screw, with pins or soldering, splices being excluded.

2.3. All the circuits are protected by fuses or circuit breakers, except for the starter and the circuits supplied from dry cells.

2.4. The socket-outlets located outside must be of a watertight type with covers.

2.5. Ground connection:

2.5.1. The ground connection must be ensured in a permanent way, by means of conductors suitably connected to the hull or by a grounding system in permanent contact with the sea. The conductors are made of not easily corrodible, secured and protected materials. If the provision of the apparatuses ensures a ground connection effective, the ground conductors need not be installed for these apparatuses.

2.5.2. The section of the ground conductors is given so that in the event of defect of insulation causing a leakage current:

- there is not a significant heating involving a fire hazard;
- it is not established a dangerous potential difference between two metal parts likely to be touched simultaneously by personnel.

2.6. When installations of the two fields coexist, the socket-outlets must be of a different pin layout and the voltage indicated by a plate.

2.7. One cannot fix under the same collar of the cables feeding installations of different voltages unless these cables are laid in a metal conduit with ground connection.

3. Installations of field I:

3.1. The cables are of an authorized type.

3.2. If a ground connection is necessary, this one is in conformity with paragraph 2.5.

3.3. It can be waived from paragraph 2.1.5 if the cables pass in a sheath or a watertight conduit and channel.

4. Installations of field II:

4.1. The material used is designed and built in such manner that it can function without danger to the people in spite of a permanent exposure to the salty atmosphere, moisture and vibrations.

4.2. The cables must be of a type approved by the minister in charge of the merchant navy.

4.3. The interior socket-outlets, the cable junction boxes, branch boxes and switchboards together with the instruments fixed on their front must be watertight against running water.

4.4. The junctions and branches are all in boxes.

4.5. On all the ships, it must be envisaged a ground connection as defined in paragraph 2.5.

4.6. Shore power:

4.6.1. The socket-outlets and their ship/shore line must be designed in such a way that the ground of the ship is connected to the earth electrode of the ground network before the current starts flowing.

4.6.2. The ship/shore is provided with a switch, a transformer of safety or a safety device to residual differential current, of a sensitivity of 30 milliamperes maximum or any other device ensuring an equivalent protection.

4.6.3. The equipment of transformer of the primary education current while running TBT must answer conditions 471.3.2 of Standard NFC 15-100.

4.7. All uncovered metal parts of the machines and the electric component which are not intended powering but which can be it fortuitously, such as carcass of engine, frame, metal box, metal envelope of apparatus etc... must be grounded.

4.8. It can be waived from paragraphs 1.2.2 and 4.7 for small equipment electric household appliances if this one is built and assembled so as to avoid any danger of accident under the normal conditions of use (class II double insulation).

5. Accumulator batteries:

5.1. The batteries can be placed neither under a fuel tank nor under any accessory relating to fuel without particular protections being installed.

5.2. The batteries with liquid electrolyte are placed in a watertight tank able to resist the electrolyte and able to collect an accidental flow.

5.3. The batteries are fixed in order to prevent any risk of shifting, whatever the angle of heel of the ship.

5.4. Ventilation of the batteries:

5.4.1. A natural ventilation must air the batteries.

5.4.2. If they are in a special compartment, this one must have a air vents at the top.

5.4.3. If the total capacity of the batteries is higher than 2000 W/h, the air vent must emerge outside and not allow water entry.

5.5. A battery main switch on each polarity must be accessible and as near as possible from the battery. It must make it possible to insolate all the installation.

5.6. In the case of starting electric engines, the battery must be able to carry out without recharge and under the normal conditions of use, six consecutive startings.

5.7. The anchor lights, the devices anti-boarding, the active cathodic protection systems and all safety devices which operate when not sailing can be waived from subparagraph 5.5 above.

FOURTH CHAPTER

LIFE SAVING, PUMPING OUT, UNSINKABILITY

Article 224-2.20

(modified by decree of the 06/03/00)

Liferafts

1. The type of the liferaft having to be embarked on board any yacht covered by the present chapter is defined by the table hereafter. The total capacity of the liferafts must make it possible to receive all the people present onboard.
2. The specifications and classes of the inflatable rafts of rescue are defined by chapter 333-2 of division 333 of these regulations..
3. A position of storage of the liferaft must be provided aboard ship, accessible from outside, so that it can be launched immediately and easily in all circumstances.
4. When the floating devices are required, the life buoys prescribed by article 224-2.21 following can take place of a floating device for a person.

Length	Category of Navigation					
	1	2	3	4	5	6
8 m or more	Class II 1975 Pleasure	Class II 1975 Pleasure	Classe II reduced 1975 Pleasure or class IV 1975	Classe V 1975 Pleasure	Floating devices of a type approved	Nil
8 - m	Same	Same	Same or class V 1975	Same	Same	Same

5. For a navigation in 5th category, an inflatable life raft of rescue can be regarded as a floating device for a double number of people of that for which the raft was approved.
6. The ships practising a navigation of 3rd or 4th category are exempted loading of collective machines of rescue when they were declared unsinkable under the conditions envisaged in articles 224-2-24 and 224-2.28, subparagraph 3. (decree of March 6, 2000).
7. The ships practising a navigation in 5th category are exempted collective machines of rescue when they answer the conditions of buoyancy defined by articles 224-4.05 and 224-4.07 hereafter.

Article 224-2.21

(modified by decrees of the 07/11/94 and 06/03/00)

Lifebelts

1. Any ship covered by the present chapter must have, in a position from where it can be easily thrown to the sea, a life buoy of a type approved or in conformity with the provisions of division 311 applicable to the freighters and fishing. A buoy of standard approval is a buoy answering the provisions of article 224-2.22, subparagraphs 2, 3.1 and 3.2. On the ships carrying out 1st, 2nd, 3rd or 4th category navigation, the approved buoys are equipped with a source of light of characteristics in conformity with items 1 and 2 of line 2 of article 225-7.04.

When the length of the ship is equal or greater than 15 meters, one second buoy answering the conditions above must be embarked.

2. There must be on board all boats covered by this chapter, as many approved life jacket yachts as there are people on board, and one or more additional in the proportion of 10 percent of the number of people on board, when the number of those exceeds 10. The life jackets must be easily accessible.

For a navigation in 5th and 6th category, the life jackets carrying marking EC can be d'un of the four following types: type 50(NF/EN 393), standard 100(NF/EN 395) standard 150(NF/EN 396) or standard 275(NF/EN 399), with exclusion of the models with oral inflation only.

For a navigation in 1st, 2nd, 3rd and 4th category, the life jackets carrying marking EC can be d'un of the three following types: type 100(NF/EN 395) standard 150(NF/EN 396) or standard 275(NF/EN 399), with exclusion of the models with oral inflation only.

Article 224-2.22

(modified by decree of the 06/03/00)

Life rafts

1. The expression "life raft" indicates a material floating other than the inflatable rafts, buoys and life jackets, intended to support a definite maximum number of people who are in water. It must be mentioned this number on the floating device.

2. To be approved, a floating machine must satisfy the following conditions.

2.1. Minimal buoyancy must be at least 14,5 kilogrammes per anybody supported.

2.2. The floating device must have a color in conformity with the provisions of l'article 4-12 of standard NF INTO 395. (Orange or coated with synthetic textile of orange).

2.3. It must be usable whatever the side on which it floats.

2.4. It must be provided with safety ropes firmly secured on the circumference.

3. The buoyancy is ensured by one of the average following:

3.1. Material such as cork of good quality, balsa or equivalent, other than kapok.

3.2. Expanded plastic with closed cells, protected so that it cannot be exposed to mechanical damage and solvents hydrocarbons. It must have a good resistance to vibration. Its ageing should not deteriorate its physical qualities.

3.3. By inflation with gas kept under pressure, subject to the following additional conditions:

3.3.1. The characteristics of fabrics constituting device are of a quality and a resistance at least equal to those used for the inflatable rafts of rescue approved for the yachts undercategory 5.

3.3.2. Inflation shall be completed in less than two minutes, by one or more compressed gas tanks; these tanks can be non refillable cartridges.

3.3.3. This type of pneumatic floating machine, as well as the gas bottles, are subjected to annual inspection identical to those applied to the inflatable life rafts. Inspections are recorded in a booklet preserved on board. It must exist a booklet for each by pneumatic floating device.

3.3.4. The service period of pneumatic floating devices should not exceed that fixed for the inflatable life rafts.

Article 224-2.23

Marking of the life buoys and the floating aids

1. The name of the ship and the letters of identification of the district of registration must be registered in an indelible way on the life buoys and the embarked floating aids on board.
2. Subject to a declaration near the district of registration, the material used above marked in the name of a ship can be embarked on another ship registered in the same district and pertaining to the same owner.

Article 224-2.24

(modified by Decree of the 06/03/00)

Unsinkability of pleasure boats

1. A monocoque yacht covered by this chapter can be declared unsinkable only if it is made the object of an official test report an organization notified within the framework of the decree n° 96-611 of 4 July 1996 relating to the marketing of the pleasure boats and the parts and elements of equipment. These provisions are applicable to the ships built by an amateur for his personal use. Notified organistaion which plans to carry out unsinkability tests must inform of it, during the first test, the administrative authority in charge of the pleasure sailing.

1.1 The file of request must include/understand a sufficient documentation to measure the distribution, the nature and the mode of fixing of the reserves of buoyancy, thus an estimate of maximum laden weight.

1.2 The materials constitutive of the reserves of buoyancy must answer the specifications prescribed by section 2.

1.3 The tests must be carried out under the conditions envisaged with section 3.

1.4 ships declared insubmersible must lay out a plate specific, in conformity with the provisions of section 3 of article 224-1-12 and fixed beside the maker badge, specifying:

1.4.1. Mention: "unsinkable Ship according to provisions of declarationmodified 23 November 1987";

1.4.2. The number d'enregistrement of the declaration d_insubmersibility;

1.4.3. The maximum weight of l'appareil propelling;

1.4.4. The maximum number people authorized within the framework of l_insubmersibility.

1.5 At the time of limmatriculation d'un model of yacht declared unsinkable, the yachtman must provide a certificate d'insubmersibility delivered by the manufacturer. This certificate is in conformity with that appearing in l'annexe 224-0.A.9. For the ships declared unsinkable with lunity, the yachtman must provide the procèsverbal d'essai established by lorganism notified in accordance with section 4.3 following.

2. The reserves of buoyancy must answer the following provisions:

2.1 The reserves of buoyancy are consisted expanded matters, inflatable volumes, where necessary, by blowing a gas under pressure or any other process offering the same design features of safety. The air boxes forming integral part of the hull are not admitted, except for the pneumatic boats;

2.2 The expanded matters are with closed cells. They are fixed permanently and must be in conformity with the specifications fixed by paragraph 3.2 of article 224-2-22;

2.3 The inflatable reserves must satisfy the provisions prescribed in paragraph 3.3 of article 224-2-22;

2.3.1. Volumes of buoyancy must be installed in a way that they cannot be burst or deteriorated by chafing, nor to come into contact with hydrocarbons. Their fixing must resist a traction at least equal to the value of buoyancy. The forces must be through the structure of the ship, whatever the angle of heel; The inflation of these reserves of buoyancy should not prevent the passage through an inhabitable compartment of the ship.

2.3.2. The compressed gas bottle must be of sufficient capacity to ensure a inflation of the reserves of buoyancy equal to 90% or more of their maximum capacity to 20°C. This bottle is located in a shelter within the ship, in an accessible position in case of partial flooding.

3. Ship test.

3.1. A ship is declared unsinkable when, full of water, it floats with a normal trim and a minimum freeboard under sufficient conditions of safety. It must have a reserve of positive stability. The crew must effectively be protected.

3.2. During the tests, the ship is outfitted for the sea, with the maximum number people required within the framework of unsinkability. The average of the weight of the crew should be 75 kilogrammes per person. For the tests, the material which risks damage by sea water can be replaced by an equivalent weight whose centre of gravity is located at the same position.

3.3. The ship is gradually invaded by the sea in all its accessible parts, obligatorily by communication with the exterior (by valve or opening), the arrival of the water may be accelerated by an additional inlet. Flooding is continued until equilibrium between the sea level and that of interior water in the hull. The minimum freeboard cannot be lower than 3% length of the hull, except in precise and short points such as the fixing of outboard motor for example.

3.4. The tests can be declared satisfactory only if the minimum criteria are respected.

3.4.1. For the sailing ships, the crew having sat on bordered or upright in the cockpit, but also distributed, the moments are measured at least with 4 angles of heel distributed between 0° and 90°. The righting moment to 80° must remain positive.

3.4.2. For the motor ships, the tanks being full, the freeboard should not be nill when the crew is placed on an edge.

3.4.3. For the tires and semi-rigid with engine, the most unfavourable compartment with stability being deflated, the freeboard should not be nil when the crew is placed side of the deflated compartment.

3.5. Administrative Authority in charge of the pleasure sailing can attend the tests of the ship, or it's representative.

4. Notified organisation which will have carried out the tests will have to validate the conclusions and to transmit to the administration a file including/understanding of them the following documents for registration purposes:

4.1. Plans and documents necessary to the method of test;

4.2. A report/ratio d'essais including/understanding;

4.2.1. A document in proof of announced displacement (weighed and state of the ship to the weighing);

4.2.2. A report/ratio of control of the loading of the ship for test and the weight of the embarked people;

4.2.3. A statement of freeboard with diagrams, right ship before invasion, right ship after flooding;

4.2.4. For the motor ships, tires and the semi-rigid ones, a statement of freeboard, ship to the list after flooding;

4.2.5. For the sailing ships, diagrams and a report of tendency to the rectification for a list of 80°;

4.2.6. A set of photographs of the ship in each position of equilibrium after flooding;

4.3. An official report d'essai conforms to the model appearing in l'annex 224-0.A.10.

Article 224-2.25

(repealed by decree of the 06/03/00)

Article 224-2.26

(repealed by decree of the 06/03/00)

Article 224-2.27

(repealed by decree of the 06/03/00)

Article 224-2.28
(modified by decree of the 06/03/00)

Sailing multihulls - unsinkability - various Provisions

1. Any livable multihull sailing ships must be unsinkable.
2. The manufacturer, the importer or the architect of the ships of this type must provide the following plans and documents:
 - 2.1. A plan giving the provision of the reserves of buoyancy, as well as a calculation of the plate and centre of gravity under the various conditions flooding.
 - 2.2. A document giving all information on volumes of buoyancy, materials, mode of fixing and strength of these fixings.
 - 2.3. An estimate of complete and detailed weight, ship outfitted without crew, with engine, sails, food and half of its capacity out of water and fuel. Each heading of this estimate must give the unit weight of materials used.
3. Any multihull ship being regarded as a motor ship, to benefit from the provisions envisaged by subparagraph 6 of article 224-2.20, the conditions required with article 224-2-24 must be achieved.
4. The multihulls classified in 1st, 2nd or 3rd category must be provided with reliable devices for attaching the safety straps on and under the ship. The flares and the rescue rafts must be accessible from outside capsized ship.
5. The multihulls classified in 1st category must be provided, on each livable hull, in a place not immersed when the ship is capsized, of an inspection pit of a minimum diameter of 450 mm opening of the interior and the outside or of any other offering device of the equivalent guarantees.

Article 224-2.29

Bilge pumping - Draining

1. The means of bilge pumping required by article 43 of the decree referred to above are given under the conditions hereafter, according to the category of the ship considered:
 - 1.1. In 5th category, a rigid bucket;
 - 1.2. In 4th category, two rigid buckets, and in the case of the ships a length more than 8 meters, a hand pump;
 - 1.3. In 1st, 2nd and 3rd category, a fixed hand pump operable from outside, another fixed hand pump inside which can be operated by hand, electrically, or mechanically and at least two rigid buckets;
- The two required pumps are connected to a draining manifold making it possible to suck water in all the compartments if the ship is provided with watertight bulkheads, or with a suction point as low as possible in the ship.
2. The rigid buckets must have a capacity of at least 7 liters and be provided with a lanyard.
 3. The minimum flow of the pumps with fixed or portable arms must be at least 0,500 liter per stroke, that of the mechanical or electric pumps of at least 500 liters per hour. Inlet and outlet pipes must be

secured to the pump. In no case, shall water be pumped into the cockpits and wells of outboard engines, even if those are self-bailing. Submersible electric pumps must be able to function uninterrupted for two hours.

4. Inlets of the pumps or pumping manifold, if there is one, must be provided with strainers of corrosion proof material which can be easily dismantled and cleaned., excluding hand pumps.

FIFTH CHAPTER

FIRE-PROTECTION

Article 224-2.30

(modified by decree of the 06/03/00)

Extinguishers

1. The extinguishers used on pleasure boats are in conformity with the provisions of division 311 applicable to the fishing and freighters. The extinguishing capacity of the apparatuses, characterized by the extinguished standard fire, determines the ability to fight a fire occurring on a ship equipped with a given horse-power. Table 1 hereafter defines this effectiveness according to the maximum horse-power being able to be covered.

Table I

Effectiveness of the extinguishers according to the power of the engine installation

Effectiveness of the extinguisher	real Power maximum
Fire 21 B P	= 150 kw
Fire 34 B	150 kw < P = 300 kw
Fire 55 B	300 kw < P = 450 kw

2. The revision of the extinguishers must be carried out in accordance with the provisions contained in the "Guide for maintenance of the mobile extinguishers" worked out by the National Committee of the Material of Fire and Safety.

3. Any livable ship, whatever its mode of propulsion, must have at least a standard extinguisher 21 B. In the case of ships with living quarters for several persons and a length less than 10 meters, on board of which flammable products such as gasoline, oil or gas are used, this extinguisher must contain at least 2 kg of extinguishing agent other than carbon dioxide.

4. Any ship equipped with one or more interior engines, must have for each engine one or more extinguishers or a fixed installation of extinguishing by remote control by inert gas (Article 224-2.32 hereafter).

5. The extinguishers must be distributed on positions easily accessible and moved away from a possible source of fire.

6. When the ship is equipped with an electric installation of the category B one of the extinguishers must be dielectric.

7. Any engine compartment, except for those equipped with a fixed installation with extinguishing by inert gas, must be equipped with an opening making it possible to project the extinguishing product inside without it being necessary to open the panels of usual accesses. This opening must be equipped with a system of closing which must be held closed against the sea.

8. The number and the distribution of the extinguishers aboard yachts are in conformity with the following provisions:

8.1. The ships equipped with one or more engines (see 4 above) must have one or more extinguishers assigned to this or these engines and the installations with liquid fuel. The number and the effectiveness of these extinguishers are given according to table 2 hereafter:

Table 2
Extinguishers assigned to the propelling installation

maximum real Power installed	Number and class of the extinguishers required
P = 150 kw	1 extinguisher 21 B per engine
150 kw < P = 300 kw	2 extinguishers 21 B if two engines. 1 extinguisher 34 B if an engine
P > 300 kw	1 extinguisher 55 B and as many complementary extinguishers than it is necessary to cover the power if an engine. If two engines: for each engine, an extinguisher 34 B or 55 B and as many extinguishers as it is necessary to cover its power.

8.2. Moreover any inhabitable ships of length more than 10 meters must have one or more additional extinguishers according to the methods of table 3 hereafter. One of the extinguishers must be located at the entry of the kitchen or the room planned for this use.

9. The ships provided with a fixed installation of extinguishing by inert gas (Article 224-2.32 below) must have a portable extinguisher located near the engine and sufficient compartment to cover the quarter of the horse-power installed, without however that it can be required more than one extinguisher.

If the ship is inhabitable, it must also have in the living quarters the extinguishers envisaged in table 3.

Table 3

Length of the ship	Numbers and class of extinguishers
10 m < L = 15 m	1 extinguisher 21 B
15 m < L = 20 m	2 extinguishers 21 B
20 m < L = 25 m	3 extinguishers 21 B

Article 224-2.31

Extinguishing by water – Firefighting pumps and system

1. On the motor ships of more than 15 meters length, it must exist a network of fire fighting system answering the following conditions:

1.1. The fire main is fed at least by a pump harnessed with the principal or auxiliary engine.

1.2. The diameters of the fire fighting water pipes shall be designed in order to allow the effective use of the total flow of one fire fighting pump. There shall be at least one fire hydrant located in such a way that the water jet can at least reach an unspecified point of the normally accessible ship in the course of navigation. The nozzle of the lance cannot be lower than 7 millimetres.

1.3. A pressure of at least 2 bars must be maintained with the fire hydrants.

1.4. The fire fighting pump can ensure another service, but the valves and pipings must be installed consequently. In particular, suction from the bilges and discharge into the fire fighter water piping must be impossible.

1.5. Fire hoses shall be from a suitable material. If, to satisfy the conditions of subparagraph 1.2, the length of the hose exceeds 20 meters, a second fire hydrant must be installed at a suitable position.

2. Moreover, any ship must be provided with buckets in a sufficient number. These buckets can be those required by the provisions of article 224-2.29. relating to the means of bilge pumping.

Article 224-2.32

Installation of fire extinguishing by inert gas

1. The ships employing a fuel of the first group with an interior engine installation of a power equal or higher than 110 kw, must be provided with a fixed installation of extinguishing by inert gas in the engine compartment:

1.1. The operation of the extinguishing system must be able to be manually operated on the outside of the compartment to be protected. All useful provisions are taken so that gas cannot be sent by inadvertency to an unspecified room. A signal must inform if inert gas passes into compartments where the personnel have to work. This mode of extinguishing is not used for the inhabited buildings.

1.2. Pipings are laid out so as to ensure an effective distribution of inert gas in the room to be protected.

2. The ships equipped with such installations must have, moreover, the extinguishers fixed by paragraph 9 of article 224-2.30.

2.1. For the application of this article, in the case of use of carbon dioxide, its weight is calculated on the basis of 1,78 kilogramme per cubic meter of gas (0,56 cubic meter per kilogramme);

2.2. The quantity of carbon dioxide and the installation must make it possible to discharge twice, in a separate and massive way, the quantity of carbon dioxide prescribed in paragraph 2.3 of this article.

2.3. The quantity of carbon dioxide distributed by piping must, for each sending, to correspond to a volume of gas, the atmospheric pressure, at least equal to 40 percent of the rough volume of the room considered.

2.4. The conditions of construction and monitoring in service of the carbon dioxide bottles are fixed by a ministerial decree. 3. Any other inert gas can replace carbon dioxide provided that it is accepted by the minister in charge of the merchant navy, after opinion of the national commission of safety of the pleasure sailing, and that the installation satisfies the provisions of present article, in particular with regard to the possibility of two gas discharges in a separate and massive way.

4. The fixed device of extinguishing by inert gas above can be replaced by a system of automatic control approved by the minister in charge of the merchant navy after opinion of the national commission of safety of the pleasure sailing. In this case, the provisions envisaged by article 224-2.30 will have to be respected.

SIXTH CHAPTER

INSTALLATIONS AND APPARATUS FOR COMBUSTIBLE LIQUID GAS

Article 224-2.33

Rules applicable

1. General information:

1.1. The gas bottles in service must be fixed out of the living quarters, in a compartment gas tight with respect to the living quarters, accessible from the outside and located above the waterline at 30 degrees of heel, suitably ventilated and in particular provided with an opening of 50 cm² minimum at the low part emerging above the waterline, allowing the evacuation in the event of escape. This opening must be located in such a way that the gas coming from possible escapes cannot penetrate inside the ship; moreover, an opening at the top must be provided not less than 10 centimetres below the stop valve. All provisions are taken so that the bottles are not subjected to an excessive temperature. The gas bottles must be fixed in engine position, in such way that they cannot shift in the course of navigation.

2. Pipings:

2.1. Fixed pipings: Fixed pipings are metal, the material used is the stainless steel or copper (NF. A 51.120). They are suitably fixed the every 0,50 meter for copper, 1 meter for the stainless steel, and are protected everywhere where they are likely to undergo shocks. The junctions reduced to the minimum and are always brazed. The soldered joints are prohibited. The connections brazed out of copper must meet standard NF E 29591. If mechanical junctions are essential for a possible disassembling of the installation, those must be easily accessible for their monitoring. These junctions must be of a type being appropriate for liquid gas.

2.2. Flexible pipings:

2.2.1. A flexible piping a maximum length of 1 meter is allowed on inlet and outlet at the appliance. These flexible sections are in conformity with the French standard into force. They must remain visible and accessible over all their length and be laid out so as to be able to be reached by the flames, neither deteriorated by hot part, combustion gases of the apparatuses or overflow of hot products, nor to be damaged by chafing. Their fixing is ensured by clamps.

2.2.2. An individual stop tap, shall be placed near each appliance and located upstream of any end fitting on the flexible pipe and must make it possible to isolate the apparatus even in the event of it catching fire.

2.2.3. A manual or automatic tap or a pressure reducer release with built-in tap must be installed on the bottle.

3.1. The bottle, of a gas weight liquid equal or lower 3 kilos can be located inside the ship in both cases hereafter:

3.1.1. When it is connected to the burners directly or by the intermediary of a short rigid piping. In this case, the bottle must be made interdependent of the stove by a means other than this connection.

3.1.2. When it is of the non returnable type (cartridge).

3.2. In all the cases, the bottles or cartridges of refill are not stored in the room where the apparatus is located.

4. Apparatuses with naked flame others than the stoves can be authorized inside the ships only in the following conditions:

4.1. The apparatus is provided with a device cutting the gas connection automatically when the night light dies out.

4.2. The flame must be protected. It must exist a flue of the burnt gases to the outside of the boat.

4.3. A fresh air inlet shall be provided for a flow for the renewal of the atmosphere.

4.4. The apparatus and its installation on board are subjected to the approval of the minister charged with the merchant marine after opinion of the national commission of safety of the pleasure sailing.

4.5. All the apparatuses, fixed or articulated, must be equipped with a fastening preventing all shifting, whatever the angle of heel of the ship.

SEVENTH CHAPTER

HABITABILITY AND HYGIENE

Article 224-2.34

Accommodation areas - heating appliances

1. The compartments containing sleeping berths for embarked people must be sufficiently ventilated.
2. No pipe carrying engine exhaust gas shall pass through accommodation areas if particular precautions are not taken to ensure a satisfactory insulation and to avoid corrosion and leaks.
3. No bed must be installed in the engine compartment and this compartment must be sufficiently isolated from the sleeping compartments so that the gases of the engine cannot penetrate in the latter.
4. The stoves, pipes and chimneys are provided with a fireproof and dismantable protective device. If it has a key of adjustment, this is equipped with a notch of preventing the stop completely closing.

The passage of the pipes through the decks and bulkheads must be isolated. Static heating appliances shall be provided with ducts to evacuate burnt gases.

Article 224-2.35

Drinking water

The ships of 1st, 2nd and 3rd categories must embark a sufficient drinking water reserve, in connection with the duration of the voyage to be undertaken and numbers it embarked people. The tanks must be made out of material compatible with the food use.

Article 224-2.36

Medical and pharmaceutical material

Any yacht must equipped with a medical and pharmaceutical material fixed under the following conditions:

1. There are three types of first aid boxes: n° 1, n° 2 and n° 3. The composition of these first aid boxes is given by the appendix 224-0.A.8 of this division.
2. According to the category of practised navigation, it must be embarked:
 - 2.1. On the ships practising the 5th category, a first aid box n° 1.
 - 2.2. On the ships practising the 4th category, a first aid box n° 2.
 - 2.3. On the ships practising 3rd and the 2nd category, a first aid box n° 3.
 - 2.4. On the ships practising the 1st category, at least a first aid box n° 3 which will be supplemented according to the duration of the voyage, the sea area and the number of embarked people.
3. The material and the drugs are contained in a packing ensuring a watertight closing.

EIGHTH CHAPTER

SAFETY OF NAVIGATION - PROVISIONS RELATING TO NAVIGATION, APPARATUS,
DOCUMENTS AND NAUTICAL INSTRUMENTS, OUTFIT AND SPARES

Article 224-2.37

Navigation lights and day shapes

1. The yachts must carry lights and shapes prescribed by the international regulations to prevent the boardings at sea.
2. The yachts a length equal or higher than 7 meters must have lamps of a type approved (NF. J 76. 102).
3. The ships a length lower than 7 meters can have not approved lamps but, in this case, those will be in conformity with the following minimal specifications:

- 3.1. The luminous ranges must be those prescribed by the international regulations for the ships a length less than 12 meters.
- 3.2. The lamps must light in the lawful sector and only in this sector.
- 3.3. When the screens are not out of glass, the material used must satisfy the following conditions:
 - 3.3.1. To be self coloured.
 - 3.3.2. To resist ageing; particularly with regard to the dyes used which should not undergo modifications apart from the allowed tolerances, under the influence of sunlight or artificial, of heat and the marine elements.
 - 3.3.3. To be a sufficient thickness.
- 3.4. The coloured screens consisted by a thin sheet superimposed on glass or a painting or a varnish are not authorized.
- 3.5. The electric power must be carried out by 2 poles isolated from the ground.
- 3.6. Lamps must have a good sealing against sea spray or an effective drainage.
- 3.7. The name of the manufacturer and the indication of conformity with the provisions of this division must be reproduced on fire in a visible and indelible way. The administration can make proceed near the manufacturers with all checks which it considers useful within the limits of the specifications of this division. These controls are carried out with the expenses of the manufacturer or the importer.
4. The sailing ships of less than 7 meters must, as much as possible showing the fires prescribed with subparagraphs 1, 2 or 3 of rule 25 of the international regulations. Failing this, they must show at the head of mast a white light visible from the whole horizon.
5. The ships of the 5th category which sail usually only of day, can have only "lights" always maintained in good working condition; these lamps can be powered with dry cells.
6. The lamps must be assembled in positions where they cannot be masked in the course of navigation by the sails or other tackles. With the assembly, the lamps must be directed suitably, in order to respect the sectors of visibility and be locked in position.
7. No nonlawful additional lights being able to lend to confusion must be lit at the same time as the lights prescribed by the international regulations. The switches or circuits of lighting must be consequently provided.

Article 224-2.38

Navigation Bridge or cockpit

1. Aboard motor ship, the navigation bridge or the cockpit must be enough high to offer an excellent visibility on a sector of horizon as wide as possible.
2. The indications of use in French must be written on the apparatuses and accessories of safety concerning navigation, the rescue, the fire or bilge pumping. In addition, instructions for maintenance , also French, must be provided for each apparatus.

Article 224-2.39

(modified by decree of the 06/03/00)

Compasses

1. Any ship must be provided:
 - 1.1. If the ship carries out a navigation in 1st, 2nd, 3rd or 4th category, of a steering compass and an bearing compass. In 4th category, the two compasses can be replaced by a steering compass which can be used for the bearings.
 - 1.2. If the ship carries out a navigation in 5th category, then a steering compass.
2. The compasses of the ships of 1st, 2nd and 3rd category must be in conformity either to standard NFJ 38104, or to the standards envisaged with annex 311-1.A1 of division 311.
3. Aboard ship carrying out a navigation of 1st, 2nd or 3rd category, the curve of deviation must be posted. In the event of too significant deviation, the compass must be compensated.
4. The compasses must be sheilded from the disturbing actions such as radio electric installations or electric circuits not specially designed. In this is not possible, it will have allowance will be held in account in curves of deviation.
5. Non-approved compasses allowed for navigations of 4th and 5th category must answer the following minimal specifications:
 - 5.1. They are of the liquid type and must function effectively between — 20 °C and + 60 °C. The nature of the liquid must be indicated.
 - 5.2. The circumference of the card is graduated in degrees: the maximum difference between two consecutive divisions is 5 degrees.
 - 5.3. The compass remains effective and its characteristics are preserved when the ship takes a heel up to 40 degrees.
 - 5.4. It must be possible with an observer having a normal sight to see the index and to read the graduations of the card corresponding to the course at a distance of one meter in the light of the day and the artificial light. If part of the card is only visible, the use of a magnifying device is allowed. It must be possible to read at least 15 degrees on either side of the lubber's line.
 - 5.5. The attachment unit of the compasses with double use, steering and bearing, must be such that it is impossible to replace them in a bad position compared to the lubber line.

5.6. The compass magnetic fittings must satisfy the conditions hereafter:

5.6.1. It must remain free for a slope of the bowl of 20 degrees in all the directions.

5.6.2. In France, after an initial deviation of 40 degrees, time separating the first two consecutive passages to the starting position must be equal to or higher than five seconds.

5.6.3. After a rotation of the bowl in one minute, the movement of magnetic fitting must be lower or equal to 3 degrees.

5.6.4. The deviation remaining after of the magnetic fittings have turned 5 degrees must be equal or lower than the half-degree.

5.7. The name of the manufacturer and the indication of conformity with the provisions of this article must be reproduced on the visible compass of way and indelible

Article 224-2.40

Radar Reflectors

Any ship carrying out a navigation in 1st, 2nd, 3rd and 4th category, whose hull is not metal, must be provided with a device reflectors of waves radar of a model satisfying the minimal standards approved by the minister in charge of the merchant navy after opinion of the national commission.

Article 224-2.41

Log book

1. The ships carrying out a navigation in 1st, 2nd or 3rd category must hold a log book which must be presented at any request of the maritime authorities:

1.1. The facts relating to the safety of the ship, and in particular the weather forecasting taken before the departure and in the course of navigation and all the events interesting the safeguard of the human life at sea must be consigned by chronological order on the log book.

1.2. The information relating to the navigation of the ship must appear in it.

1.3. The name of the people present onboard must appear in it with the date of their boarding and disembarkation. That of the Captain must be specified by name there.

Article 224-2.42

Water skiing

1. Two people must be present on board boats towing one or more skiers. One must be devoted to the navigating the boat, the other with the monitoring of the skiers.

2. Persons holding the Government Certificate of Water Skiing Instructor are not subjected to the provisions above.

Article 224-2.43

Ships taking part in diving operations

The yachts taking part in operations of diving must carry the marks provided for by the international regulation to prevent the collisions at sea. However, the ships of which the length is lower than 7 meters can show a house A of the international code of the signals, at least 0,50 meter of height. This flag must be visible on all the horizon and kept unfurled.

Article 224-2.44

Navigational Instruments and documents Outfit and spares

1. The yachts are provided, according to their category of navigation, of the apparatuses, instruments and documents nautical, as well as objects of outfitting and replacement envisaged in tables A and B hereafter.
2. The composition and the minimal characteristics of the anchor lines are listed in table B are defined in article 224-2.46 hereafter.

TABLE A¹

Apparatus, instruments and documents:

Apparatus	Category					Observations
	1	2	3	4	5	
Sextant	1					+ tables necessary
Deck watch	1	1	1	1		in 2nd, 3rd and 4th category, can be replaced by an accurate wrist
Barometer	1	1	1	1		
Binoculars	1	1	1			
Casting lead	1	1	1	1		
Patent log	1	1	1			
Signal Mirror	1	1	1	1	1	
National ensign	1	1	1	1	1	Dimension according to category
N and C flags	1	1	1	1	1	Dimension according to category
Protractor	1	1	1	1		or equivalent instrument
Tide tables	1	1	1	1	1	Except in the Mediterranean
Waterproof lamp	2	2	2	1	1	
Foghorn	1	1	1	1	1	
Bell	1	1	1	1	1	for ships > 12 m
Radio receiver	1	1	1	1		
SH navigation guide	1	1				
* SHOM booklets 2A, 2B, 3C and 1D of the. Code international signals			1	1	1	
* Decrees and regulations on safety for pleasure boats less than 25 m long	1	1	1	1		
* Books and charts necessary to the voyage undertaken						

¹ mentions simplified in the present edition

* these documents can be replaced by recognized equivalences

3. TABLE B

3.1. All ships:

— one or two mooring lines following the characteristics of the ship defined by article 224-2.46 hereafter:

- a boathook;
- for the ships of which the length is lower than 8 meters and for the ships been driven by an engine, an oar a sufficient length and a rowlock, or two paddles;
- a mooring block or bitt and a cleat or equivalent device at bow, of sufficient characteristics to allow the towing of the ship;
- a rope allowing to tow the ship by agitated sea if there is only one anchor line;
- a set of wood conical plugs of various diameters.

Any ship covered by the present chapter and whose steering bar is remotely controlled must have a emergency tiller than can be easily usable, except for boats with the outboard motor.

3.2. Sailing ships:

3.2.1. All categories:

- a set of sails allowing the ship to travel:
- a complete set of;
- a storm jib;
- a device for reduction of the sail;
- safety harness for anybody embarked, except in 5th category.

3.2.2. Sailing ships of 1st, 2nd or 3rd category:

- a set of ropes together with replacement allowing the replacement of the running rigging;
- spare pulleys and shackles for the usual rigging;
- a shear ready to cut the stays or suitable tools allowing release standing rigging.

3.3. Ships with mechanical propulsion carrying out a navigation of 1st, 2nd, 3rd or 4th category:

3.3.1. Spares for engine with lighting by compression:

- a set of tools for disassembling;
- a calibrated injector and a injector pipe assembled on its injector holder;
- a gas oil filter cartridge;
- some bolts appropriate to the engine;
- some flexible pipes or connections with clamps;
- fuses for the electric installation;
- spare belts.

3.3.2. Objects of replacement for petrol engine:

- a set of tools for disassembling including a spark plug wrench in particular;
- a set of spare spark plugs;
- an igniter coil and its condenser;
- some flexible pipes or connections with clamps;
- some bolts appropriate to the engine;
- fuses for the electric installation;

— spare belts.

4. Mixed cruisers:

The mixed cruisers, as defined in article 224-1.05 of this division, are compelled with the loading of the material prescribes with subparagraphs 3.1, 3.2 and 3.3 above, according to their category of navigation.

Article 224-2.45

(modified by decrees of the 20/01/89 and 06/03/00)

Pyrotechnic signals of distress

1. The following pyrotechnical signals of distress shall be in conformity with the provisions of division 311 applicable to the fishing and freighters:

- parachute rocket;
- floating smoke signals;
- automatic hand operated red flares.

2. (repealed)

3. The pyrotechnical signals having to be embarked on board are as follows:

3.1. For the ships outfitted in 1st, 2nd and 3rd category:

- four parachute rockets;
- two floating smoke-producing signals;
- six automatic hand operated red flares.

3.2. For the ships outfitted in 4th category:

- three fires parachute
- three automatic hand operated red flares.

3.3. For the ships outfitted in 5th category:

- three automatic hand operated red flares.

4. Any whole of pyrotechnical signals envisaged for a category of navigation can be replaced by the unit related with the higher category.

Article 224-2.46

Characteristics of anchoring/mooring apparatus

1. The ships a length of less than 9 meters or a mass lower than 3 000 kg must be provided with a ground tackle made up of an anchor, a chain a length of at least 8 meters and an anchor warp meeting the characteristics defined in the appendix 224-0.A.6.

2. The ships a length equal or higher than 9 meters or a mass equal or higher than 3 000 kg must be provided with a ground tackle made up of an anchor, of a chain a length at least equal to 2 times that of the ship and an anchor warp meeting the characteristics defined in the appendix 224-0.A.6 and one second ground tackle made up of an anchor, of a chain a minimal length of 8 meters and an anchor warp.

3. The overall length of each anchor warp must be of at least 5 times the overall length of the ship. It can consist entirely of chain.
4. On any ship, one of these ground tackles must be assembled to station and to be permanently made fast.
5. Anchors of a new type could be accepted after opinion of the national commission of safety of the pleasure sailing.
6. The ships taking part in international competitions can be authorized by the heads of center of safety of the ships to embark only the anchoring equipment specified by the rules of race.

Article 224-2-47

(created by decree of the 20/01/89)

Pneumatic rafts tractor drawn by fast boats

1. The towed unit must be of an easily locatable bright color.
2. The people embarked on the machine must carry waistcoats of safety of bright color.
3. The trailer must be of bright and floating color.
4. The tug boat must comprise a fast system of dropping of the trailer and it must raise an orange fluorescent flame of two meters, placed at a sufficient height to ensure its visibility.
5. Two people must be present at edge of any motor ship towing such a machine. One must be devoted to the control of the ship, the other with the monitoring of the towed unit and the possible dropping of the trailer. This last person will have to be of age to pass the driving licence the motor ships.
6. The ship tractor must be able to embark on its board the totality of the people transported by the towed unit, in addition to its crew, and to have a means of adequate access.

CHAPTER 224-3

ELECTRONIC NAVIGATION AIDS DISTRESS SIGNALS AND MESSAGES

Article 224-3.01

Navigation aboard ships equipped with radar or electronic assistances to navigation

1. The fact of having an electronic radar or assistances with navigation by no means releases the captain of the obligation to conform to the regulations of the rules to prevent the collisions at sea.
2. The captain must moreover take account of the annexed recommendations with the international regulations concerning the use of the radar.

Article 224-3.02

Use of the distress or alarms.

1. The captain of a ship can make use of the distress or alarms (twelve four second dashes separated by intervals of one second and group S.O.S. in radio telegraphy or two tones emitted alternatively during thirty to sixty seconds and word Mayday in radiotelephony) only in one of the four following cases:
 - 1.1. To announce that its ship is under the threat of a serious and imminent danger and to ask a medical care.
 - 1.2. To announce that another ship or an aircraft is in distress if this one is not able to announce it itself.
 - 1.3. To ask additional helps when, being carried using a ship or of an aircraft in distress, it considers these helps necessary
 - 1.4. To repeat a distress call when no other ship or coastal station acknowledged immediately, when it has no possibility to go immediately to the help of the ship or the aircraft in distress.
2. In all the other cases where the captain of a ship must transmit a very urgent message concerning safety of a ship, an aircraft or an unspecified person being on board or for the edge, it must make use of the emergency signal (three repetitions of group XXX in radio telegraphy; three repetitions of the word Pan Pan in radiotelephony).
3. When the captain of a ship which emitted the alarm or of distress or an emergency signal followed by a message "to all" regard later on that the assistance is not necessary any more or that it is necessary no more to take action on the message, it must immediately let it know at all the interested stations.
4. In all the cases where the captain of a ship must transmit a message concerning the safety of navigation or giving significant warnings weather, it must make use of the signal of safety (three repetitions of group TTT in radio telegraphy, three repetitions of the word Sécurité in radiotelephony).
5. The transmission of all the messages relating to the cases of emergency distress and safety must be carried out in accordance with the regulations of the radiocommunications in force

Article 224-3.03

Unjustified use of the hazard warning signals

The use of an international signal of distress, except if it is a question of announcing a "case of distress or a need for help" as well as the use of a signal which can be confused with an international signal of distress are prohibited.

Article 224-3.04

Message of distress - Measures to be taken by captain

1. The captain of a ship at sea which receives some source that it is (including radio beacon for the localization of the disasters at sea) a message indicating that a ship or an aircraft or their boats and rescue rafts are in distress is held to go at maximum speed to the help dice people in distress and to inform them, if possible. In the event of impossibility or if, in the special circumstances where it is, it considers it neither reasonable nor necessary to go to their help, it must register with the log book the reason for which it does not go to the help of the people in distress.
2. The captain of a ship in distress, after having consulted as much as that can be possible the captains of the ships which answered its call to the help, has the right to requisition such or such of these ships that it considers able to carry help and the captain or the captains of the requisitioned ships have the obligation to be subjected to the requisition continuously to go to maximum speed to the help people in distress.
3. The captain of a ship is released from the obligation imposed by paragraph 1 of this article, when it learns that one or more ships other than it his were requisitioned and go to the requisition.
4. The captain of a ship is released from the obligation imposed by paragraph 1 of this article and, if its ship is requisitioned, of the obligation imposed by paragraph 2, if it is informed by the people in distress or the captain of another ship which arrived near these people that the help is not necessary any more.

Article 224-3.05

Signals of rescue

1. During operations of research or rescue, particular signals can be carried out:
 - 1.1. By the stations or the maritime units of rescue in their communications with the ships or the people in distress and reciprocally.
 - 1.2. By the planes to guide the ships.
2. The international significance of these signals is specified in the publications of the hydrographic and oceanographical service of the marine and must be known people exercising the command of pleasure boats.

CHAPTER 224-4**PROVISIONS APPLICABLE TO THE LIGHT PLEASURE BOATS****Article 224-4.01**

Zones of navigation

The zones of navigation of the boats as defined in article 224-1.04 are as follows:

1. The light sailing ships of sport, the sailing ships of sport to skittle and the boats driven exclusively by human energy can carry out only one diurnal navigation.
2. The category of navigation in which they can evolve/move is 6th, except if they are supervised by a suitable accompaniment.
3. The sailing ships of sport with skittle a length higher than 5 meters can carry out a navigation in 5th category without accompaniment, if they are equipped with the reserves of buoyancy prescribed in article 224-4.05 hereafter.
4. The other boats covered by the present chapter can carry out only one navigation of 5th category, except particular decision of the minister charged with the merchant marine after opinion of the national commission of safety of the pleasure sailing.

Article 224-4.02

Transport capacity of rigid hull boats

1. The maximum number people being able to take seat a board rigid boats covered by the present chapter is determined by the manufacturer or the importer according to the method indicated by the appendix 224-0.A.7 of this division.
2. For the boats of competition defined by subparagraph 5 of article 224-4.07 below, the maximum number people being able to take seat on board is that determined by the rules of the series increased by one.

Article 224-4.03

Transport capacity of inflatable boats

The maximum number people which can take seat aboard pneumatic boats covered by the present chapter is determined by the French standard into force.

Article 224-4.04

Exemptions from the rules relating to the transport capacities

Notwithstanding the provisions of articles 224-4.02 and 224-4.03, the transport capacity of the boats used by the schools of sail, within the framework of the collective training of the trainees, can be fixed by decision of the minister charged with the merchant marine after opinion of the national commission of safety of the pleasure sailing.

Article 224-4.05

(modified by decree of the 28/06/00)

Reserves of buoyancy

Any rigid boat covered by this chapter must be equipped with a reserve of sufficient buoyancy so that, once filled voluntarily of the maximum quantity of water which will return inside and in charge on their usual positions of the immersed weights of the engine, the equipment and as many time 15 kilogrammes of iron than people being able there to take seat pursuant to article 2244.02, it floats out of fresh water lasting twenty-four hours, appreciably straight, keel downwards, without no part of the deck line being immersed.

For the boats cited in paragraph 5 of article 224-1.04, the characteristics of buoyancy are appreciated at the point low of the binding-strake.

Article 224-4.06

Buoyancy of the pneumatic boats

The buoyancy of the pneumatic boats is in conformity with the specifications of the French standard into force.

Article 224-4.07

(modified by decree of the 28/06/00)

Buoyancy of the boats other than pneumatic

1. When the ship has air boxes, those cannot be retained like holds buoyancy and must be put in communication with outside.
2. The reserves of buoyancy are made up either by expanded matters, or by any other process approved by the minister charged with the merchant marine after opinion of the national commission of safety of the pleasure sailing.
3. The expanded matters are with closed cells. They irremovable and are protected so that they cannot be exposed to mechanical damage and solvents hydrocarbons. They must have a good resistance with the vibrations.
4. In addition, the mast with cross trees, and standard and running when rigging it is not fixed at the boat? must float out of fresh water in horizontal position during twenty-four hours. This provision does not apply to the masts of the boats of sport to skittle.
5. Boats of competition:
 - 5.1. The boats of competition outfitted by persons with the federations approved by the minister in charge of the sports for the sail, the motonautism, the canoe-kayak or the oar can be exempted, at the time of the competitions, of the provisions of this article and to satisfy only the conditions of buoyancy provided for by the national or international regulation of their series. For the drive with the competition, these boats will be the subject either of a monitoring, or d'une declaration of exit.
 - 5.2. For a use other than that envisaged above, these boats will have to be equipped with a device of buoyancy, which could be removable, answering the conditions defined in article 224-4.05.

5.3. These boats will have to be marked on their maker badge prescribed by article 224-1.12 "buoyancy nonin conformity with articles 224-4.05 and 224-4.07 of division yachts ". These boats will have to be put in conformity when they cease being intended for the competition.

5.4. The list of the boats profiting from the provisions above is fixed by the minister charged with the merchant marine, after opinion of the national commission of safety of the pleasure sailing.

Article 224-4.08
(modified by decree of the 28/06/00)

Material of outfitting

1. Any boat with sail or engine sailing in 6th category must be provided with the following material:

- an anchor or hook of an effective model with chain or anchor warp length appropriate, moored to the ship;
- two oars or a scull with device of stroke or a paddle; a scoop connected by an end to the ship, except if the cockpit is a self-bailing;
- a chaumard with before and a block allowing the equivalent towing or all other devices;
- for the pneumatic boats, an air pump;
- a safety device for the petrol engines automatically cutting the lighting or, failing this, gases in the event of ejection or of faintness of the pilot, when the maximum real power of the engines exceeds 4,5 kw. (6 CV)

1.1. The boats cited in paragraph 5 of l'article 224-1.04 and sailing in 6th category must be provided with the following material:

- an end d'amarrage provided d'un snap hook, d'une length equal to the length of l'embarcation;*
- at least two blades, or shovels, or pallets;*
- a scoop connected by an end to the ship or a pump d'assèchement, except if the cockpit is a self-bailing;*
- a block allowing the equivalent towing or all other devices.*

2. For navigation in 5th category, this material is supplemented by the means of indication hereafter:

- a watertight lamp in operating state;
- a compass conforms to the specifications defined in article 224-2.39;
- three hand operated red flares of an approved type;
- a foghorn.

3.1. The organizations of State and those which are approved by the minister in charge with youth, the sports and the leisures can on their request, be exempted by the maritime authority of the obligation to provide their boats with anchor, hook, oar, scull or paddle at the time of the training sessions organized or competitions.

3.2. These boats also can, under the same exempted conditions being of the obligation to embark the material of indication when they carry out a navigation with a suitable accompaniment in a zone other than that concerning 6th category of navigation.

Article 224-4.09
(modified by decree of the 07/11/94)

Waistcoats or life jackets

Each person aboard boats covered by the present chapter must have a waistcoat or life jacket of an approved type. However, are exempted of this obligation, the embarked people when they wear insulated clothing offering the same guarantees of buoyancy.

The life jackets carrying marking EC can be d'un of the four following types: type 50(NF/EN 393), standard 100(NF/EN 395) standard 150(NF/EN 396) or standard 275(NF/EN 399), with l'exclusion of the models with oral inflation only.

Article 224-4.10

Extinguishers

Any boat equipped with one or more interior engines must have one or more extinguishers in conformity with the provisions of article 224-2.30 of this division.

Article 224-4.11

Provisions of the chapters 224-2 and 224-3 applicable to the light boats of pleasure

Are applicable to the ships aimed by this chapter, the following articles of chapters 224-2 and 224-3 at the date determined by article 224-1.14 above:

- 224-2.03 Building materials.
- 224-2.06 Openings in the hull and the superstructures.
- 224-2.09 Propelling apparatus and electricity: general.
- 224-2.10 Classification of liquid fuels.
- 224-2.11 Ventilation of the engine compartments.
- 224-2.12 Fuel tanks.
- 224-2.13 Fuel piping and supply.
- 224-2.14 Carburettors .
- 224-2.15 Test of the feeding circuit out of fuel. Electric continuity.
- 224-2.16 Engine exhaust.
- 224-2.17 Clamps .
- 224-2.18 Outboard motors.
- 224-2.19 Electricity .
- 224-2.30 Extinguishers .
- 224-2.32 Installation of extinguishing fixes by inert gas.
- 224-2.33 Liquified and combustible gas installation and appliances: applicable rules.
- 224-2.34 Buildings assigned to the people. Heating appliances.
- 224-2.37 Fires and marks of navigation.
- 224-2.38. 2. Footbridge of navigation of the cockpit: French indications.
- 224-2.42 Water skiing.
- 224-2.43 Ships taking part in operations of diving.
- 224-2.45 Pyrotechnical signals of distress.
- 224-3.03 Unjustified use of the hazard warning signals.

Article 224-4.12

Requests for approval

The requests for approval of the ships covered by the present chapter must be lodged with the center of safety of the ships of their place of construction.

CHAPTER 224-5
(created by decree of the 05/07/89)

PROVISIONS APPLICABLE TO NAUTICAL VEHICLES WITH MOTOR

ARTICLE 224-5.01
(repealed by decree of the 14/05/90)

Article 224-5.02

Zone of navigation

The navigation of the nautical engine vehicles is authorized only by day. It is exerted in on this side one thousand nautical, as from the limit of water.

The conditions of navigation in the zone of the 300 meters are regulated by the maritime prefect. The zone of navigation can be modified by the maritime prefect when the local geographical conditions make it possible to determine an easily locatable zone of evolution.

Article 224-5.03

Approval

The nautical engine vehicles must conceal the object of a registration and an approval under the conditions prescribed by articles 224-1.06 to 224-1.13 and 224-4.12 of this division which are applicable for them.

The number of immatriculation must be affixed in a visible way on the hull, the characters of this number must have a minimal height of 30 millimetres.

Article 224-5.04

Insubmersibility, stability

The nautical engine vehicles must be provided with one or several tight compartments ensuring a permanent insubmersibility. In case of ejection of the pilot and subsequently are turned over or subjected to a strong list, they must be rightable by the only action of user.

Any nautical engine vehicle must be equipped with a reserve of sufficient buoyancy so that once filled of the maximum quantity of water which will penetrate has the interior, including in the air boxes, and be charged on their usual position of the weights immersed of the engine, the equipment and as many time 15 kilogrammes of iron than people envisaged by the manufacturer, it floats out of fresh water during twenty-four hours

The reserves of buoyancy must be in conformity with the provisions of subparagraphs 1, 2 and 3 of article 224-4.07 of this division.

Article 224-5.05

Mode of propulsion

When the propulsion is carried out by hydrojet, the intake of the turbine must be equipped with a protective grille.

When the propulsion is carried out by a propeller this one must be entirely ducted so that it can come into contact voluntarily or involuntarily with no part of the human body.

Article 224-5.06

Control of propulsion

Any nautical engine vehicle must be equipped with a system of safety whose implementation does not depend on the will of the pilot automatically controlling the propulsion in the event of ejection of this one.

In the case of a hydrojet this device must lead either to the automatic stop of the propulsion or with the setting in slow gyration of the vehicle.

In the case of propulsion by propeller the safety device must involve automatic stopping of rotation of the propeller.

Article 224-5.07

Autonomy

The fuel tank must comprise a system of visible gauge of the pilot in position of control or a reserve allowing an autonomy minimum of 5 nautical miles. The batteries must be equipped with a system anti-discharge.

Article 224-5.08

Material d'armement

Each nautical engine vehicle must comprise a watertight compartment seals two automatic hand flares and being equipped with a ring and a rope allowing the towing.

Article 224-5.09

Noise Level

The exhausts of the nautical engine vehicles must be equipped with a system of nonlikely reduction of the noises d'être dismounted in normal operating condition.

The noise level with full power should not exceed 80 decibels at a distance of 7,50 meters.

Article 224-5.10

Note d'utilisation

The manufacturer must affix a plate written in French placed permanently under the eyes of the pilot summarizing the principal advice and recommendations d'utilisation.

Article 224-5.11
(modified by decree of the 07/11/94)

Waistcoats

The users must permanently carry a waistcoat or a life jacket of vivid color.

The life jackets carrying marking EC can be d'un of the four following types: type 50(NF/EN 393), standard 100(NF/EN 395) standard 150(NF/EN 396) or standard 275(NF/EN 399), with l'exclusion of the models with oral inflation only.

Article 224-5.12

Hiring

The nautical vehicles with engine rented must be the subject of an annual visit of safety.

ANNEX 224-0.A.1**CONSTITUTION OF the STANDARD FILE OF REQUEST For APPROVAL**

Any indication of dimensions must be given in metric measurement. The information must be provided either in French, or in English.

I Information

- Name of the manufacturer.
- Name of the architect.
- Name of the importer.
- Type of the ship.
- Name of the series.
- Date of deposit of the file.

Characteristics

- Length of hull.
- Waterline length.
- Width.
- Maximum draught (centre-board up and down).
- Fore and aft freeboard when loaded.
- Light displacement and in load.
- Number of berths, category requested, a number of people accommodated for the category requested.
- A number of people for a short trip.

Performances

- Speed, maximum power and endurance of cruising planned for the motor ships and the cruisers mixed.
- Sail area with large sail génoa and mizzen, if any, for the sailing ships.

Steering, cockpit, ballast and glazed surfaces

- Type of the steering,
- principal dimensions of the cockpit with indications of the diameter of the scuppers, duration of draining, height of the coaming of the cabin and the trunks, cockpit, nature and fixing of the ballast,
- nature of glazed surfaces, position, dimensions, type of fixing.

Bilge pumping

- Pump model, position, and flow.

Engine

- Type, power in kilowatts or horses available on the propeller shaft, weight of the propelling apparatuses and the auxiliaries if it is necessary.

- Fuel used, type of cooling and exhaust: type of transmission, position, sampling and capacity of the tank with diameter of the filling and the setting to the free air.
- References of the flexible sections in contact with fuel and type of fixing used.
- Mode of engine supply and position of the cutting on the outlet side of the tank.
- Cubage of the engine compartment with position and diameter of the evacuation and intake ports of air.
- Reference of the ventilator or explosion-proof certificate of approval if it is necessary.

Electricity

- Voltage used and position of the batteries, ventilation and battery main switch.

Fuel gas installation

- Description of the installations of fuel gas and supplied apparatuses.

Construction

- Method of construction, materials used: facilities implemented, principal scantlings concerning the hull, the deck and its reinforcements;
- details of hull/deck joint and the watertight bulkheads if those are required.

II Plans and documents

- General plan of the ship which must comprise at least a longitudinal section and three cross sections, one of which at the greatest breadth with scantlings.
- Plan of hull/deck joint.
- Installation drawing of the propelling apparatuses other than removable engines, on which must be reproduced the air ventilation system, the exhaust and the position of cooling water intakes
- Installation drawing of the fuel tank and its piping (position, filling, air vent, feed circuit).
- Complete plan of the steering gear and its control system.
- Plan of fixing of the stanchions, mooring bitts, etc.
- Plan of the cockpit on which are indicated the evacuations, the heights of the coaming of the cabin and the trunks, sealing of the floor cockpit; the water line in sailing order must be reproduced on this plan.
- Plan of fixing of the surfaces glazed with specifications of dimensions of quality and scantlings of materials employed.
- Diagram of the electric installations.
- Diagram of the installation of the means of bilge pumping and fire protection system, if those are required.
- Diagram of the installations of liquid gas (with compartment of storage of the bottle).
- Diagram of the installation of remote extinguishing if it is necessary.
- Plan of the watertight doors.
- Diagram of the position of the liferaft.
- Estimate of weight.
- The following complementary plans must also be provided for the sailing ships:
Plan of longitudinal and transverse rigging with scantlings of standing rigging and moments of inertia of the mast.
Plan of fixing of chain plates.

Plan of the reinforcements under mast.

Plan of fixing of the ballast and detailed plan of the floor frames.

Plan of the centreboard well and the system of lifting if it is necessary.

All plans and particular documents considered to be useful by the commission to light it in its study of the file.

In the case of a file of plans to be marketed, for construction amateur or of a file of plans of components of whole or part of the ship to be finished by a manufacturer amateur, the architect author of the plans or the supplier of these components must supplement this file of a note allowing an amateur to implement the technique of recommended construction and to ensure the conformity of the realization the approved plan; a specimen of the marketed complete file must be deposited.

APPENDIX 224-0.A.2

CERTIFICATE² OF CONSTRUCTION AND TONNAGE OF A SERIES BUILT PLEASURE BOAT

² model not reproduced in the present edition

ANNEX 224-0.A.3

RULES AND PROCEDURES TO APPLY FOR THE GRANTING OF EXEMPTIONS AND WAIVERS STIPULATED³ BY ARTICLE 224-1.09

1) SHIP A SPORTING OR EXPERIMENTAL CHARACTER

A) The applicable procedures:

The request for exemption for the startup of a ship in sporting or experimental matter is informed directly by the external services. A double will be transmitted for information by the center of security concerned to the commission.

This request must imperatively be deposited in double specimen, in the qualified center of security, within one minimum month preceding the use of the ship.

It must be written according to model below⁴:

The examination and the controls operated by the services of the minister in charge of the merchant navy do not relate, before delivery of the chapter of security that to the fields where no exemption could be allowed.

- Rescue: articles 224-2.20, 224-2.21, 224-2.22, 224-2.23..
- Bilge pumping and draining: article 224-2.29..
- Fire-protection: articles 224-2.30, 224-2.31, 224-2.32..
- Liquefied and combustible gas installations and appliances: article 224-2.33..
- Propelling apparatuses and electricity: installation for the use of hydrocarbons: articles 224-2.09 to 224-2.19..
- Life rails and their fixings: article 224-2.08..
- Security of navigation: (provisions relating to control, with the apparatuses, documents and instruments nautical objects of outfitting and replacement) title 8.

Moreover, the ship will have obligatorily to be equipped:

- of reflectors radar;
- of a net (for the multihulls);
- of a hardware of indication (radio beacons) adapted to navigation undertaken.

Conversely, the fields covered by the exemption and remaining under the integral responsibility of the head of edge will be the following:

- construction, hull, partitioning: articles 224-2.03 to 224-2.07;
- buoyancy, stability: articles 224-2.24 to 224-2.28, 224-4.05 and 224-4.07;
- habitability and hygiene: contain 7.

B) The machines, known as special, used only for the drive, of the tests or the competitions on water level limited and provided that they profit from a permanent and effective assistance of other nautical means, could be the subject of measurements of greater flexibility. A reduction of the hardware envisaged by article 224-2.44 of this division, can be tolerated in particular provided in all the cases, is at least made compulsory the existence of a rope associated with a fixed point or of all other device allowing the towing.

C) the exemption remains provisional:

³ (1997) These exemptions inapplicable from the ships carrying marking EC –

⁴ model are not reproduced in the present edition

a) It sticks to the binomial " ship - head of edge ". Thus, the qualified Center of Security will take care to grant exemptions only from the ships in sporting or experimental matter whose heads of edge will be able to justify antecedents.

— on the one hand, by a statement of participations in great races at sea in a category comparable with the considered use;

— in addition, by preliminary tests on the machine concerned before the programmed competitions, is in accordance with the provisions of the paragraph B), which precedes, that is to say after the delivery of a provisional title of safety.

The exemption can be granted only for one given duration: a precise programme of competitions on one year a maximum time. These exemptions can be renewed on request express and after visit.

Any change of head of edge not envisaged in the initial file will have to be the new request object near the Center of Safety which was at the origin of the first exemption. The same applies to any transfer of ship having to be used in its capacity as ship in sporting or experimental matter.

On the other hand, any transfer or sale having for object another use of the unit that that mentioned above, will justify the strict application of the legal provisions common suitable for approval of the yachts. The salesman will have, in any event, to produce with the support of the plans of the manufacturer, the log book of the ship aimed each year at the time of the granting or the renewal of the exemptions by the Maritime Businesses. Any transfer is subordinated to the execution of this preliminary procedure.

The common printed paper form of request and granting of exemption will be obligatorily joined under navigation. will in addition be related to this title, the mention "ship in sporting or experimental matter restricted use until (date)".

In the event of change of property, the salesman will have to inform the district of it of the Maritime Businesses qualified, by transmission of the copy of printed exemption and title of navigation in progress.

2) EXCEPTIONAL CHANGE OF CATEGORY OF A PLEASURE BOAT FOR A VOYAGE OR A CROSSING.

The request for exemption concerning the category of navigation of a yacht for a voyage or a crossing must be addressed by the head of edge of the ship to the president of the national commission of safety of the pleasure sailing within 2 month preceding the starting date considered.

It must comprise:

- the name and the type or description of the ship for which this exemption is required;
- description of the voyage under consideration with the dates of the departure and arrival envisaged;
- name, first name and age of the team-members;
- summary of the deep-sea nautical experiment of the head of edge and the crew;
- enumeration if it is necessary, of the improvements made to the ship and the material of navigation in addition to the lawful outfitting.

3) MODIFICATION OF THE NUMBER OF ACCEPTABLE PEOPLE ONBOARD PLEASURE BOATS.

The minister charged with the merchant marine can grant an occasional or permanent exemption from the number of acceptable people aboard yachts used by the schools of veil for the collective training of the trainees.

The person in charge for the school of sailing wishing an exemption must lodge the request with the national commission of safety of the pleasure sailing by specifying the characteristics of the ship, the zones of navigation considered, the age of the trainees, their level of nautical experiment, and the periods for which this exemption is required.

The opinions of the commission after investigation in particular near the French Federation of Sail and of the Center of Safety concerned, is transmitted to the minister in charge of the merchant navy which rules after to have taken some knowledge.

4) NUMBER OF NON PROFESSIONAL DIVERS ONBOARD PLEASURE BOATS.

1. With the exception of the Captain and the crew, the people authorized to embark should be only divers provided with their equipment, which they are or not covered of the combination of diving.
2. The 5th category of pleasure sailing is only authorized. Exemptions to exceed the limits of the 5th category can be granted in the event of sessions of patents, of preparatory training courses or drives to those, in the areas where the depths necessary to certain tests would be located outside the band of the 5 miles, by the head of the center of safety of the ships.
3. The safety requirements and the material of outfitting will be those corresponding to the category of navigation (pleasure) practised, subject to the provisions of subparagraphs 6, 7 and 9 below.
4. It will have to exist means of fixing of the batteries of bottles, and the swimmers will have to be divided equally on each side.
5. The surface of deck available per diver will have to be 0,80 m² at least. Surface to be taken into account for the calculation of the number of plungers is the total surface of the bridge after deduction of the steering gear, the evacuations machines and all zones of which the occupation would not make it possible to have a satisfactory visibility since the steering gear. When the circumference of the ship comprises a roll on which it is possible to sit down, the total surface of bridge is delimited by the line joining the highest points of the roll.
6. The freeboard will have to answer the regulations of articles 223-2.057 223-2.25-2 and 223-2.43 of the regulation on the passenger ships of a gross tonnage lower than 500 barrels.
7. For this purpose, a practical experiment of stability will have to be carried out according to the provisions of article 223-2.25-2 of the regulations quoted above if it acts of a decked ship and according to those of article 223-2.43 if it is about a non decked ship. The results of this experiment will have to satisfy the provisions of these same articles applicable to the ships of 4th category (trade).
8. However are exempted provisions envisaged with subparagraphs 6 and the 7 above ships having undergone successfully the following test:

The ship is outfitted for the sea, the bottles of diving in place in their fastening. The ship is gradually filled with water by the top of the hull, the sleeve of watering used for this purpose being directed on part of the ship normally exposed to the spray. The operation must be continued until obtaining balance between the that and sea level of water inside, by an opening normally open on the hull. An experiment of compressing is then carried out on an edge then on the other with a number of people calculated according to the procedure defined in subparagraph 7, ballasted above to reach an average weight of 80 kg.

It must be able to be established that, under the conditions of the test, no risk of capsizing is to be feared and that the engine remains usable.

9. When the number of embarked people, crew included/understood, is lower or equal to 20, the ship will be regarded as yacht; when this number is included/understood between at least 21 and with more the 40 passengers, the ship will be also regarded as yacht provided that it answers the provisions of article 2234.06 of the regulation on the fixed installation of extinguishing by inert gas; as for the ships transporting more than 40 people, they will be regarded as passenger ships and this fact subjected to the lawful regulations which are applicable for them.

10 Subject to the application of article 224-4.099 the ship must have the drome rescue supplements corresponding to the total number people present at edge have regard to the category of practised navigation.

The rules above constitute a minimum. It is possible to impose additional particular measures, according to the places where the ships are in service.

APPENDIX 224-0.A.4**MATERIALS AND SAMPLINGS OF THE TRANSPARENT PANELS, WINDOWS, PORT-HOLES, PANELS AND IN GENERAL ALL OPENINGS IN THE HULL AND SUPERSTRUCTURES**

1. The materials used are the acrylic sheets, the laminated glass or any material of equivalent characteristics. The tempered glass known as of safety is proscribed on the sailing ships, but can however be used for glazed surfaces of the motor ships.
2. The tables of sampling are used under the conditions hereafter:
 - 2.1. Are regarded as supported the transparent plates fixed at the binding-strakes (or bordered) by direct buttoning or joining or any other comparable process offering an equivalent solidity, such as the use of an elastic joint of the automobile windshield type. However, this last assembly is not allowed that for the superstructures of the motor ships.
 - 2.2. Are regarded as embedded the port-holes or windows whose transparent plates are tight within a metal framework, itself bolted with the binding-strakes (or bordered) with weak interval.
3. The width of the support or the depth of embedding must be proportioned with dimensions of the transparent plate.
4. The tableaux⁵ 1, 2 and 3 are used for the vertical openings located on the hull and the superstructures of the sailing ships like on the hull of the motor ships.
5. The tableau⁶ 4 is used for the panels of bridge or superstructures likely to support a load located such as the weight of a man or the fall of a espar.
6. The tableaux⁷ 5 and 6 are used for the superstructures of ships
7. The thicknesses and dimensions of the openings are given in millimetres.

⁵ not reproduced in the present edition

⁶ not reproduced in the present edition

⁷ not reproduced in the present edition

APPENDIX 224-0.5**CONSTRUCTION OF LIQUID FUEL TANKS OUT OF REINFORCED PLASTIC****1. General information:**

The reinforced plastic tanks are allowed in the following conditions:

1.2. The material must be self-extinguishing.

1.3. All precautions are taken at the time of the setting in œuvre to avoid porosities being able to cause fuel leakages through the walls.

1.4. Effective provisions are designed to avoid the static accumulation of electricity (ground connection of the metal accessories in particular) when they are intended to contain a fuel of first category.

2. Construction:

2.1. The design and the drawing of the tanks are envisaged so that the interior ray of the curves of the angles (sharp) is not lower than 20 mm

2.2. The layer of resin of interior sealing should not have a thickness lower than 0,5 mm.

2.3. The partitions stabilizer, when they are required, are of a sampling equivalent to that of the walls of the tank. Their fixing can be carried out either by adapted stratification, or by average mechanics whose sealing will be carefully policy-holder

2.4. The junctions of the various parts constitutive of the tank will be always ensured by covering of a minimal width of 50 mm with bands of sealing and external reinforcements.

3. **Sampling:** The following minimal thicknesses will be respected:

Capacity:

— up to 200 liters.....	5 mm
— from 200 to 400 liters.....	6,5 mm
— more than 400 liters.....	8 mm

These minimal thicknesses relate to only one construction any chechmate. If fabric is put in œuvre in the laminate, this thickness can be decreased without however being lower than 5 mm.

4. Placing and fixing of accessories

4.1. Accessories are:

- fuel pipes (engine supply, filling of the tank, setting to the free air, etc...);
- valves of cutting, gauges, purgings, filters or devices of decantation, etc...

4.2. All fixings of accessories will have to comprise an extra thickness of the laminate in the zone of installation which will extend on a surface from a diameter equivalent to the double from the diameter external of the part of equipment considered.

4.3. The openings practised in the tank carefully are carried out and machined and the edge of the laminate sealed with the resin.

4.4. The zones reinforced above are suitably surfaced at the place of the mating plane of the reported accessories and an effective sealing of those is ensured by interposition of an impregnated reinforcement.

4.5. The mounting feet must be sealed outside the tank by stratification a sufficient thickness (4 to 5 mm minimum) which will extend on a zone overflowing from at least 50 mm the edge from the part considered.

5. The double bottoms can be used for the fuel storage of the second group provided the walls and the ceilings are covered outside by a self-extinguishing resin or a fireproof painting. Sactlings, the installation and the fixing of the accessories must answer the prescribed criteria with subparagraph 4 of this appendix.

APPENDIX 224-0.A.6.**TABLE⁸ OF THE CHARACTERISTICS OF ANCHORING EQUIPMENT**

1. The mass of the anchors above, is defined for anchors with great penetration with a tolerance of \pm 10 percent. It must be increased by a third for kedge anchors and stockless anchors.

The construction material of the anchors must be steel, of tensile strength higher than 40 daN/mm² or any other material offering equivalent guarantees. The anchors with sliding rings are not authorized for the regulatory outfit of the ships.

2. The chains must be in conformity with the characteristics of the galvanized chain of standard AFNOR in force or one tensile strength equivalent.

3. The warp must be out of polyamide fiber three strands or any other material offering equivalent characteristics.

⁸ not reproduced in the present edition

APPENDIX 224-0.A.7**LOADING AND NUMBER OF PERSONS THAT CAN BE PLACED ONBOARD BOATS COVERED BY CHAPTER 224-4, EXCEPTING INFLATABLES**

1. The payload of a boat of pleasure for sail or fixed or removable engine, an overall length equal or lower than 5 meters, light centre-boards and sailing ships of sport to skittle is calculated by applying the formula:

$$CU \text{ in kg} = 40 (B + C)^2 - D$$

in which:

B is the maximum width (excluded beading and fenders) in meters.

C the maximum girth taken from one deckline to another without taking account of the keel or other appendices but including the natural extension of the planking.

D the weight of the ship, the engine, the batteries, the full tank, the ballast and the lawful material of outfit in kilogrammes.

2. The maximum number people being able to take seat on board given by dividing the payload by 75, is rounded with the lower figure.
3. To in no case, the payload or the transport capacity as passengers cannot be exceeded.
4. A ship charged following the indications must have a freeboard of at least 30 cm at the point of the deck edge.

APPENDIX 224-0.A.8

First Aid Boxes⁹

⁹ Tables not reproduced in the present edition