



सत्यमेव जयते

भारत सरकार/ GOVERNMENT OF INDIA

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नौवहन महानिदेशालय / DIRECTORATE GENERAL OF SHIPPING

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F. No: 75-NT (5)/14

Dated: 30.11.16

DGS Order No. 07 of 2016

Sub.: Guidelines/instructions for the construction, survey, certification and operation of pleasure rafts – reg.

1. Noting that pleasure crafts are increasingly being used for leisure activities; with such crafts being utilised for commercial purposes as well as for personal use and that no regulations/instructions/guidelines have been issued, so far, for their safe operations, inter-alia, by this office as the National Maritime Administration of India.
2. Noting further that a draft of the Pleasure Craft Rules is in the process of being prepared for dealing with the construction, survey, certification and operation of pleasure crafts and that the notification of the said rules could take some time in view of the procedural requirements to be completed prior to their notification.
3. Noting further that the Merchant Shipping Act, 1958, as amended, was enacted to foster the development and ensure the efficient maintenance of an Indian mercantile marine, safe operations of all vessels, including vessels categorized as pleasure crafts. It is, therefore, essential to issue necessary rules/orders/instructions/guidelines to meet these objectives. To this end, stakeholder consultations in the matter have already been held by this office, over a period of time.
4. Whereas, as already stated hereinabove [para 2], necessary rules for the purpose are being formalized and till the notification of the said rules, it is essential to issue executive orders/guidelines, for the construction, survey, certification and operation of pleasure crafts.
5. It is, under the circumstances, imperative to provision for these guidelines/instructions for the purpose, in public interest, in the meanwhile. It may be added here, contextually, that the new Merchant Shipping Bill-2016, already approved by the Union Cabinet for an introduction in the Parliament, has provided for separate sets of rules for different categories of vessels. It may further be stated here that the proposed definition of a vessel, under the said Bill, also includes pleasure crafts, amongst others.
6. Now, therefore, the undersigned, as the Director General of Shipping, Govt. of India hereby issues the following guidelines/instructions for the construction, survey, certification and operation of pleasure crafts, enclosed herewith [Annexure-I: 64 pages], which are to be used, for the purpose, till the said rules for the safe operation of pleasure crafts are notified in the due course of time.



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Encl.: As above.

Annexure-I

Directorate General of Shipping,  
Govt. of India, Mumbai.

Guidelines/Instructions for the Construction, Survey,  
Certification and Operation of Pleasure Crafts - 2016

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## CHAPTER 1: GENERAL PROVISIONS

### 1.1 Application

1.1.1 Unless expressly provided otherwise, the guidelines/ Instructions for Construction, Survey, Certification and Operation of Pleasure Crafts apply only to Crafts used for pleasure or recreation having length of not more than 24 m, propulsion power not more than 3000 kW and carrying not more than 12 passengers.

1.1.2 Pleasure Crafts other than those indicated at para 1.1.1 are required to comply with the requirements of the Merchant Shipping Act, 1958, its rules and the relevant instruments as applicable for seagoing vessels depending on the size/ propulsion power/ passengers being carried.

1.1.3 These guidelines/ instructions do not cover PWCs i.e. personal water crafts (like Jetskis), Crafts built for sport or other specialized activities like racing etc. involving special safety requirements and submersible Crafts used for leisure activities.

### 1.2 Definitions

In these guidelines/ instructions, unless the context otherwise requires –

- (a) “Administration” means the Directorate General of Shipping, Government of India.
- (b) “AFS Convention” means the International Convention on the Control of Harmful Anti-fouling Systems in Ships, 2001, as amended.
- (c) “Approved” means approved by the Administration.
- (d) “Craft” shall have the same meaning as “Pleasure Craft” under these guidelines/ instructions.
- (e) “COLREGS” means the International Regulations for Preventing Collisions at Sea, 1972, as amended.
- (f) “Daylight” means one hour before sunrise and until one hour after sunset.
- (g) “Nominated Point of Departure” means a landmark from where a Craft is permitted to operate.
- (h) “Existing Craft” means a Craft registered prior to the date of these guidelines/ instructions coming into force.
- (i) “Fair Weather” means sea state corresponding to wind force not exceeding Beaufort Scale 4.
- (j) “Freeboard” means the distance measured vertically downwards from the lowest point of the upper edge of the weather deck to the waterline in still water or, for an open Craft, the distance measured vertically downwards from the lowest point of the gunwale to the waterline.
- (l) “Length” means the overall length from the foreside of the foremost fixed permanent structure to the aft side of the aftermost fixed permanent structure of the Craft. In case of Crafts fitted with a buoyant collar, length shall be taken from the foremost part of tube or collar, to the aft most part of the tube or collar.

- (m) "MARPOL" means the International Convention for Prevention of Pollution from Ships, 1973/78, as amended.
- (n) "MS Act" means the Merchant Shipping Act, 1958, as amended.
- (o) "New Craft" means a Craft that is not an Existing Craft.
- (p) "Pleasure Crafts" are vessels carrying not more than 12 passengers, used for pleasure or recreation purposes and not for transportation of cargo or passengers. Pleasure Crafts can be for personal use or for commercial use.
- (q) "Recognised Organization"[RO] means any organization duly authorised by the Administration to undertake work on behalf of the Administration in terms of certification and survey functions connected with the issuance of the certificates envisaged under these guidelines/ instructions .
- (r) "Recognised Standard" means an internationally accepted Pleasure Craft specific standard recognised by the Administration.
- (s) "Rules" mean the Rules for Construction, Survey, Certification and Operation of Pleasure Crafts.
- (t) "Safe Haven" means a port or a harbour.
- (u) "SOLAS" means the International Convention for the Safety of Life at Sea, 1974, as amended.

### 1.3 Types of Pleasure Crafts

1.3.1 Personal Pleasure Crafts: Pleasure Crafts that are used for personal recreation purposes. These Crafts shall not be used for commercial purposes.

1.3.2 Commercial Pleasure Crafts: Pleasure Crafts that are employed for commercial use.

### 1.4 Design Categories of Pleasure Crafts as per Area of Operation

1.4.1 Category 1: Unrestricted service.

1.4.2 Category 2: Crafts that operate in inland waters and up to a distance of 24 nautical miles at sea from a Safe Haven.

1.4.3 Category 3: Crafts that operate in inland waters and up to a distance of 12 nautical miles in fair weather from a Nominated Point of Departure named in the Pleasure Craft Safety Certificate of the Craft.

1.4.4 Category 4: Crafts that operate in inland waters and up to a distance of 1 nautical mile in fair weather and in daylight from a Nominated Point of Departure named in the Pleasure Craft Safety Certificate of the Craft.

### 1.5 Registration

Every Indian Pleasure Craft shall be in possession of a Certificate of Registry issued by the Registrar of Indian Ships, or an appropriate document in this regard that may be specified. In order to obtain a Certificate of Registry/appropriate document, the owner shall comply with the requirements specified for registrations and shall submit the following to the Registrar –

- (a) Builder's Certificate (in case of new Crafts) / Bill of Sale (in case of existing Crafts)
- (b) Declaration of Ownership
- (c) Comply with the requirements of Section 21 of MS Act with regard to eligibility to be considered for registration as Indian Ship.

## 1.6 Other Provisions

- 1.6.1 Compliance with these guidelines/ instructions does not obviate the requirement for Pleasure Crafts to further comply with regulations of the local navigation authority and / or the port or harbour authority of the area in which the Pleasure Crafts operate.
- 1.6.2 Owners of Pleasure Crafts shall take all reasonable measures to ensure that any item or appliance fitted in accordance with the requirements of these guidelines/ instructions is suitable for the purpose intended, having regard to its location in the Pleasure Craft, the area of operation and the weather conditions that may be encountered.
- 1.6.3 It is the responsibility of the owner to ensure that a Pleasure Craft is properly maintained, examined and operated in accordance with these guidelines/ instructions.

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## CHAPTER 2: SAFE DESIGN

### 2.1 General

This chapter deals with requirements applicable for all aspects of design safety for construction of Pleasure Crafts including strength, stability, structural arrangement and machinery.

### 2.2 Structural Strength

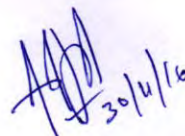
Structural strength of Pleasure Crafts shall at all times be adequate for operation envisaged as per the Design Category of the Craft. The structural strength of Design Categories 1 and 2 Pleasure Crafts shall comply with the requirements of operating in areas having significant wave height of at least 4 metres. Design Category 3 Pleasure Crafts shall comply with the requirements of operating in areas having significant wave height of at least 2 metres respectively. Category 4 Pleasure Crafts shall conform to the highest standards specified for inland vessels.

### 2.3 Construction and Other Details

Construction and other details of Pleasure Crafts shall be as specified at **Schedule I**.

### 2.4 Equivalent Construction Standards:

- 2.4.1 Pleasure Crafts built to Recognised Standards with valid certificate of compliance and/or built to classification rules of an Recognised Organisation with valid Certificate of Class will be acceptable as equivalent construction standard for the purpose of this Chapter.
- 2.4.2 The Craft's intended area of operation will be assessed based on the type of the Craft, design category and the builder's maximum recommended load.
- 2.4.3 Every such Craft shall also be subjected to inspection and certification requirement as specified in Chapter 10 of these guidelines/ instructions.



## CHAPTER 3: LIFE SAVING APPLIANCES

### 3.1 General

Minimum requirement of life saving appliances to be carried on board Pleasure Crafts is summarised at **Table 1** below.

### 3.2 Liferafts

**3.2.1** Design Category 1 Pleasure Crafts shall be provided with liferafts -

- (a) Of such number and capacity that, in the event of any one liferaft being lost or rendered unserviceable, there is sufficient capacity remaining for all on board.
- (b) Constructed to SOLAS standard and equipped with a SOLAS "A" Pack
- (c) Stowed on the weather deck, or in an open space and fitted with float free arrangements (hydrostatic release units) so that the liferafts float free and inflates automatically.

**3.2.2** Design Category 2 Pleasure Crafts shall be provided with liferafts capable of accommodating at least the total number of persons on board, equipped with a SOLAS "B" Pack.

**3.2.3** It is not mandatory for Design Category 3 and Design Category 4 Pleasure Crafts to be provided with liferafts. However, such Crafts may carry an open reversible liferaft, constructed to SOLAS standard.

**3.2.4** Liferafts (other than reversible liferafts) and hydrostatic release units (other than disposable types), shall be serviced annually at approved service stations.

**3.2.5** Liferafts provided on multihull sailboats shall be located so that they are accessible when the Craft is either upright or inverted.

### 3.3 Lifejackets

**3.3.1** SOLAS compliant lifejackets shall be provided for the number of persons the Craft is certified to carry.

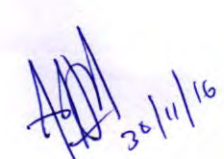
**3.3.2** A number of lifejackets suitable for children equal to at least 10% of the number of persons on board shall be provided, or such greater number as may be required to provide a lifejacket for each child.

**3.3.3** Each infant embarked on board a Pleasure Craft shall be provided with an infant life jacket.

**3.3.4** If the lifejackets are the inflatable type, an additional 10% or 2, whichever is greater, shall be provided. Inflatable lifejackets will be serviced at approved servicing station every 12 months.

### 3.4 Lifebuoys

**3.4.1** Pleasure Crafts shall be provided with SOLAS compliant lifebuoys specified at **Table 1**.





**3.4.2** Design Category 1 and 2 Pleasure Crafts shall stow lifebuoys such that at least one lifebuoy is available on each side of the Craft. Each lifebuoy shall be marked with the Craft's name and the port of registration.

**3.5 Pyrotechnics**

Pleasure Crafts shall be provided with approved type pyrotechnics specified at **Table 1**.

**3.6 Re-boarding device**

Pleasure Crafts shall be provided with a suitable embarkation ladder / re-boarding device.

**3.7 Instruction manual**

Pleasure Crafts shall be provided with an instruction manual with instructions and information on the use of lifesaving appliances provided in the Craft and survival techniques. It shall include instructions on –

- (a) Donning of lifejackets
- (b) Boarding, launching, and clearing liferafts from the Craft.
- (c) Use of all survival equipment
- (d) Use of aids to location
- (e) Use of sea anchors
- (f) Recovery of persons from the water
- (g) Hazards of exposure and the need for protective clothing
- (h) Methods of retrieval, including use of helicopter rescue gear (slings, baskets, and stretchers), breeches buoy and shore life-saving apparatus
- (i) Emergency repair of the life-saving appliances
- (j) Personal survival at sea techniques

**3.8 Maintenance Manual:** Pleasure Crafts shall be provided with a manual of instructions for maintenance of the on-board life saving appliances.

<b>TABLE 1 – MINIMUM LIFE SAVING APPLIANCES REQUIRED</b>				
	<b>Category 1</b>	<b>Category 2</b>	<b>Category 3</b>	<b>Category 4</b>
Liferafts	2	1	Optional	Optional
Lifejackets (adult size)	100%	100%	100%	100%
Lifejackets (child size)	10%	10%	10%	10%
Lifebuoys without attachments	1	1	1	1
Lifebuoy with light	2	1	NA	NA
Lifebuoy with buoyant lifeline	1	1	NA	NA
Parachute flares	8	2	NA	NA
Red hand flares	6	4	2	NA
Smoke signals	2	2	1	NA

## CHAPTER 4: FIRE FIGHTING APPLIANCES

### 4.1 General

4.1.1 Pleasure Crafts shall be provided with efficient fire fighting equipment that shall be serviced at recommended service intervals at approved service stations.

4.1.2 Minimum requirement of Fire Fighting equipments to be carried on board Pleasure Crafts is summarised at **Table 2** below.

### 4.2 Requirements

#### 4.2.1 Design Category 1 –

- (a) One power driven fire pump of capacity as specified for a bilge pump in Schedule I, located outside the machinery space, with a hose of adequate length and appropriate nozzle that can direct a jet of water to any part of the Craft.
- (b) One portable fire extinguisher of recognised standard for use in all types of fires, each at access to galley, entrance to any accommodation space and at the entrance to the machinery space (minimum 3 nos.).
- (c) One fire blanket of a recognised standard, in galley.
- (d) Two fire buckets with lanyard.

#### 4.2.2 Design Category 2 –

- (a) One portable fire extinguisher of recognised standard for use in all types of fires, each at access to any accommodation space and at the entrance to the machinery space (minimum 2 nos.).
- (b) One fire blanket of a recognised standard, in galley.
- (c) Two fire buckets with lanyard.

#### 4.2.3 Design Category 3 –

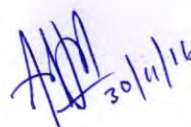
- (a) One portable fire extinguisher of recognised standard for use in all types of fires.
- (b) Two fire buckets with lanyard.

#### 4.2.3 Design Category 4 –

For Crafts fitted with engines, one portable fire extinguisher of suitable type and size. However in a non-decked (or partially decked) sailing vessel with no engines and no cooking appliances, fire extinguisher is not required.

### 4.3 Fire Extinguishing in Machinery Spaces

Design Category 1 and 2 Pleasure Crafts shall be provided with a fixed fire extinguishing system installed in their machinery space, appropriate to the space to be protected and be installed and maintained in accordance with the manufacturer's requirements.



#### 4.4 Fire and Smoke Detection System

Design Category 1 and 2 Pleasure Crafts shall be equipped with a fire or smoke detection system capable of initiating audible alarms distinct from the alarms of any other system not indicating fire, in sufficient places to ensure that the alarms are heard in all parts of the Craft.

<b>TABLE 2 – FIRE FIGHTING EQUIPMENT REQUIREMENTS</b>				
	<b>Category 1</b>	<b>Category 2</b>	<b>Category 3</b>	<b>Category 4</b>
Power driven fire pump	1	-	-	-
Portable fire extinguishers for all types of fires	3	2	1	1
Fire blanket at galley	1	1	-	-
Fire buckets with lanyard	2	2	2	-
Fire / smoke detection system	1	1	1*	-

\* Required if total installed power (propulsion and electrical generation) is greater than 750 kW.

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## CHAPTER 5: RADIO EQUIPMENT

### 5.1 General

**5.1.1** Radio equipment provided on Pleasure Crafts shall be approved type as per performance standards specified by IMO.

**5.1.2** Minimum requirement of radio equipment to be carried on board Pleasure Crafts is summarised at **Table 3** below.

**5.2.2** Radio equipment on board Design Category 1 Commercial Pleasure Crafts shall be as per GMDSS requirement for worldwide operation as per the Sea-Area applicable.

### 5.3 Antenna

Pleasure Crafts shall carry a portable whip antenna on board.

### 5.4 Batteries

When batteries are used for the electrical supply to radio equipment, appropriate charging facilities or a duplicate battery bank shall be provided. The battery capacity shall be sufficient for at least six hours for Crafts of all design categories except that the battery capacity may be one hour for Design Category 4 Pleasure Crafts

### 5.5 Safety Procedures

**5.5.1** Fixed radio installations shall be clearly marked with the Craft's call sign, MMSI number or other codes, if applicable to the use of the radio. At each installation cards giving a clear summary of the radio distress, urgency and safety procedures shall be displayed.

**5.5.2** Brief and clear operating instructions shall be provided for all hand-held VHF radios on board.

	<b>Category 1*</b>	<b>Category 2</b>	<b>Category 3</b>	<b>Category 4</b>
VHF radio with DSC - fixed installation	1	1	-	-
VHF radio - hand portable	2	1	1	1
INMARSAT SES or MF/HF radio with DSC	1	-	-	-

\*Design Category 1 Commercial Pleasure Crafts shall be as per GMDSS requirement.

## CHAPTER 6: NAVIGATIONAL EQUIPMENT

### 6.1 General

6.1.1 All navigational equipment provided on Pleasure Crafts shall be as per the performance standards as specified by IMO.

6.1.2 Minimum requirement of radio equipment to be carried on board Pleasure Crafts is summarised at **Table 4** below.

### 6.2 Magnetic Compasses

6.2.1 Design Category 1 and 2 Pleasure Crafts shall be fitted with properly adjusted magnetic compass or other means, independent of the Crafts main power supply, to determine the ship's heading and display the reading at the main steering position. A compass light and means for correcting magnetic heading and bearings to true shall be provided.

6.2.2 Design Category 3 and 4 Pleasure Crafts shall be provided with an efficient hand-bearing compass.

### 6.3 Depth Instruments

Design Category 1, 2 and 3 Pleasure Crafts shall be fitted with an echo sounder to measure the available depth of water.

### 6.4 Positioning Systems

Design Category 1, 2 and 3 Pleasure Crafts shall be provided with a receiver for a global navigation satellite system or a terrestrial radio navigation system, or other means suitable for use during voyage to establish and update the Craft's position at all times.

### 6.5 Radar

6.5.1 Design Category 1 and 2 Commercial Pleasure Crafts shall be provided with radar to assist in navigation and collision avoidance.

6.5.2 Design Category 1 Personal Pleasure Crafts shall be provided with radar to assist in navigation and collision avoidance.

### 6.6 EPIRB

6.6.1 Design Category 1 and 2 Pleasure Crafts shall be provided with one 406 MHz or Inmarsat EPIRB. This will be installed in an easily accessible position ready to be manually released, capable of being placed in a liferaft, and capable of floating free and automatic activation if the Craft sinks.

6.6.2 EPIRBs shall be registered with the Administration and maintained in accordance with the manufacturer's recommendations/instructions of administration.

## **6.7 SART**

Design Category 1, 2 and 3 Pleasure Crafts shall be provided with either a SART or AIS SART that conforms to the performance standards as specified by IMO.

## **6.8 Radar Reflector**

Pleasure Crafts shall be provided with an effective radar reflector to enable detection by other vessels navigating by radar.

## **6.9 Charts & Nautical Publications**

6.9.1 Pleasure Crafts shall carry charts and relevant nautical publications to plan and display the Craft's route for any intended voyage and to plot and monitor positions throughout the voyage. Charts will be also maintained for the intended area of operation.

6.9.2 Design Category 3 and 4 Pleasure Crafts need not carry publications.

6.9.3 Electronic chart plotting systems may be accepted as meeting the chart carriage requirements.

## **6.10 Measuring Instruments**

6.10.1 Design Category 1 and 2 Pleasure Crafts shall be provided with a barometer and anemometer.

6.10.2 Design Category 1 sailboats shall be provided with an anemometer providing a continuous indication of apparent wind speed, with the display clearly visible at each control position.

## **6.11 Navigation Lights and Shapes**

Pleasure Crafts shall be equipped with the proper navigation lights and shapes as per the International Regulations for Preventing Collisions at Sea, 1972 as ammended.

<b>TABLE 4 – NAVIGATION EQUIPMENT REQUIREMENTS</b>				
	<b>Category 1</b>	<b>Category 2</b>	<b>Category 3</b>	<b>Category 4</b>
Fixed compass	1	1	-	-
Hand bearing compass	1	1	1	1
Echo sounder	1	1	1	-
Global Navigation Sattelite System	1	1	-	-
Radar	1	1*	-	-
EPIRB (406 Mhz or Inmarsat)	1	1	-	-
SART / AIS SART	1	1	1	-
Radar reflector	1	1	1	1
Barometer	1	1	-	-
Anemometer	1	-	-	-

\* Optional for Design Category 2 Personal Pleasure Craft

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## CHAPTER 7: CLEAN SEAS

### 7.1 General

7.1.1 All Pleasure Crafts shall meet international, national, regional and local requirements for prevention of marine pollution that are applicable in the area of operation of the Craft.

7.1.2 Responsibility for the Craft to be properly equipped and maintained to meet the prevailing requirements for prevention of marine pollution rests with the owner, or in the case where the Craft has been chartered, with the charterer.

### 7.2 Sewage

7.2.1 Design Category 1, 2 and 3 Pleasure Crafts shall be provided with sewage holding tanks of sufficient capacity with arrangement to discharge to shore reception facility.

7.2.2 It is recommended that known and reliable biological / bacterial wastewater treatment products are used to treat the black / grey water in holding tanks of Crafts at all times.

### 7.3 Garbage

7.3.1 Requirement of MARPOL Annex V shall be complied in respect of the disposal of garbage.

7.3.2 All Pleasure Crafts shall be provided with arrangements on board for the retention of garbage on board and to discharge to shore reception facilities.

### 7.4 Oil Pollution

All Pleasure Crafts provided with machinery space shall have engine room bilges and means to collect waste oil and to discharge to shore reception facility.

### 7.5 NOx Compliance

Marine diesel engines with power output more than 130 kW installed on Pleasure Crafts shall comply with NOx requirements as per MARPOL Annex VI, Regulation 13. Low sulphur fuel for SOx compliance can be considered.

### 7.6 Antifouling Paints

Coatings containing substances controlled as per the AFS Convention, Annex I are strictly prohibited and shall not be applied to any underwater area of a Pleasure Craft.



## CHAPTER 8: SECURITY

### 8.1 General Security Measures

All Pleasure Crafts shall observe the following recommended security measures –

- (a) Maintain a 24-hour watch whilst in operation.
- (b) Look out for small, unlit vessels while operating at night.
- (c) Monitor and maintain record of persons embarking / visiting on board.
- (d) Screen supplies and stores supplied on board for any banned substances or contraband.
- (e) Report any suspicious vessels or suspicious activities observed in harbour or at sea.
- (f) Maintain updated contact details on board of Port Facility Security Officers (PFSO) of homeport and other nearby ports, Maritime Rescue Coordination Centres (MRCC), the Administration's communication centres (DG Comm Centre) and any other person / office relevant for security of the Craft.

### 8.2 AIS

Pleasure Crafts shall be provided with AIS transceivers.

### 8.3 Searchlight

Pleasure Crafts shall be provided with an efficient fixed and / or portable searchlight capable of effectively illuminating the sea area around the Craft and suitable for use in man-overboard search and recovery operations.

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## CHAPTER 9: MISCELLANEOUS

### 9.1 Medical Stores

9.1.1 Design Category 1 Pleasure Crafts shall carry a medical kit as per the requirements of the MS Rules (Medicines, Medical Stores and Appliances).

9.1.2 Design Category 2, 3 and 4 Pleasure Crafts shall carry a First Aid kit.

### 9.2 Insurance

Pleasure Crafts shall be insured to adequately compensate for the following -

- (a) Personal injury, death and disability
- (b) Property damage
- (c) Pollution damage
- (d) Wreck removal

### 9.3 Manning of Personal Pleasure Crafts

Owners are responsible for the safe manning of their own Personal Pleasure Crafts.

### 9.4 Manning of Commercial Pleasure Crafts

9.4.1 Minimum safe manning for mechanically propelled Commercial Pleasure Crafts shall be as per **Table 5**, below.

9.4.2 Sailing Commercial Pleasure Crafts shall be appropriately manned with duly experienced personnel.

### 9.5 Foreign Registered Pleasure Crafts

Pleasure Crafts other than those registered with the Administration need to be in possession of specific approval from the Administration for commercial operations in Indian waters

Designation	Category 1		Category 2		Category 3		Category 4	
	No	Min Grade	No	Min Grade	No	Min Grade	No	Min Grade
Master	1	2 <sup>nd</sup> Mate FG (With GMDSS Certificate)	1	NWKO (NCV)	1	Inland Master with seagoing experience	1	Holder of an Approved powerboat certificate.
Chief Officer	1	NWKO (NCV)	-	-	-	-		
Engineer	1	MEO Class IV	1	Class IV (NCV)	-	-		
Crew	1	GP Rating	1	Basic STCW Courses	1	GP Rating		
Total	4		2		1		1	

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## CHAPTER 10: INSPECTION AND CERTIFICATION

### 10.1 Pleasure Craft Safety Certificate (Personal & Commercial)

10.1.1 All Pleasure Crafts (Personal & Commercial), prior commencing its operation, shall be in possession of a Personal Pleasure Craft Safety Certificate or a Commercial Pleasure Craft Safety Certificate, prior commencing its operation, as per the format specified in **Schedule II**.

10.1.2 The Pleasure Craft Safety Certificate shall indicate the design category of the Craft and the Craft shall operate only in the area of operation as specified in this certificate.

### 10.2 Certification of Existing or New Pleasure Crafts Built to Recognised Standard or Classification Rules of an Approved Recognised Organisation

10.2.1 The Owner shall provide the following valid documentation for issuance of Pleasure Craft Safety Certificate for Existing Crafts—

- (a) Builder's certificate.
- (b) Certificate of compliance with Recognised Standard/ Certificate of Class
- (d) Record of inspection and maintenance undertaken by the Owner.

10.2.2 A general examination equivalent to annual survey of the Craft will be carried out to verify that the hull, machineries, equipment generally conforms to the as fitted plans and the Craft complies with the requirements as spelled out from Chapter 3 to 9 of these guidelines/ instructions . The Craft's intended area of operation will be assessed based on the Craft type, design category and the builder's maximum recommended load.

10.2.3 The underwater portion of the hull, tail shaft(s), where fitted, and shaft sealing arrangement shall be inspected with the Craft in dry dock/ slipway or over hard ground.

10.2.4 Every Craft shall be subjected to at least the following tests and trials –

- (a) Inclining test
- (b) Load test
- (c) Sea trial

### 10.3 Certification of New Pleasure Crafts Built as per These Guidelines/ Instructions

10.3.1 Pleasure Crafts will be constructed as per the requirements as provided in Chapter 2 of these guidelines/ instructions

10.3.2 Plans and documentation required for certification of a New Craft built as per these guidelines/ instructions shall be as specified by the Recognised Organisation.

10.3.3 An initial examination during construction of the Craft shall be carried out to verify the hull, machinery and equipment including the provision and arrangement of life saving, fire fighting, pollution prevention and other requirements comply with the approved plans and the provisions of these guidelines/ instructions or equivalent

standards as provided at Chapter 2, Section 2.2 and are fit for the service in the Craft's intended area of operation.

**10.3.4** Every Craft shall be inclined and sea trial carried out.

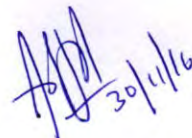
#### **10.4 Surveys**

**10.4.1** Commercial Pleasure Crafts – Shall be annually examined for continued validity of the Pleasure Craft Safety Certificate. The underwater portion of the hull and tail shaft(s), where fitted, shall be inspected with the Craft parked in dry dock or on hard ground. This underwater examination will be carried out twice in a five-year period during the validity of the Pleasure Craft Safety Certificate and the maximum interval between two such inspections shall not exceed 36 months.

**10.4.2** Personal Pleasure Crafts – Shall be examined every fifth year for continued validity of the Pleasure Craft Safety Certificate and the underwater portion of the hull and tail shaft(s), where fitted, shall be examined with the Craft in dry dock/ slipway or over hard ground during this time. Owners are required to ensure that vessel is maintained to the required standards at all times including the period between the surveys.

#### **10.4 Inspection**

Pleasure crafts may be subjected to inspection by authorized personnel without prior notice. Any pleasure craft found not to comply with these Guidelines/ instructions will not only be liable for immediate cancellation & withdrawal of the Pleasure Craft Safety certificate, but also liable for other penal action as per the applicable provisions of statute.



# SCHEDULE I – DESIGN SAFETY & CONSTRUCTION REQUIREMENTS

## 1 CONSTRUCTION AND STRUCTURAL STRENGTH

### 1.1 General Requirements

#### 1.1.1 Design Category 1, 2, 3 and 4 Pleasure Crafts

A Design Category 1, 2, 3 and 4 Craft is required to be fitted with a watertight weather deck over the length of the Craft, and be of adequate structural strength to withstand the sea and weather conditions likely to be encountered in the intended area of operation.

#### 1.1.2 Design Category 3 and 4 Crafts

Design Category 3 and 4 Pleasure Crafts may be permitted without watertight weather deck provided reserve buoyancy and stability for the Craft with its full complement of persons is adequate to remain afloat to survive the consequences of swamping. A Pleasure Craft with sail not provided with a watertight weather deck will be assigned as a Design Category 3 or 4 Pleasure Craft.

### 1.2 Structural Strength

#### 1.2.1 General

The design of hull structure and construction shall provide strength and service life for the safe operation of a Craft, at its service draught and maximum service speed, to withstand the sea and weather conditions likely to be encountered in the intended area of operation.

#### 1.2.2 Construction Materials

1.2.2.1 A Pleasure Craft may be constructed of steel, aluminium alloy; fibre reinforced plastic (FRP) or composites.

1.2.2.2 Proposals to use any other material shall be submitted for consideration and approval.

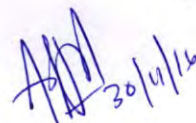
#### 1.2.3 Weather Deck

1.2.3.1 A watertight weather deck referred to in Section 1.1.1 shall extend from stem to stern and have positive freeboard throughout, in any condition of loading of the Craft.

1.2.3.2 The weather deck may be stepped, recessed or raised provided the stepped, recessed or raised portion is of watertight construction.

#### 1.2.4 Recesses

1.2.4.1 For motorised Pleasure Crafts, recesses in a weather deck shall be of watertight construction and have means of drainage capable of efficient operation when the Craft is heeled to 10°. Such drainage is to have an effective area,



excluding grills and baffles, of at least 20cm<sup>2</sup> for each cubic metre of volume of recess below the weather deck.

**1.2.4.2** For sailing Pleasure Crafts, recesses in the weather deck shall be of watertight construction and have –

(a) A total volume (Vc) which does not exceed the value obtained from the following formula:-

$$V1 + V2 + V\dots + Vn \leq 0.1 \times \text{length of Craft} \times \text{breadth of Craft} \times \frac{(F_1 + F_2 + F\dots + F_n)}{n}$$

Where:

V is the volume of the recess

F is the freeboard abreast the recess

n is the number of recesses considered

(b) Means of drainage capable of efficient operation when the Craft is heeled to 30°. Such drainage to have an effective area, excluding grills and baffles, of at least –

For Design Category 1, 2 or 3 Pleasure Crafts – 20 cm<sup>2</sup>

For Design Category 4 Pleasure Crafts – 10cm<sup>2</sup>

**1.2.4.3** Alternative arrangements for the size and drainage of a recess may be accepted provided it can be demonstrated that, with the Craft upright and at its deepest draught, the recess drains from a swamped condition within 3 minutes; or the cockpit or recess shall comply with ISO 11812 (Small Craft – Watertight and Quick Draining Cockpits)

**1.2.4.4** If a recess is provided with a locker that gives direct access to the interior of the hull, the locker shall be fitted with weather tight cover(s). In addition the cover(s) to the locker shall be permanently attached to the Craft's structure and fitted with efficient locking devices to secure the cover(s) in the closed position.

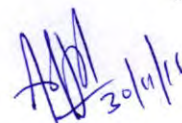
## **1.2.5 Watertight Bulkheads**

**1.2.5.1** The strength of a watertight bulkhead and the effectiveness of any alternative means shall be adequate for the intended purpose and to the satisfaction of the Administration.

**1.2.5.2** When pipes, cables, etc penetrate watertight bulkheads, they shall be provided with valves and/or watertight glands in case of steel construction. In case of PVC or plastic, the pipes should be glassed to the bulkheads at the highest position possible to maintain watertight integrity.

**1.2.5.3** A doorway fitted in a watertight bulkhead shall be constructed so as to be watertight from both sides and be kept closed at sea, unless opened for access only, at the discretion of the skipper. A notice shall be fitted to both sides of the door "To be kept closed at sea, open for access only". Sliding watertight doors, where fitted, are to be provided with suitable safety provision to avoid injury to personnel by closure of the door.





## 1.3 Weather Tight Integrity

### 1.3.1 General

A Craft shall be designed and constructed in a manner that will prevent the ready ingress of seawater and in particular comply with the following requirements. For strength and water tightness purposes only, the requirements of ISO 12216 are considered acceptable.

### 1.3.2 Hatchways and Hatches

#### 1.3.2.1 General requirements

**1.3.2.1.1** A hatchway that gives access to spaces below the weather deck shall be of efficient construction and be provided with efficient means of weather tight closure.

**1.3.2.1.2** A cover to a hatchway shall be hinged, sliding, or permanently secured by other equivalent means to the structure of the Craft and be provided with sufficient locking devices to enable it to be positively secured in the closed position.

**1.3.2.1.3** A hatchway with a hinged cover which is located in the forward portion of the Craft shall normally have the hinges fitted to the forward side of the hatch, as protection of the opening from boarding seas. A hatch with the hinges on the after side of the hatch shall be secured closed at sea, and be provided with a suitable blank. This is not intended to apply to small spaces drained directly overboard, e.g. anchor lockers.

**1.3.2.1.4** Hatches which are used for escape purposes shall be capable of being opened from both sides.

**1.3.2.1.5** Hatches in recessed or stepped decks of Crafts, that provide access to sea inlet valves, shall have access openings at least 300mm above the minimum freeboard to deck, or the sea inlet valves fitted with remote closing devices.

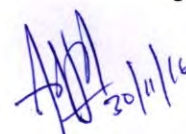
#### 1.3.2.2 Hatchways that is open at sea

In general, hatches shall be kept secured closed at sea. However, a hatch (other than a companion hatch) that is to be open at sea for lengthy periods shall be –

- (a) Kept as small as practicable, but never more than 1m<sup>2</sup> in plane area at the top of the coaming.
- (b) Located on the centre line of the Craft or as close thereto as practicable. On catamaran and multihull it should be closer to hull as possible
- (c) Fitted such that the access opening is at least 300mm above the top of the adjacent weather deck at side.

### 1.3.3 Doorways and Companionways

#### 1.3.3.1 Doorways Located Above the Weather Deck



**1.3.3.1.1** A doorway located above the weather deck that gives access to spaces below shall be provided with a weather tight door. The door shall be of efficient construction, permanently attached to the bulkhead, not open inwards, and sized such that the door overlaps the clear opening on all sides, and has efficient means of closure which can be operated from either side.

**1.3.3.1.2** A doorway shall be located as close as practicable to the centre line of the Craft. However, if hinged and located in the side of a house, the door shall be hinged on the forward edge. Doors using articulated systems shall be specially considered, in order to provide an equivalent arrangement.

**1.3.3.1.3** A doorway that is either forward or side facing shall be provided with a coaming, the top of which is at least 300mm above the weather deck. A coaming may be portable provided it can be permanently secured to the structure of the Craft and can be locked in position whilst at sea.

#### **1.3.3.2 Companion Hatch Openings**

**1.3.3.2.1** A companion hatch opening from a cockpit or recess that gives access to spaces below the weatherdeck shall be fitted with a coaming or washboard, the top of which is at least 300mm above the sole of the cockpit or recess.

**1.3.3.2.2** When washboards are used to close a vertical opening they shall be so arranged and fitted that they will not become dislodged.

**1.3.3.2.3** The maximum breadth of the opening of a companion hatch shall not exceed 1m.

#### **1.3.4 Skylights**

**1.3.4.1** The skylight shall be of efficient weather tight construction and shall be located on the centre line of the Craft, or as near thereto as practicable, unless it is required to provide a means of escape from a compartment below deck.

**1.3.4.2** When a skylight is an opening type it shall be provided with efficient means whereby it can be secured in the closed position.

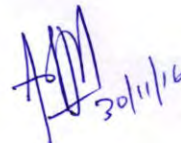
**1.3.4.3** A skylight that is provided as a means of escape shall be capable of being opened from both sides.

**1.3.4.4** Unless the glazing material and its method of fixing in the frame is equivalent in strength to that required for the structure in which it is fitted, a portable "blank" shall be provided which can be efficiently secured in place in event of breakage of the glazing.

#### **1.3.5 Portlights and Windows**

**1.3.5.1** The portlight or window to a space below the weather deck or in a step, recess, raised deck structure, deckhouse or superstructure protecting openings leading below the weather deck shall be of efficient construction which provides weather tight integrity (and be of strength compatible with size) for the intended area of operation of the Craft.



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**1.3.5.2** A portlight or window shall not be fitted in the main hull below the weather deck, unless the glazing material and its method of fixing in the frame are equivalent in strength, with regard to design pressure, to that required for the structure in which it is fitted.

**1.3.5.3** Portlights fitted in the hull of the Craft below the level of the weather deck shall be either non-opening or of a non-readily opening type, have a glazed diameter of not more than 250mm, or equivalent area, and be in accordance with a standard recognised by the Administration. Portlights of the non-readily opening type must be secured closed when the Craft is in navigation. Proposals to accept portlights, to a recognised standard, greater than 250mm diameter, up to a maximum of 400mm or equivalent area, may be considered, with due regard to their fore and aft, and vertical positioning, to the satisfaction of the Administration. Proposals for larger portlights may be considered by the Administration.

**1.3.5.4** Portlights, windows and their frames shall meet an appropriate National or International Standards.

**1.3.5.5** A portlight fitted below the weather deck and not provided with an attached deadlight shall be provided with a "blank" (the number of blanks shall be sufficient for at least half of the number of such portlights of each different size in the Craft), which can be efficiently secured in place in the event of breakage of the portlight. The blank shall be of suitable material and strength to the satisfaction of the Administration.

**1.3.5.6** A window fitted in the main hull below the weather deck shall meet the requirements of Section 1.3.4.2, or be provided with a blank meeting the requirements of Section 1.3.4.7.


**1.3.5.7** In a Craft which operates more than 24 miles from a safe haven, portable "blanks" for windows shall be provided (the number of blanks shall be sufficient for at least half of the number of such windows of each different size in the Craft) which can be efficiently secured in place in the event of breakage of a window. Such a "blank" is not required for a window which satisfies Section 1.3.5.2.

**1.3.5.8** Wheelhouse windows and their frames shall meet the requirements of Section 1.3.4.4, having due regard to the increased thickness of windows comprising one or more laminations in order to achieve equivalent strength; shall not be of polarised or tinted glass when provided for navigational visibility (although portable tinted screens may be provided for nominated windows)

### **1.3.6 Ventilators and Exhausts**

**1.3.6.1** A ventilator shall be of efficient construction and, where situated on the weather deck and not complying with Section 1.3.5.3, shall be provided with a readily available means of weather tight closure, consideration shall be given to requirements of Fire Protection.

**1.3.6.2** A ventilator shall be kept as far inboard as practicable and the height above the deck of the ventilator opening shall be sufficient to prevent the ready admission of water when the Craft is heeled.



**1.3.6.3** A ventilator which must be kept open, e.g. for the supply of air to machinery or for the discharge of noxious or flammable gases, shall be specially considered with respect to its location and height above deck having regard to Section 1.3.5.2 and the down flooding angle.

**1.3.6.4** Motorised Pleasure Crafts that are fitted with engine air intakes in the hull side, which do not satisfy the requirements of this notification, may be accepted, but restrictions on operations may be necessary.

**1.3.6.5** An engine exhaust outlet that penetrates the hull below the weather deck shall be provided with means to prevent back flooding into the hull through the exhaust system. The means may be provided by system design and/or arrangement, built-in valve or a portable fitting which can be applied readily in an emergency.

### **1.3.7 Air Pipes**

**1.3.7.1** When located on the weather deck, an air pipe shall be kept as far inboard as possible and have a height above deck sufficient to prevent inadvertent down flooding when the Craft is heeled.

**1.3.7.2** An air pipe, of greater than 10mm inside diameter, serving a fuel or other tank shall be provided with a permanently attached means of weather tight closure. Means of closure may be omitted if it can be shown that the open end of the air pipe is afforded adequate protection by other means, which will prevent the ingress of water.

**1.3.7.3** An air pipe serving a fuel tank or other tank, where provided with a closing appliance, shall be of a type that will prevent excessive pressure on the tank boundaries. Provision shall be made for relieving a vacuum when tanks are being drawn from or emptied.

### **1.3.8 Sea Inlets and Discharges**

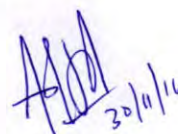
**1.3.8.1** An opening below the weather deck shall be provided with an efficient means of closure.

**1.3.8.2** When an opening is for the purpose of an inlet or discharge below the waterline it shall be fitted with a seacock, valve or other effective means of closure that is readily accessible.

**1.3.8.3** When an opening is for a log or other sensor, which is capable of being withdrawn, it shall be fitted in an efficient watertight manner and provided with an effective means of closure when such a fitting is removed.

**1.3.8.4** Inlet and discharge pipes from marine toilets shall be provided with shell fittings as required by Section 1.3.7.2. When the rim of a marine toilet is less than 300mm above the deepest waterline of the Craft, unless otherwise indicated by manufacturer's recommendations, anti - syphon measures shall be provided.

**1.3.8.5** For Pleasure Crafts fitted with sails, overboard inlet and discharge pipes from marine toilets or holding tanks shall be looped up within the hull to the underside of the deck.



### 1.3.9 Materials for Valves and Associated Piping

1.3.9.1 A valve or similar fitting attached to the side of the Craft below the waterline, within an engine space or other high fire risk area, shall be normally of steel, bronze, copper, or other non-brittle fire resistant material or equivalent.

1.3.9.2 When plastic piping is used it shall be of good quality and of a type suitable for the intended purpose.

1.3.9.3 Flexible or non-metallic piping, which presents a risk of flooding, fitted in an engine space or fire risk area shall be efficiently insulated against fire, or be of fire resistant material, e.g. ISO Standard 7840 or a means shall be provided to stop the ingress of water in the event of the pipe being damaged, operable from outside the space.

## 1.4 Water Freeing Arrangements

### 1.4.1 General

When a deck is fitted with bulwarks such that shipped water may be trapped behind them, the bulwarks shall be provided with efficient freeing ports that will ensure the deck can be effectively drained.

### 1.4.2 Motorised Pleasure Crafts

1.4.2.1 In a motorised Pleasure Craft, the area of freeing ports shall be at least 4% of the bulwark area and be situated in the lower third of the bulwark height, as close to the deck as practicable.

1.4.2.2 A Craft of less than 12 metres in length, having a well deck aft which is fitted with bulwarks all round and which is intended to operate in Area Category 1, 2 & 3, shall be provided with freeing ports required by Section 1.4.2.1 or may be provided with a minimum of two ports fitted (one port and one starboard), which may be in the transom, each having a clear area of at least 225 cm<sup>2</sup>. Ports may only be fitted in the transom on Crafts where the shipping of water will not result in a trim by the head such that water will not drain.

### 1.4.3 Sailing Pleasure Crafts

1.4.3.1 In a sailing Pleasure Craft the area of freeing ports shall be at least 10% of that part of the bulwark area that extends for 2/3 of the Craft's length amidships. A freeing port shall be located in the lower third of the bulwark height, as close to the deck as practicable. A freeing port shall be fitted with a grid that has a spacing of not more than 50mm in any direction.

1.4.3.2 Where the average height of the bulwark over its length does not exceed 150mm, freeing ports will not be required; however attention shall be paid to suitable drainage arrangements.

#### 1.4.4 General - All Pleasure Crafts

1.4.4.1 Smaller ports may however be accepted in a Craft having only small side deck areas in which water can be trapped, the reduced area being based on the volume of water which is likely to become so trapped.

1.4.4.2 When a non-return shutter or flap is fitted to a freeing port it shall have sufficient clearance to prevent jamming and any hinges shall have pins or bearings of non-corrodible material.

1.4.4.3 An open Pleasure Craft shall be provided with bilge pumping arrangement.

1.4.4.4 In a Craft where freeing ports cannot be fitted, other efficient means of clearing trapped water from the Craft shall be provided to the satisfaction of the Administration.

1.4.4.5 Structures and spaces considered to be non-weather tight shall be provided with efficient drainage.

1.4.4.6 A Craft intended to operate in sea areas where ice accretion can occur shall be specially considered with regard to water freeing arrangements.

## 2 STABILITY

### 2.1 All Crafts

2.1.1 The standard of stability to be achieved by a new Craft shall be dependent on the maximum number of persons permitted to be carried and the intended area of operation.

2.1.2 All Design Categories 1, 2, 3 and 4 Pleasure Crafts shall be provided with stability information booklet/stability compliance certificate which is approved by the Administration, as applicable.

2.1.3 For Design Category 1, 2 and 3 Pleasure Crafts of length between 6 m and 24 m, the stability may be assessed using ISO 12217 Part 1 'Small Craft – Stability and buoyancy assessment and categorisation - Non-sailing boats of hull length greater than or equal to 6 meters' as an alternative to compliance with Section 2.3 below.

2.1.4 The stability of sailing Pleasure Craft with non-fore and aft rigs or moveable/variable ballast is to be specifically considered on application to the Administration.

2.1.5 Stability of a Craft that will operate in sea areas where ice accretion can occur shall be specially considered by the Administration with regard to icing allowance and stability standard.

2.1.6 Where a mono-hull Pleasure Craft cannot comply with the specified criteria, due to its hull form displaying stability characteristics similar to that of a multihull Craft, the stability criteria for a multihull Craft may be applied, as appropriate for sailing or motorised Crafts.

2.1.7 A motorised multihull type Pleasure Craft failing to comply with the specified criteria may be given special consideration. In such a case, calculations shall be submitted for assessment.

## 2.2 Damage Survivability

### 2.2.1 General

This section applies to Design Category 1 and 2 Pleasure Crafts.

**2.2.1.1** Crafts shall be so arranged that after minor hull damage or failure of any one hull fitting in any one watertight compartment, it would satisfy the residual stability criteria below. This may be achieved by fitting watertight subdivision or alternative methods to the satisfaction of the Administration. Minor damage shall be assumed to occur anywhere in the length of the Craft but not on a watertight subdivision.

**2.2.1.2** In assessing survivability, the following standard permeability shall be used:-

<u>Space Permeability:</u>	<u>%</u>
Appropriated for stores:	60
Appropriated for stores but not by a substantial quantity thereof:	95
Appropriated for accommodation:	95
Appropriated for machinery:	85
Appropriated for liquids:	0 or 95
(Whichever results in the more onerous requirements)	

**2.2.1.3** In the damaged condition, the residual stability shall be such that the angle of equilibrium does not exceed 7 degrees from the upright, the resulting righting lever curve has a range to the down flooding angle of at least 15 degrees beyond the angle of equilibrium, the maximum righting lever within that range is not less than 100mm and the area under the curve is not less than 0.015 metre radians. This damage shall not cause the Craft to float at a waterline less than 75mm from the weather deck at any point. Proposals to accept reduced freeboard or immersion of the margin line may be accepted subject to special consideration.

### 2.2.2 Multihull Crafts

Generally, the requirements of Section 2.2.1 for a mono-hull Pleasure Craft shall apply to a Design Category 1, 2 or 3 multihull motorised Pleasure Craft. If a multihull Craft is of unconventional design or cannot meet the damage criteria, the results of the calculations shall be submitted to the Administration for assessment.

## 2.3 Intact Stability of Motorised Pleasure Crafts Complying with Section 2.1.2

**2.3.1** The lightship weight, vertical centre of gravity (KG) and longitudinal centre of gravity (LCG) of a mono-hull Craft shall be determined from the results of an inclining experiment.

**2.3.2** The LCG of a multihull Pleasure Craft shall be obtained by a displacement check or by weighing. The KG shall be determined either by calculation or by experimental means, if a conventional inclining experiment may not produce satisfactory results.

**2.3.3** The lightship weight may include a margin for growth, up to 5% of the lightship weight at the discretion of the Administration, positioned at the LCG and vertical centre of the weather deck amidships or KG, whichever is the higher. (The lightweight margin shall not be used in practice to increase maximum cargo-deadweight.)

**2.3.4** Curves of static stability (GZ curves) shall be produced for –

- (a) Loaded departure, 100% consumables;
- (b) Loaded arrival, 10% consumables;
- (c) Anticipated service conditions; and
- (d) Conditions involving lifting appliances (when appropriate).

**2.3.5** In addition, simplified stability information in the form of a Maximum KG Curve shall be provided, including a worked example to illustrate its use. Maximum free surface moments shall be included within the Loaded Departure condition, and as a minimum, factored according to tank percentage fill for all other conditions.

**2.3.6** Buoyant structures intended to increase the range of positive stability shall not be provided by fixtures to superstructures, deckhouse, masts or rigging.

**2.3.7** The curves of static stability for the loaded conditions shall meet the following criteria -

- (a) The area under the righting lever curve (GZ curve) shall be not less than 0.055 metre - radians up to 30 degrees angle of heel and not less than 0.09 metre - radians up to 40 degrees angle of heel or the angle of down flooding if this angle is less.
- (b) The area under the GZ curve between the angles of heel of 30 and 40 degrees or between 30 degrees and the angle of down flooding if this less than 40 degrees shall be not less than 0.03 metre – radians.
- (c) The righting lever (GZ) shall be at least 0.20 metres at an angle of heel equal to or greater than 30 degrees.
- (d) The maximum GZ shall occur at an angle of heel of not less than 25 degrees.
- (e) After correction for free surface effects, the initial metacentric height (GM) shall not be less than 0.35 metres.

**2.3.8** If a Pleasure Craft of catamaran or multihull type does not meet the stability criteria given in Section 2.3.7, the Craft shall meet the following criteria:-

- (a) The area under the righting lever curve (GZ Curve) shall not be less than 0.085 metre radians up to  $\theta_{GZmax}$  when  $\theta_{GZmax} = 15^\circ$  and 0.055 metre-radians up to  $\theta_{GZmax}$  when  $\theta_{GZmax} = 30^\circ$ .

When the maximum righting lever,  $GZ_{max}$ , occurs between  $\theta = 15^\circ$  and  $\theta = 30^\circ$  the required area under the GZ Curve up to  $\theta_{GZmax}$  shall not be less than:

$A = 0.055 + 0.002(30^\circ - \theta_{GZmax})$  metre-radians where:  $\theta_{GZmax}$  is the angle of heel in degrees at which the righting lever curve reaches its maximum.

- (b) The area under the righting lever curve between  $\theta = 30^\circ$  and  $\theta = 40^\circ$  or between  $\theta = 30^\circ$  and the angle of down flooding  $\theta_f$ , if this angle is less than  $40^\circ$ , shall not be less than 0.03 metre-radians.

- (c) The righting lever GZ shall not be less than 0.2 metre at an angle of heel of 30 degrees.
- (d) The maximum righting lever shall occur at an a angle not less than 15 degrees.
- (e) The initial metacentric height G<sub>M0</sub> shall not be less than 0.35 metres.

### 2.3.9 Permitted Area of Operation

Pleasure Crafts complying with ISO 12217 Part 1 ‘Small Craft - Stability and buoyancy assessment and categorisation - Non-sailing boats of hull length greater than or equal to 6 metres’, may as an alternative to section 2.3.7, after verification of the stability assessment, be assigned an area of operation in accordance with table given below.

Permitted Area of Operation	Category	ISO 12217 Design Category
Unrestricted	1	A
From inland waters up to 24 miles from a safe haven	2	B
From inland waters up to 12 miles from a nominated departure point	3	B
From inland waters up to 1 miles from a nominated departure point in fair weather and daylight	4	C

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### 2.3.10 Rolling in Beam Waves and Wind

This requirement applies only to Design Category 1 and Category 2 Pleasure Crafts. The curve of righting moments of the boat shall be established up to the down flooding angle  $\Phi_{DA}$  or the angle of vanishing stability or  $50^\circ$ , whichever is the least. When assessing this criterion, righting moments shall take account of free-surface effects. The heeling moment due to wind, MW, expressed in newton metres, is assumed to be constant at all angles of heel and shall be calculated using either Formula 1 or Formula 2 below:

$$MW1 = 0,53 A h V W^2 \quad (1)$$

or

$$MW2 = 0,30 A (A/LWL + TM) V W^2, \text{ whichever is greater} \quad (2)$$

Where

$h$  is the vertical distance between the geometric centres of  $A$  and underwater profile area;

$VW$  = 28 m/s for design category 1, and 21 m/s for design category 2;

$A$  is the projected windage profile area of hull, superstructures, deckhouses, outboard motors and spars above the waterline at the appropriate loading condition, the boat being upright, expressed in square metres.  $A$  is not to be taken less than  $0,55L \times B$

Canopies and screens that can be erected when under way in bad weather are included, e.g. cockpit dodgers, pram hoods.

$TM$  is the draught at the mid-point of the waterline length, expressed in metres.

$LWL$  length on waterline in meters measured when the boat is upright in calm water, in the appropriate loading condition and at design trim, for multihull boats  $LWL$  relates to that of the longest individual hull.

The assumed roll angle  $\Phi_R$  shall be calculated as follows:

$$\Phi_R = 25 + 20/VD \text{ for design category 1, and } 20 + 20/VD \text{ for design category 2.}$$

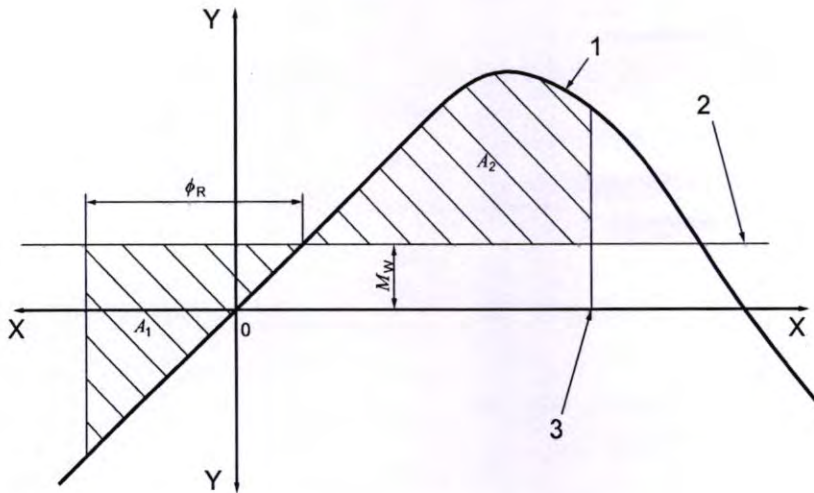
Where  $VD$  is the volume displacement in  $m^3$

The righting moment curve and the wind heeling moment shall be plotted on the same graph as shown in figure below. Area  $A_2$  shall be greater than area  $A_1$ , where  $A_1$  and  $A_2$  are the areas indicated in figure below.

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X heel angle (degrees) & Y righting or heeling moment (kN-m)

1 : righting moment (kN-m)

2 : heeling moment due to wind (kN-m)

3 :  $\Phi A_2 = \text{least of } \Phi D A \text{ or } 50^\circ \text{ or second wind heel equilibrium angle}$

## 2.4 Intact Stability of Sailing Mono-hull Pleasure Crafts Complying with Section 2.1.2

**2.4.1** The centre of gravity (KG) of a Craft shall be established by an inclining experiment and curves of static stability (GZ curve) for the loaded departure 100% consumables and loaded arrival 10% consumables shall be produced.

[Notes:-

1. The above conditions may include a margin for growth up to 5% of the lightweight, at the discretion of the Administration, with the VCG positioned at the upper deck amidships.
2. Buoyant structures intended to increase the range of positive stability shall not be provided by fixtures to the mast, rigging, or superstructure.
3. For standard production series built Crafts, the static stability (GZ) may be derived from an inclining experiment conducted on another Craft of the series, subject to corrections for differences in outfit, to the satisfaction of the Administration.
4. Maximum free surface moments shall be included within the loaded departure condition, and as a minimum, factored according to tank percentage fill for the loaded arrival condition.]

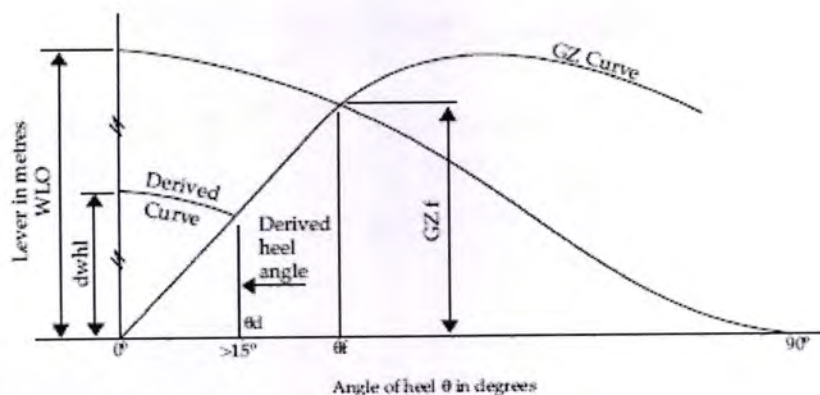
**2.4.2** The GZ curves required by Section 2.4.1 shall have a positive range,  $90^\circ$  or higher.

**2.4.3** In addition to the requirements of Section 2.4.2, the angle of steady heel obtained from the intersection of a "derived wind heeling lever" curve with the GZ curves referred to in Section 2.4.1 above shall be greater than 15 degrees. See figure below -

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In the figure, 'DWHL' = the "derived wind heeling lever" at any angle  $\theta$  degrees  
 $= 0.5 \times WL0 \times \text{Cos}1.3 \theta$   
 where  $WL0 = GZf / \text{Cos}1.3 \theta f$



Noting that, when using this method:-

- WL0** is the magnitude of the actual wind heeling lever at 0 degrees which would cause the Craft to heel to the 'down flooding angle' ( $\theta f$ ) or 60 degrees whichever is least.
- GZf** is the lever of the Craft's GZ at the 'down flooding angle' ( $\theta f$ ) or 60 degrees whichever is least.
- $\theta d$  is the angle at which the 'derived wind heeling' curve intersects the GZ curve. (If  $\theta d$  is less than 15 degrees the Craft will be considered as having insufficient stability for the purpose of these guidelines/ instructions).
- $\theta f$  is the 'critical down flooding angle' and is deemed to occur when openings having an aggregate area, in square metres, greater than:- Craft's displacement in tonnes / 1500 are immersed.

Moreover, it is the angle at which the lower edge of the actual opening that results in critical flooding becomes immersed. All openings regularly used for crew access and for ventilation shall be considered when determining the down flooding angle. No opening regardless of size that may lead to progressive flooding shall be immersed at an angle of heel of less than 40 degrees. Air pipes to tanks can, however, be disregarded.

If as a result of immersion of openings in a deckhouse a Craft cannot meet the required standard, those deckhouse openings may be ignored and the openings in the weather deck used instead to determine  $\theta f$ . In such cases the GZ curve shall be derived without the benefit of the buoyancy of the deckhouse.

It might be noted that provided that the Craft complies with the requirements of Section 2.4.1, 2.4.2 and 2.4.3 and it is sailed with an angle of heel which is no greater than the 'derived angle of heel', it shall be capable of withstanding a wind gust equal to 1.4 times the actual wind velocity (i.e. twice the actual wind pressure) without immersing the 'down flooding openings', or heeling to an angle greater than 60 degrees.

**2.4.4** A Stability Information Booklet shall be submitted to and approved and placed

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on-board the Craft. The booklet shall include details of the maximum steady angle of heel for the worst sailing condition. The steady angle of heel is to be calculated in accordance with Section 2.4.3

**2.4.5** The booklet shall also include curves of maximum recommended steady angle of heel for the prevention of down flooding in the event of squall conditions. Details of the development of such curves are given in the Model Stability Information Booklet.

## **2.5 Approval of Intact and Damage Stability**

### **2.5.1 Pleasure Crafts Not Requiring Approved Stability Information Booklet.**

A Pleasure Craft, for which stability is assessed on the basis of practical tests or simplified methods, shall be approved. A detailed record of the procedure of the tests or calculations and the results that were accepted is to be kept and these details are to be entered on the certificate.

### **2.5.2 Pleasure Crafts Requiring Approved Stability Information Booklet.**

**2.5.2.1** The Owner(s) shall be responsible for the inclining test of a Craft to be undertaken and for the calculation of the lightship particulars, which are used in the stability calculations.

**2.5.2.2** The Administration shall witness the inclining test of a Craft and be satisfied as to conditions and the manner in which the test is conducted.

**2.5.2.3** The owner(s) of a Craft shall be responsible for the submission of the Stability Information Booklet.

### **2.5.3 Damage Stability Information**

Pleasure Craft are required to be provided with damage stability calculations.

### **2.5.4 Guidance on Stability Assessment**

It shall be noted that the Administration may require a full stability analysis for a Craft which has been modified from the original design, particularly if the freeboard has been significantly reduced or the modification has involved the addition of, for example, a mast-furled main sail, a roller-reefing headsail, a radar antenna or any other item of equipment which may have caused the position of the vertical centre of gravity to be situated at a higher level than that intended by the designer.

## **3 FREEBOARD AND FREEBOARD MARKING**

### **3.1 Sailing Pleasure Crafts**

**3.1.1** Sailing Pleasure Crafts are required to be provided with an approved Stability Information Booklet/ stability compliance certificate shall have a freeboard mark placed on each side of the hull at the longitudinal position of the longitudinal centre of flotation for the maximum draught at which the stability of the Craft has been determined. In no case shall this draught be greater than the draught corresponding to the maximum displacement for which the scantlings have been approved.

**3.1.2** The freeboard mark referred to above shall measure 300mm in length and 25mm in depth. The marking shall be permanent and painted black on a light background or in white or yellow on a dark background.

**3.1.3** A Pleasure Craft shall not operate in any condition that can result in its freeboard marks being totally submerged when it is at rest and upright in calm seawater.

**3.1.4** Sailing Pleasure Crafts with variable ballast shall be specially considered by the Administration.

## **3.2 Motorised Pleasure Crafts**

**3.2.1** Section 3.3 defines the requirements for minimum freeboard for a motorised Pleasure Craft whose stability assessment is not based on ISO 12217 'Small Craft - Stability and buoyancy assessment and categorisation' Part 1 and has an approved stability booklet. Section 3.4 defines how and when the freeboard mark, and deck line, shall be applied.

**3.2.2** For Pleasure Crafts whose freeboard is not determined and are not provided with an approved stability information booklet, the loading of the Craft is governed by the maximum permissible weight, as identified on the Craft's certificate.

## **3.3 Minimum Freeboard**

**3.3.1** The freeboard, for a motorised Pleasure Craft which have an approved stability booklet, shall be not less than that determined by the following requirements –

A Pleasure Craft, when fully loaded (each person taken as 75kg) shall be upright, and -

- in the case of a Craft with a continuous watertight weather deck, which is neither stepped or recessed or raised, have a freeboard measured down from the lowest point of the weather deck of not less than 300 mm for Crafts of 7 metres in length or under and not less than 750 mm for Crafts of 18 metres in length or over. For a Craft of intermediate length the freeboard shall be determined by linear interpolation;
- in the case of a Craft with a continuous watertight weather deck, which may be stepped, recessed, or raised, have a freeboard measured down from the lowest point of the weather deck, of not less than 200 mm for Crafts of 7 metres in length or under and not less than 400 mm for Crafts of 18 metres in length or over. For a Craft of intermediate length the freeboard shall be determined by linear interpolation. The raised portion(s) of the watertight weather deck shall extend across the full breadth of the Craft and the average freeboard over the length of the Craft shall comply with .1 above for a Craft with a continuous watertight weather deck;
- in the case of an open Craft, have a clear height of side (i.e. the distance between the waterline and the lowest point of the gunwale\*) of not less than 400mm for Crafts of 7 metres in length or under and not less than 800mm for Crafts of 18 metres in length or over. For a Craft of intermediate length the clear height shall be determined by linear interpolation;

\*(The clear height of the side shall be measured to the top of the gunwale or capping or to the top of the wash strake if one is fitted above the capping.)



**3.3.2** A Craft required to be provided with an approved Stability Information Booklet shall be assigned a freeboard which corresponds to the draught of the Craft in sea water when fully loaded (each person taken as 75kg), but which in no case shall be less than the freeboard required by Section 3.3.1, nor that corresponding to the scantling draught.

### **3.4 Freeboard Mark**

**3.4.1** A Craft assigned a freeboard in accordance with Section 3.3 shall be marked with a freeboard mark and have a scale of draught marks marked clearly at the bow and stern, on both sides of the Craft. The longitudinal position of the draught marks, relative to the longitudinal datum for the hydrostatic data, shall be recorded in the Stability Information Booklet, where provided.

**3.4.2** Where it is considered that the addition of a scale of draught marks is neither practicable nor meaningful, for example, due to restricted loading variations, application for special consideration shall be made to the Administration. Additionally, where the line of the deck is not immediately discernable, a Craft shall be provided with a deck line. The deck line and freeboard mark shall be permanent and painted on a contrasting background.

**3.4.3** The freeboard mark shall consist of a ring 300 millimetres in outside diameter and 25 millimetres wide, intersected by a horizontal line 450 millimetres long and 25 millimetres wide the upper edge of which passes through the centre of the ring. The top of the intersecting line shall be positioned at the waterline corresponding to the assigned freeboard to deck edge at amidships. No mark shall be applied for fresh water allowance. The assigning letter shall be marked on the bar of the ring.

**3.4.4** The freeboard mark for a Pleasure Craft not requiring an approved Stability Information Booklet, other than a Craft complying with Section 3.4.1, shall be a bar of 300mm in length and 25mm in depth.

**3.4.5** The marking shall be permanent and painted black on a light background or in white or yellow on a dark background. (No assigning letter marking shall be placed on the bar marking.) The top of the mark shall be positioned at the waterline corresponding to the maximum draught, at amidships. Additionally, where the line of the deck is not immediately discernable, a Craft shall be provided with a deck line. The deck-line shall be marked amidships on each side of the ship so as to indicate the position of the freeboard deck. The mark need not be of contrasting colour to the surrounding hull.

**3.4.6** Where the design of the Craft, or other circumstances, render it impracticable to mark the deck line, the Administration may direct that it be marked by reference to another fixed point as near as practicable to the position described above.

**3.4.7** A Craft shall not operate in a condition that will result in its freeboard marks being totally submerged when it is at rest and upright in calm sea water.



## **4 MACHINERY**

### **4.1 General Requirement**

**4.1.1** Machinery installations shall comply with the requirements given below. Other installations proposed may be specially considered, provided that full information is presented to and approved by the Administration. In motor Crafts, the main propulsion machinery and all auxiliary machinery essential to the propulsion and the safety of the Craft shall be designed to operate when the Craft is upright and when inclined at any angle of heel and trim up to and including 15 degrees and 7.5 degrees respectively either way under static conditions.

**4.1.2** In sailing Pleasure Crafts, the main propulsion machinery and all auxiliary machinery essential to the propulsion and the safety of the Craft shall be designed to operate when the Craft is upright and when inclined at any angle of heel up to and including 15 degrees either way under static conditions and 22.5 degrees either way under dynamic rolling conditions and simultaneously inclined 7.5 degrees by bow or stern under dynamic pitching conditions.

### **4.2 Diesel Engines**

A Pleasure Craft fitted with either an inboard or an outboard diesel engine shall be provided with an engine suitable for marine use and with sufficient fuel tankage for its area of operation.

### **4.3 Petrol Engines**

**4.3.1** A petrol engine may be accepted provided that the engine is a suitable outboard type.

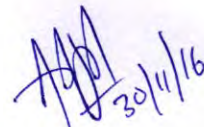
**4.3.1.1** A Pleasure Craft of any type may be fitted with a small engine (usually less than 5 horse power) manufactured with an integral fuel tank, provided a safety warning sign is displayed with details of appropriate precautions to be taken when filling the fuel tank.

**4.3.1.2** The Craft shall supply fuel to the engine from either of the following –

- (a) A permanently installed fuel tank constructed to an appropriate standard and in the case of Crafts fitted with a watertight weather deck shall have arrangements such that spillage during fuel handling will drain directly overboard;
- (b) A portable tank of 27 litres or less in capacity complying to an appropriate standard.

**4.3.2** In locations where an accumulation of hydrocarbon vapours is likely to occur, a suitable hydrocarbon gas detector shall be fitted under or adjacent to the tank (located in a safe place). The detector components, and any other electrical equipment residing in the vapour area shall not be capable of causing ignition.

**4.3.3** A Pleasure Craft shall be provided with sufficient fuel tankage for its area of operation.



## 4.2 Installation

4.2.1 The machinery, fuel tank(s) and associated piping systems and fittings shall be of a design and construction adequate for the service for which they are intended. These shall be installed and protected so as to reduce to a minimum danger to persons during normal movement about the Craft, with due regard being paid to moving parts, hot surfaces and other hazards.

4.2.2 Means shall be provided to isolate a source of fuel which may feed a fire in an engine space. A valve or cock, which is capable of being closed from a position outside the engine space, shall be fitted in the fuel feed pipe as close as possible to the fuel tank.

4.2.3 Fuel filling and venting pipes shall be constructed of fuel compatible non-kinking material, adequately supported and of sufficient dimensions to prevent spillage during filling.

4.2.4 A venting pipe shall be led to the open air, terminating in a position level with or higher than the fuel filling mouth and its open end protected against water ingress by means of a goose neck or other efficient means. For petrol engines or where there is a risk from flame ingress a suitable gauze diaphragm shall be used (which can be detached for cleaning).

4.2.5 In a fuel supply system unit, where a flexible section of piping is introduced, the flexible pipes shall be fire resistant/metal reinforced or otherwise protected from fire. The flexible pipes shall be secured by either metal hose clamps or permanently attached end fittings (e.g. swaged sleeve or sleeve and threaded insert). Where hose clamps are used, the fitting to which the flexible pipe attaches shall have a bead, flare, annular grooves or other means of preventing slippage, the anti-slippage arrangement shall not provide a path for fuel leakage.

4.2.6 When the main engine(s) oil fuel system is provided with water separator filter(s) of a type that has plastic or glass bowl(s), it shall be located so that it can be easily seen and protected against heat and accidental damage.

## 4.3 Engine Starting and Stopping

4.3.1 Engines shall be provided with either mechanical, hand starting or electric starting with independent batteries, or other means of starting acceptable to the Administration.

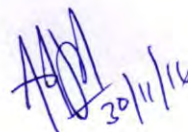

4.3.2 When the sole means of starting is by battery, the battery shall be in duplicate and connected to the starter motor via a 'change over switch' so that either battery can be used for starting the engine. Charging facilities for the batteries shall be available. Under normal circumstances it is not recommended to discharge both batteries in parallel.

4.3.3 All internal combustion machinery shall have a secure means of remote stopping from outside the engine space.

## 4.4 Portable Equipment

4.4.1 When portable equipment powered by a petrol engine is provided, the unit, unless fully drained of fuel, shall normally be stored on the weather deck.

4.4.2 Portable equipment may also be stowed in a deck locker or protective enclosure that is to the satisfaction of the Administration and meets the following requirements –



- (a) Vapour tight to the Craft's interior.
- (b) Not openable from the Craft's interior
- (c) Adequately drained overboard and ventilated to atmosphere.

**4.4.3** A safety warning sign shall be displayed with details of appropriate precautions to be taken when filling the fuel tank.

**4.4.4** Gas welding and cutting equipment bottles, if carried, shall be stowed in a secure manner on the open deck at a safe distance away from any potential source of fire and shall have the capability of being readily jettisoned overboard if necessary.

## **5 ELECTRICAL ARRANGEMENT**

### **5.1 General**

**5.1.1** Electrical arrangements shall be such as to minimise the risk of fire and electric shock. Tanks, machinery or other metallic objects that do not have proper electrical continuity with the water surrounding the Craft shall have special earthing arrangements to reduce such risks.

**5.1.2** The electrical systems described in this section are the most common types suitable for small Pleasure Crafts, i.e. 12V to 24V direct current systems. However, a Craft may have alternating current electrical equipment of much higher voltage, in which case compliance with an applicable standard or the Classification rules of the Recognized Organisation will be required.

**5.1.3** Where battery is provided as the main source, adequate means of charging shall be provided. Further, battery system shall be duplicated. Design Category 4 Pleasure Crafts can be allowed to dispense with the charging provision provided it could be proved that the source of energy is sufficient for the nature of the operation undertaken by the Crafts.

**5.1.4** Electrical load shall take into account and to be sufficient to provide all lighting including navigational and search light, navigational equipment, GMDSS equipment, fire fighting, bilge transfer, steering, control and alarm system loads unless separate/individual source of energy (prime movers) are provided to the satisfaction of the administration.

### **5.2 Systems**

**5.2.1** Systems shall be two conductors, except that single conductor systems are acceptable for engine circuits comprising engine-mounted equipment that have a return connection made at the engine itself.

**5.2.2** A system in which there is no intentional connection of the circuit to earth (an insulated system) shall be provided with double pole switches, except that single pole switches may be used in the final sub-circuit.

**5.2.3** Single pole switches are only acceptable when used in the 'live' (+) conductor in a system with one pole earthed. Fuses shall not be installed in an earthed conductor.



**5.2.4** All circuits, except the main supply from the battery to the starter motor and electrically driven steering motors, shall be provided with electrical protection against overload and short circuit, (i.e. fuses or circuit breakers shall be installed). The rating of over current protection devices shall not exceed the rated current capacity of the conductor being protected. Short circuit protection shall be suitable for the total rated current of the consumers in the circuit protected. Where a single outboard engine is installed, and fitted with in-line fuses, suitable procedures shall be established to enable the engine to be started in the event of a damaged fuse.

**5.2.5** Steering circuits, the loss of which would lead to steering failure, shall have an overload alarm in lieu of overload protection (this does not apply to auto-pilot motors). However all circuits shall be protected against short circuit events.

### **5.3 Lighting**

When general lighting within a Craft is provided by a centralised electrical system, an alternative source of lighting (which may be a suitable portable battery operated lamp(s) if practical, taking into consideration the size and complexity of the Craft) shall be provided. This alternative source of lighting shall be sufficient for the following –

- (a) Enable persons to make their way to the open deck.
- (b) Illuminate survival Craft launching and embarkation.
- (c) Illuminate man-overboard rescue equipment and rescue areas.
- (d) Permit work on essential machinery.

### **5.4 Batteries**

#### **5.4.1 Battery System Requirements**

**5.4.1.1** Battery terminals shall be protected against accidental contact with metallic objects.

**5.4.1.2** Battery charging systems shall be fitted with circuitry to prevent overcharging.

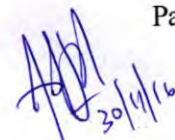
**5.4.1.3** A battery cut-out switch shall be provided for all systems. It is preferred that this switch acts as an isolator, i.e. it is double pole, however, single pole is acceptable on the positive conductor. If a battery changeover switch is fitted and is provided with an "off" position, this may serve as the cut-out switch also.

**5.4.1.4** Batteries supplying essential services (emergency lighting, steering systems, navigation and communications equipment) shall be located in a position not likely to flood in normal operations or in the event of minor damage.

**5.4.1.5** In the case of a sailing Craft, batteries shall be of the sealed type to prevent electrolytic loss in the event of a knockdown or immersion.

#### **5.4.2 Battery Stowage**

**5.4.2.1** All batteries shall be secured firmly to avoid movement when the Craft is subjected to sudden acceleration or deceleration, a large angle of heel, trim and in the case of sailing Crafts, knockdown or inversion.



**5.4.2.2** Where the maximum charging power output is less than 0.2 kW the batteries may be located in any suitable space without any special container requirements.

**5.4.2.3** Where the maximum charging power output is between 0.2 and 2.0 kW the batteries shall be located in the machinery space or other well-ventilated space in a box or locker.

**5.4.2.4** Where the maximum charging power output exceeds 2 kW the batteries shall be placed in a suitably ventilated dedicated compartment within the Craft or a locker on the open deck, in either case stowage space is to be for batteries only.

### **5.4.3 Ventilation**

**5.4.3.1** To ensure that any evolved hydrogen is expelled, battery compartments, lockers and containers shall be exhausted from the highest point of the space and air supplied at a level below the top of the batteries.

**5.4.3.2** If mechanical means are employed to ventilate a battery compartment directly, then the components must not be a potential source of ignition.

## **5.5 Electric Cables**

**5.5.1** Electric cables shall be constructed to a recognised standard for marine use in small Crafts.

**5.5.2** Cables which are not provided with electrical protection shall be kept as short as possible and shall be "short circuit proofed", e.g. single core with an additional insulated sleeve over the insulation of each core. Normal marine cable, which is single core, will meet this requirement without an additional sleeve, since it has both conductor insulation and a sheath.

**5.5.3** Note that when selecting cables, particular attention shall be given to environmental factors such as temperature and contact with damaging substances, e.g. polystyrene, which degrades PVC insulation.

**5.5.4** Adequate provision shall be made for securing electrical connections, e.g. by use of locking washers or connectors.

## **5.6 Hazardous Spaces**

**5.6.1** Where practicable, electrical equipment shall not be installed in a space where petroleum vapour or other hydrocarbon gas is likely to accumulate. When equipment is installed in such a space it must comply with a recognised standard for prevention of ignition of a flammable atmosphere.

**5.6.2** Any compartment that contains a gas consuming appliance or any compartment into which flammable gas may leak or accumulate, shall be provided with a hydrocarbon



  
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gas detector and alarm. The detector and alarm shall be designed to comply with a recognized standard in accordance with Section 5.6.1.

## 5.7 Lightning Protection

Where a considerable risk of lightning strike is identified, it is recommended that attention is paid to lightning strike protection. Reference shall be made to ISO 10134 'Small Crafts – Electrical Devices – Lightning Protection'

## 6 STEERING GEAR, RUDDER AND PROPELLER SYSTEMS

### 6.1 Steering

6.1.1 Pleasure Crafts shall be provided with efficient means of steering.

6.1.2 The control position shall be located so that the person conning the Craft has a clear view for the safe navigation of the Craft.

6.1.3 When steering gear is fitted with remote control, arrangements shall be made for emergency steering in the event of failure of the control. Arrangements may take the form of the following, and be to the satisfaction of the Administration –

- (a) A tiller to fit the head of the rudderstock.
- (b) A rod attachment that may be fitted to a Z-drive framework.
- (c) A steering oar.
- (d) In the case of twin screw Pleasure Crafts manipulation of power distribution between the drives. In the case of twin stern-drive arrangements, means shall be provided to lock the drives in the amidships position.
- (e) In the case of a Pleasure Craft fitted with outboard(s), a means to control the direction of thrust.

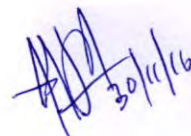
6.1.4 If emergency steering is impractical, alternative safety measures and/or procedures (e.g. restriction in the area of operation etc.) to deal with any steering failure situation shall be agreed.

6.1.5 Steering systems shall comply with an appropriate national/international standard for small craft steering systems.

### 6.2 Rudder System

6.2.1 As appropriate to the Craft, the rudder and rudder stock construction materials, design in total (including tiller head attachments, bearings and pintles) and the supporting structures shall be adequate for the operating conditions of the Craft.

6.2.2 Construction and fittings shall be to an appropriate national/international standard, to the satisfaction of the Administration.



### 6.3 Propeller System

6.3.1 As appropriate to the Craft, propeller line shaft(s) construction materials and design in total (including shaft brackets, propeller securing, bearings, sterntube and thrust block) and supporting structures shall be adequate for the operating conditions for the Craft.

6.3.2 Construction and fittings shall be to an appropriate national/international standard, to the satisfaction of the Administration.

## 7 BILGE PUMPING

### 7.1 General System Requirements

7.1.1 A Craft shall have an efficient bilge pumping system, with suction pipes so arranged that any compartment (other than a tank permanently used for the carriage of liquids which is provided with efficient means of pumping or drainage) can be drained.

7.1.2 Provided the safety of a Craft is not impaired, the Administration may permit dispensation from the means of pumping or drainage of particular compartments.

7.1.3 A bilge pump (other than a portable pump) shall be capable of being operated with all hatchways and companionways closed.

7.1.4 When considered necessary to protect the bilge suction line from obstruction, an efficient strum box shall be provided.

7.1.5 When considered necessary, to prevent back flooding, bilge suction valves shall be of non return type.

7.1.6 Means of providing efficient bilge pumping other than those described in this text may be considered provided that full information is submitted to and approved.

7.1.7 Unless otherwise stated, pump capacities shall meet the following minimum requirements –

- (a) 10 litres per minute for Crafts of 6 metres in length or less
- (b) 15 litres per minute for Crafts of between 6 and 12 metres in length
- (c) 30 litres per minute for Crafts of 12 metres in length or greater

### 7.2 Design Category 1, 2 and 3 Pleasure Crafts

Unless otherwise specified in Section 7.4, a Craft shall be provided with at least two bilge pumps, one of which may be power driven situated in two separate spaces. All pumped spaces shall be capable of being drained after the failure of one pump.



### **7.3 Design Category 4 Pleasure Crafts**

**7.3.1** A Craft shall have at least one hand bilge pump with sufficient hose length to reach all compartments. All pumped spaces shall be capable of being drained after the failure of one pump.

**7.3.2** For motorised Crafts, all compartments shall be able to be drained when the Craft is heeled up to an angle of +/- 10 degrees.

### **7.4 Open Crafts**

**7.4.1** All open Pleasure Crafts, of 6 metres in length and over, shall carry a hand bailer or bucket in addition to the bilge pumping requirements in Section 7.2 and 7.3.

**7.4.2** For Crafts of less than 6 metres in length, operating in Category 3, a minimum of one hand powered bilge pump or a bailer or a bucket is to be provided.

### **7.5 Bilge Alarm**

**7.5.1** A bilge alarm shall be fitted in any watertight compartment containing propulsion machinery or other compartment likely to accumulate bilge water, i.e. where a skin fitting is present, excluding void spaces, where the bilge level cannot be readily seen

**7.5.2** To prevent pollution, compartments containing potential pollutants shall not be fitted with auto-start bilge pumps.

**7.5.3** An auto-start bilge pump serving a clean compartment where a significant quantity of water could accumulate unnoticed shall be fitted with an audible alarm at the control position(s) or in the compartment. Should a number of such locations/alarms be present, then visual alarm indication shall also be fitted to enable rapid location of the source of the alarm.

**7.5.4** The alarm shall provide an audible warning, and preferably a visual warning also, at the control position.

## **8 ANCHORS AND CABLES**


### **8.1 General**

**8.1.1** The requirements given in Table in this section are for a Craft of normal form which may be expected to ride-out storms whilst at anchor. The anchors and cables are not designed to hold a Craft off exposed coasts in rough weather nor stop a Craft that is moving.

**8.1.2** Provision is to be made for the secure storage of the anchor and its cable.

### **8.2 Anchors**

**8.2.1** The tabulated values given below for anchor masses refer to High Holding Power anchors. Anchors of other designs may be accepted based on the stated holding power.



**8.2.2** When a fisherman type of anchor is provided, the mass given in the table shall be increased by 75% but the diameter of the anchor cable need not be increased.

**8.2.3** For Pleasure Crafts with an unusually high windage, due to high freeboard, a large rig, large deckhouses or superstructures, the mass of the anchor and the anchor cable diameter shall be increased above that required in Table to correspond to the increased wind loading. The increase in anchor mass and corresponding cable strength is to be to the satisfaction of the Administration.

**8.2.4** For Pleasure Crafts of unusual form the anchor and cable size shall be to the satisfaction of the Administration.

**8.2.5** Anchors are to be rigged ready for use. Only where the particular operating patterns dictate may the anchor be left unready

**8.2.6** The design of the anchor is to be acceptable to the Administration.

**8.2.7** Stainless steel and aluminium anchors will be separately considered dependent upon the test loads for which the anchor has been designed.

### **8.3 Cables**

**8.3.1** The length of anchor cable attached to an anchor shall be appropriate to the area of operation but generally shall be not less than 4 x the Craft's mean length or 30 metres, whichever is the longer, for each of the main and kedge anchors.

**8.3.2** The cable for main anchors and for kedge anchors may be of chain or rope.

**8.3.3** When the anchor cable is of fibre rope or wire, there shall be not less than 10 metres or 20% of the minimum required cable length, whichever is the greater, of chain between the rope and the anchor. Where the anchor cable is wire then proposals to substitute the chain tail by an anchor and/or chain of enhanced mass will be considered to the satisfaction of the Administration, with special attention paid to the anchor performance, i.e. catenary.

**8.3.4** The strength, form and material of the anchor cable and its attachments to the anchor and the Craft shall be approved.

**8.3.5** Anchoring systems incorporating a windlass shall have the bitter end of the cable secured to the Craft's structure and capable of being released in an emergency.

**8.3.6** Anchor steel wire rope is to be fitted with thimbles at both ends.

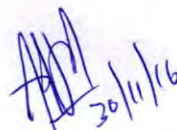
### **8.4 Towline**

A Craft shall be provided with a towline of not less than the length and diameter of the kedge anchor cable. The towline may be the warp for the second anchor.

### **8.5 Operations**

**8.5.1** When an anchor mass is more than 30kg, an efficient mechanical means shall be provided for handling the anchor.

**8.5.2** There shall be a strong securing point on the foredeck or equivalent structure and where appropriate a fairlead or roller at the stem head.



**8.5.3** Design Category 1, 2 or 3 Pleasure Crafts shall be provided with at least two anchors (one main and one kedge or two main) and cables, in accordance with the requirements of Table below. Anchors of equivalent holding power may be proposed and provided, subject to approval by the Administration.

**8.5.4** Design Category 4 Pleasure Crafts shall be provided with an anchor of sufficient mass for the size and type of the Craft and as a minimum, the mass shall correspond to that of a kedge, as illustrated in the table.

Mean Length * (metres)	Anchor Mass		Anchor Cable Diameter			
	Main (kg)	Kedge (kg)	Main Chain Rope (mm)	Kedge Chain (mm)	Rope (mm)	(mm)
6	8	4	6	12	6	10
7	9	4	8	12	6	10
8	10	5	8	12	6	10
9	11	5	8	12	6	10
10	13	6	8	12	6	10
11	15	7	8	12	6	10
12	18	9	8	14	8	12
13	21	10	10	14	8	12
14	24	12	10	14	8	12
15	27	13	10	14	8	12
16	30	15	10	14	8	12
17	34	17	10	14	8	14
18	38	19	10	16	8	14
19	42	21	12	16	10	14
20	47	23	12	16	10	14
21	52	26	12	16	10	14
22	57	28	12	19	10	16
23	62	31	12	19	10	16
24	68	34	12	19	10	16

\* For the purposes of this section, mean length is defined as:  $(\text{Length} + \text{Length on waterline})/2$

## 9 PROTECTION OF PERSONNEL

### 9.1 Deckhouses

A deckhouse used for the accommodation of persons must be constructed of adequate strength to withstand the forces of weather and sea to which it will be subjected in use.

### 9.2 Bulwarks, Guard Rails and Handrails (General)

**9.2.1** Bulwarks, guardrails and guard wires shall be supported efficiently by stays or stanchions. When application of such measures would impede the proper working of the Craft, alternative safety measures shall be considered.

**9.2.2** To protect persons from falling overboard, and when the proper working of the Craft is not impeded and there are persons frequently on the deck, bulwarks or three courses of rails or taut wires shall be provided and the bulwark top or top course shall be not less than 1000mm above the deck. The distance between the lowest course and the deck shall not exceed 230mm and the distance between other courses shall not exceed 380mm.

**9.2.3** In a Craft fitted with a cockpit that opens aft to the sea, additional guardrails shall be fitted so that there is no unprotected vertical opening (i.e. between vertical 'members') greater than 500mm in width.

**9.2.4** Where it is impractical and unnecessary to fit guardrails, alternative arrangements may be acceptable subject to the Administration being satisfied as to the adequacy of the proposed arrangements. For example, on small motor Crafts with narrow side decks alongside a deck house, a handrail on the side of the deckhouse may be fitted. On the foredeck, a centre line handrail may be considered more workable.

**9.2.5** Handrails shall be provided for access stairways, ladder ways, passage ways and for decks without bulwarks or guardrails. This provision shall not be used in lieu of guardrails and bulwarks where required by this notification.

## **10 REQUIREMENTS SPECIFIC TO SAILING PLEASURECRAFTS**

### **10.1 Sails and Rigging**

**10.1.1** Efficient storm sails shall be carried which are capable of taking the Craft to windward in heavy weather. Where one of the required storm sails is a foresail, and roller furling gear and associated sails are fitted, a means of setting a separate taut luff storm jib shall be provided. Each storm weather jib shall have a means to attach the luff to a stay independent of any luff groove device, which shall be permanently attached to the sail. Such sails may use the taught luff of a furled sail.

**10.1.2** Storm sails need not be provided for a Design Category 4 sailing Pleasure Craft that is restricted to operating in fair weather and daylight.

**10.1.3** The condition of spars and rigging shall be examined during annual surveys. A detailed spars and standing rigging visual inspection shall be carried out at the time of renewal survey. Chain plates and their attachments to hull structure shall be visually examined at least every annual survey.

### **10.2 Rails and Wires**

**10.2.1** When the proper working of a sailing Pleasure Craft may otherwise be impeded, bulwarks or two courses of rails or taut wires shall be fitted around the working deck and the height of the protection shall be not less than 600mm above the deck. Rails or wires shall be supported at intervals not exceeding 2.2 metres.

**10.2.2** When the proper working of a sailing Pleasure Craft of less than 9 metres in length may otherwise be impeded, and for Crafts in which the crew do not leave the cockpit, bulwarks or a single rail or taut wire may be fitted around the working deck with the height of the protection being not less than 450mm above the deck but with no vertical opening greater than 560mm.





**10.2.3** In a Craft fitted with a headstay, a fixed or drop-nosed bow pulpit shall be provided forward of the headstay of at least the same height as the guardrails, except in way of a substantial bowsprit. A drop-nosed pulpit with an opening wider than 250mm shall be provided with a means of closure at guardrail height, for use at sea.

### **10.3 Pulpit Arrangement**

When it is desired to move forward of a pulpit to access a bowsprit or to assist with docking operations, it shall be permissible to arrange the pulpit with an opening in its forward most part. In this case, an efficient means of closure of the opening shall be fitted, and jackstays provided.

### **10.4 Toe Rails**

When appropriate to the working of a sailing Craft, a toe rail of not less than 25 mm in height shall be fitted around the working deck.

## **11 SAFETY HARNESSSES**

### **11.1 Requirements**

**11.1.1** Pleasure Crafts shall be provided with safety harnesses as necessary for all persons who may be required to work on deck, minimum number required being two.

**11.1.2** Efficient means for securing the lifelines of safety harnesses shall be provided on exposed decks, and grab rails provided on the sides and ends of a deckhouse.

**11.1.3** Fastening points for the attachment of safety harness life lines shall be arranged having regard to the likely need for work on or above deck. Securing points shall be provided close to a companionway and on both sides of a cockpit.

**11.1.4** When guardrails or wires are not otherwise provided, jackstays (that may be fixed or portable) secured to strong points, shall be provided on each side of the Craft to enable crewmembers to traverse the length of the weather deck in bad weather.

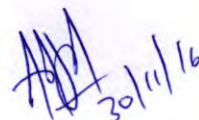
**11.2** Jackstays will be provided for in Design Category 1,2 and 3 sailing Pleasure Crafts. When a Craft with sail is provided with an open fronted pulpit, jackstays shall be carried sufficiently far forward to protect persons working in the vicinity of the pulpit.

## **12 WORKING DECKS**

### **12.1 Surface of Working Decks**

**12.1.1** The surface of a working deck shall be non-slip.

**12.1.2** Acceptable surfaces are: chequered plate, unpainted wood; a non-skid pattern moulded into FRP; non-slip deck paint; or an efficient non-slip covering.



**12.1.3** Particular attention shall be paid to the surface finish of a hatch cover when it is fitted on a working deck and, for sailing Crafts, to sloping coach roof sides where these effectively constitute a working deck when the Craft is heeled.

**12.2** In an inflatable or rigid inflatable Craft the upper surface of the inflatable buoyancy tube shall be provided with a non-slip finish.

## **13 FIRE SAFETY**

### **13.1 General**

**13.1.1** The boundary of the engine space shall, with special consideration given to fire flaps, be arranged to contain the fire-extinguishing medium i.e. the engine space shall be capable of being closed down in order that the fire-extinguishing medium cannot escape. Any fans located within or feeding a machinery space shall be capable of being stopped from outside the space in the event of a fire. Systems compromising automatic stopping of fans in the event of a fire shall be supplemented with a manual override.

**13.1.2** Where it is not practical to have a machinery space, the engine shall be enclosed in a box. The box shall perform the same function as the machinery space boundaries in Section 13.1.1 above.

**13.1.3** Combustible materials and liquids shall not be stowed in the engine space. If non-combustible materials are stowed in the engine space, they shall be adequately secured against falling on machinery and cause no obstruction to access to or from the space.

**13.1.4** Portlights or windows shall not be fitted in the boundary of the engine space except that an observation port having a maximum diameter of 150mm may be fitted in an internal boundary bulkhead, provided that the port is of the non-opening type, the frame is constructed of steel or other equivalent material, and the port is fitted with a permanently attached cover with securing arrangements. Only fire rated toughened safety glass (rated A0 in accordance with the FTP Code) shall be used in an observation port.

### **13.2 Structural Fire Protection**

**13.2.1** The hull, superstructure, structural bulkheads, decks and deckhouses of Pleasure Crafts shall be constructed of steel, FRP or other equivalent material.

**13.2.2** Pleasure Crafts that have the machinery space boundaries constructed of steel (rated A-0 in accordance with the FTP code) require no additional fire protection. However, surfaces on the opposite side of the machinery space shall only be coated with finishes which have a Class 1 surface spread of flame rating when tested in accordance with FTP Code.

**13.2.3** For all Design Categories of Pleasure Crafts constructed in Fibre Reinforced Plastic (FRP), machinery space boundaries shall prevent the passage of smoke and flame for 15 minutes, when tested in accordance with the FTP Code. Fire resistance of FRP may be achieved by the use of woven roving glass layers or additives (which must be added strictly in accordance with the manufacturer's requirements) to the resin. Intumescent polyester, epoxy, vinyl ester or phenolic resin surface coatings may also be used; however, solvent borne intumescent paints are not acceptable. The requirement for

the fire test may be waived if the construction complies with an ISO or equivalent standard to give at least the same level of protection.

**13.2.4** For all design categories of Pleasure Crafts constructed in Aluminium and Wood, the machinery space boundaries should have an equivalent level of fire protection when compared to FRP construction.

**13.2.5** Interior stairways below the weather deck shall be of steel or other material having acceptable fire resisting properties.

### **13.3 Insulation**

**13.3.1** Thermal or acoustic insulation fitted inside the engine space shall be of non-combustible material.

**13.3.2** Insulation shall be protected against impregnation by flammable vapours and liquids. Where insulation is cut, the edges shall be protected against such impregnation, e.g. by the use of non-combustible tape. Where the insulation is vulnerable to damage it shall be protected.

**13.3.3** Insulation materials in accommodation spaces, service spaces (except domestic refrigeration compartments), control stations and machinery spaces shall be non-combustible. Vapour barriers and adhesive used in conjunction with insulation, as well as insulation of pipes fittings, for cold service systems, need not be non-combustible materials, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have qualities of resistance to the propagation of flame to the satisfaction of Administration.

### **13.4 Cleanliness**

**13.4.1** Provision shall be made to retain any oil leakage within the confines of the engine space.

**13.4.2** When it is impracticable to fit a metal drip tray in way of the engine, the use of the engine bearers as a means of containment of the oil may be accepted when they are of sufficient height and have no limber holes. Provision shall be made for the clearing of spillage and drainage collected in the engine space.

**13.4.3** Efficient means shall be provided to ensure that all residues of persistent oils are collected and retained on-board for discharge to collection facilities ashore.

**13.4.4** The engine space shall be kept clean and clear of oily waste and combustible materials.

### **13.5 Open Flame Gas Appliances**

**13.5.1** Open flame gas appliances provided for cooking, heating or any other purposes including their installation shall comply with the requirements of a recognized standard so far as the requirements apply to any particular appliance and be suitable for marine use and installation in Crafts.

**13.5.2** Materials which are in the vicinity of open flame cooking or heating appliances shall be non-combustible, except that these materials may be faced with any surface

finish having a Class 1 surface spread of flame rating when tested in accordance with a recognised standard.

**13.5.3** Combustible materials and other surfaces which do not have a surface spread of flame rating shall not be left unprotected within the following distances of a standard cooker –

- (a) 400 mm vertically above the cooker, for horizontal surfaces, when the Craft is upright.
- (b) 125 mm horizontally from the cooker, for vertical surfaces.

**13.5.4** Curtains or any other suspended textile materials shall not be fitted within 600mm of any open flame cooking, heating or other appliance.

### **13.6 Furnishing Materials**

**13.6.1** It is recommended that Combustion Modified High Resilient (CMHR) foams are used in upholstered furniture and mattresses.

**13.6.2** Upholstery covering fabrics shall satisfy the cigarette and butane flame tests of a recognised standard.

### **13.7 Fire Detection**

**13.7.1** In Pleasure Crafts where the total installed power (propulsion and electrical generation) is greater than 750 kW efficient fire detectors shall be fitted in the engine space(s).

**13.7.2** Design Category 1,2 and 3 Pleasure Crafts (of lengths greater than 12m) shall be fitted with efficient fire detectors in spaces containing open flame devices.

**13.7.3** On board any Pleasure Craft, where an area is identified as posing a fire risk to guests or crew (e.g. galleys, sleeping accommodation), fire detection equipment shall be installed to protect that area.

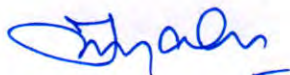
**13.7.4** The fire detectors shall be appropriate to the hazard identified and shall give an audible warning that can be heard in the space concerned and in the control position when the Craft is in operation.

### **13.8 Means of Escape**

**13.8.1** Two means of escape shall be provided in the following areas –

- (a) Accommodation spaces used for sleeping or rest.
- (b) Other accommodation spaces affected by a fire risk.
- (c) Machinery spaces affected by a fire risk except those spaces visited only occasionally or unmanned during normal operation, and where the single access gives ready escape, at all times, in the event of fire; or those spaces where any person entering and moving about the space is within 5 metres of the single entrance, at all times.

**13.8.2** The means of escape shall be such that any single hazardous event will not cut-off both escape routes.



**13.8.2** In the exceptional case where a single means of escape from accommodation spaces is accepted; efficient fire detectors shall be provided as necessary to give early warning of a fire emergency that could cut off that single means of escape.

**13.8.3** Means of escape shall be clearly marked for their purpose on both sides, and the function of each escape route demonstrated by practical tests to the satisfaction of the Administration.

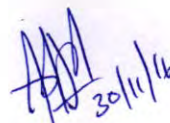
**13.8.4** All sailing multihull Pleasure Crafts over 12 metres length shall be fitted with an emergency escape hatch in each main inhabited watertight compartment to permit the exit of personnel in the event of an inversion. Such escape hatches shall be located above both upright and inverted waterlines.

### **13.9 Restricted Use of Combustible Material**

**13.9.1** All exposed surfaces in corridors and stairway enclosures and surfaces including decks in concealed or inaccessible spaces in accommodation spaces, service spaces and control stations shall have low flame-spread characteristics. Exposed surfaces of ceilings in accommodation spaces, service spaces and control stations shall have low flame-spread characteristics.

**13.9.2** Paints, varnishes and other finishes used on exposed interior surfaces shall not offer an undue fire hazard in the judgment of the Administration and shall not be capable of producing excessive quantities of smoke.



 30/11/16

## SCHEDULE II –PLEASURE CRAFT SAFETY CERTIFICATES FORMAT

### COMMERCIAL PLEASURE CRAFT SAFETY CERTIFICATE

This Certificate should be supplemented by a Record of Equipment and Ship Information

Issued under the provisions of the  
**DGS Order No.7 of 2016 dated 30.11.2016**  
under the authority of the Government of India  
by .....

#### Particulars of Pleasure Craft

Name of Craft :  
Registration Number :  
Port of Registry :  
Date of Build (dd/mm/yyyy) :  
Propulsion Power (kW) :  
Design Category (See note below) : Category 1/ Category 2/Category 3/ Category 4  
(Delete as appropriate)  
Nominated Departure Point :  
(for Design Category 3 & 4 Crafts)  
Total Number of Persons :  
(Passengers not to exceed 12)  
Maximum Recommended Load :  
Name of Builder ;  
Builder Hull No. (if available) :

#### This is to Certify:

1. That the Pleasure Craft has been surveyed in accordance with the applicable provisions of DGS Order No. 7 of 2016 dated 30.11.2016.
2. That the survey showed that the Craft complied with the requirements of DGS Order No. 7 of 2016 dated 30.11.2016 as regards –
  - i. the structure, stability, machinery and electrical installations.
  - ii. the safety equipment, safety navigation and radio communication equipment.



iii. all relevant requirements of prevention of marine pollution.

3. A freeboard of \_\_\_\_\_ mm was assigned and marked on the Craft's side at amidships.
4. In all other respects the Pleasure Craft complied with the relevant requirements of the DGS Order No. 7 of 2016 dated 30.11.2016.

Completion date of the survey on which this certificate is based: .....  
(dd / mm / yyyy )

This certificate is valid until (dd/mm/yyyy) ..... subject to the annual surveys and inspection of the outside of the ship's bottom in accordance with the DGS Order No. 7 of 2016 dated 30.11.2016.

Issued at .....the.....day of .....20.....

The undersigned declares he is duly authorized by the said Government to issue this certificate.

.....  
(*Authorised Signatory*)

**Official Seal**

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**NOTE :-**

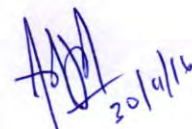
Category 1: Unrestricted service.

Category 2: Crafts that operate in inland waters and up to a distance of 24 nautical miles at sea from a Safe Haven.

Category 3: Crafts that operate in inland waters and up to a distance of 12 nautical miles in fair weather from a Nominated Point of Departure named in the Certificate of Registry of the Craft.

Category 4: Crafts that operate in inland waters and up to a distance of 1 nautical mile in fair weather and in daylight from a Nominated Point of Departure named in the Certificate of Registry of the Craft.



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**Endorsement for Annual Survey Relating to Condition of Structure, Machinery and Equipment as Required by DGS Order No.7 of 2016 dated 30.11.2016**

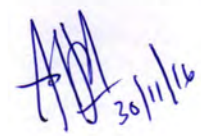
THIS IS TO CERTIFY that, at an annual survey required as per DGS Order No.7 of 2016 dated 30.11.2016, the Craft was found to comply with the relevant requirements of the said guidelines/ instructions.

Annual Survey: Signed: .....  
(Signature of authorised official)  
Place: .....  
Date: .....  
(Seal or stamp of the authority, as appropriate)

Annual Survey: Signed: .....  
(Signature of authorised official)  
Place: .....  
Date: .....  
(Seal or stamp of the authority, as appropriate)

Annual Survey: Signed: .....  
(Signature of authorised official)  
Place: .....  
Date: .....  
(Seal or stamp of the authority, as appropriate)

Annual Survey: Signed: .....  
(Signature of authorised official)  
Place: .....  
Date: .....  
(Seal or stamp of the authority, as appropriate)





**Endorsement for Inspection of the Outside of the Pleasure Craft's Bottom**

THIS IS TO CERTIFY that inspections of the outside of the Craft's bottom as required by DGS Order No.7 of 2016 dated 30.11.2016, the Craft was found to comply with the relevant requirements of the said guidelines/ instructions.

First Inspection: Signed: .....

(Signature of authorised official)

Place: .....

Date: .....

(Seal or stamp of the authority, as appropriate)

Second Inspection: Signed: .....

(Signature of authorised official)

Place: .....

Date: .....

(Seal or stamp of the authority, as appropriate)

*Handwritten signature in blue ink*

*Handwritten signature and date: 30/11/16*

**Endorsement where the Renewal Survey has been Extended**

THIS IS TO CERTIFY that the validity of this certificate is hereby extended until ..... as the Craft was considered to comply with the relevant provision of the DGS Order No.7 of 2016 dated 30.11.2016 for the period of extension.

Signed: .....

(Signature of authorised official)

Place: .....

Date: .....

(Seal or stamp of the authority, as appropriate)

**Endorsement where the Renewal Survey has been Completed**

THIS IS TO CERTIFY that the validity of this certificate is hereby extended until ..... as the Craft was considered to comply with the relevant provision of the DGS Order No.7 of 2016 dated 30.11.2016 for the period of extension.

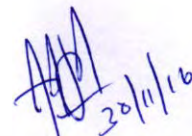
Signed: .....

(Signature of authorised official)

Place: .....

Date: .....

(Seal or stamp of the authority, as appropriate)



**PLEASURECRAFT SAFETY CERTIFICATE  
(PERSONAL PLEASURECRAFT)**

This Certificate should be supplemented by a Record of Equipment and Ship Information

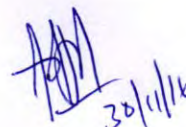
Issued under the provisions of the  
**DGS Order No.7 of 2016 dated 30.11.2016.**  
under the authority of the Government of India  
by .....

**Particulars of Pleasure Craft**

Name of Craft :  
Craft Identification Number :  
Registration Number :  
Port of Registry :  
Date of Build (dd/mm/yyyy) :  
Propulsion Power (kW) :  
Design Category (See note below) : Category 1/ Category 2/ Category 3/ Category 4  
*(Delete as appropriate)*  
Nominated Departure Point :  
(for Design Category 3 & 4 Crafts)  
Number of Persons :  
Maximum Recommended Load :  
Name of Builder ;  
Builder Hull No. (if available) :

**This is to Certify:**

1. That the Pleasure Craft has been surveyed in accordance with the applicable provisions of the DGS Order No.7 of 2016 dated 30.11.2016.
2. That the survey showed that the Craft complied with the requirements of the DGS Order No.7 of 2016 dated 30.11.2016. as regards –
  - i. the structure, stability, machinery and electrical installations.
  - ii. the safety equipment, safety navigation and radio communication equipment.



iii. all relevant requirements of prevention of marine pollution.

3. A freeboard of \_\_\_\_\_mm was assigned and marked on the Craft's side at amidships.
4. That the outside of the Craft's bottom has been inspected as required by DGS Order No.7 of 2016 dated 30.11.2016, the Craft was found to comply with the relevant guidelines/ instructions.
5. In all other respects the Pleasure Craft complied with the relevant requirements of the DGS Order No.7 of 2016 dated 30.11.2016.

The last inspection of the outside of the ship's bottom took place on: .....  
(dd / mm / yyyy )

Completion date of the survey on which this certificate is based: .....  
(dd / mm / yyyy )

This certificate is valid until (dd/mm/yyyy) ..... subject to the inspection of the outside of the ship's bottom in accordance with the DGS Order No.7 of 2016 dated 30.11.2016.

Issued at .....the.....day of .....20.....

The undersigned declares he is duly authorized by the said Government to issue this certificate.

.....  
(*Authorised Signatory*)

**Official Seal**

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**NOTE :-**

Category 1: Unrestricted service.

Category 2: Crafts that operate in inland waters and up to a distance of 24 nautical miles at sea from a Safe Haven.

Category 3: Crafts that operate in inland waters and up to a distance of 12 nautical miles in fair weather from a Nominated Point of Departure named in the Certificate of Registry of the Craft.

Category 4: Crafts that operate in inland waters and up to a distance of 1 nautical mile in fair weather and in daylight from a Nominated Point of Departure named in the Certificate of Registry of the Craft.



**RECORD OF EQUIPMENT AND PLEASURE CRAFT INFORMATION**

This Record shall be permanently attached to the Pleasure Craft Safety Certificate

**FOR COMPLIANCE WITH DGS ORDER NO. 7 OF 2016 dtd 30.11.2016**

**1. Particulars of Craft**

Name of Craft.....

Registration Number.....

Port of Registry.....

**2. Details of Lifesaving Appliances** (*Against each row below, mark "Provided" where equipment/provision exists or leave it blank*)

1.	Liferafts	
2.	Lifebuoys with light	
3.	Lifebuoys with buoyant line	
4.	Lifebuoys without attachments	
5.	Lifejackets (adult size)	
6.	Lifejackets (child size)	
7.	Parachute flares	
8.	Red hand flares	
9.	Smoke signals	

*Charles*

*ADD 30/11/16*

**3. Details of Fire Fighting Equipment** (Against each row below, mark "Provided" where equipment/provision exists or leave it blank)

1.	Power driven fire pump	
2.	Portable fire extinguishers for all types of fires	
3.	Fire blanket at galley	
4.	Fire buckets with lanyard	
5.	Fire / smoke detection system	

**3. Details of Navigational Systems and Equipment** (Against each row below, mark "Provided" where equipment/provision exists or leave it blank)

1	Magnetic compass	
2	Means of correcting heading and bearing (i.e. valid deviation card)	
3	Echo sounder	
4	Receiver of global navigation satellite system or a terrestrial radio navigation system	
5	Distance measuring Log	
6	9GHz radar	
7	EPIRB (406MHz/ Inmarsat E)	
8	SART	
9	AIS	
10	Signalling lamp	
11	Radar reflector	
12	Aneroid barometer	
13	Searchlight	
14	Anemometer	
15	Nautical charts for the intended voyage or area of operation/ use	
16	Nautical publications	

*Signature*

*Signature*  
30/11/16

**4. Details of Radio Facilities** (Against each row below, mark "Provided" where equipment/provision exists or leave it blank)

1	VHF fixed radio installation with DSC	
2	Two-way VHF radio (portable walkie-talkies)	
3	Automatic Identification Systems (AIS)	
4	MF/HF transceiver with DSC	
5	Inmarsat SES (Nos. provided: .....)	
6	Duplication of equipment	

**5. Details of Oil Pollution Prevention Equipment** (Other than rows where specific data is to be filled, mark "Yes" in the right hand box against the row to indicate the equipment/provision exists. In case the equipment/provision is not applicable, leave it blank)

1	Oil filtering equipment		...
	1.1	Make and model.....	
	1.2	Maximum throughput m <sup>3</sup> /h.....	
	1.3	Approval standard.....	
2	Holding tank for oily bilge:		...
	Tank identification	Tank location	Volume(m3)
		Total Volume (m3)	
3	Holding tank for waste oil:		...
	Tank identification	Tank location	Volume(m3)
		Total Volume (m3)	
4	Standard discharge connection		...

*Shah*

*30/11/16*

**6. Details of Sewage Treatment Plant and Equipment** (Other than rows where specific data is to be filled, mark "Yes" in the right hand box against the row to indicate the equipment/provision exists. In case the equipment/provision is not applicable, leave it blank)

1	Sewage Treatment Plant		...
	1.1	Make and model.....	
	1.2	Capacity (no. of persons).....	
	1.3	Approval standard.....	
2	Sewage commuting and disinfecting system		...
	2.1	Make and model.....	
	2.2	Approved by.....	
3	Holding tank for sewage:		...
	3.1	Capacity (m <sup>3</sup> ) .....	
4	Standard discharge connection		...

**7. Details of Control of Emission Limit under Regulation 13, NOx Technical Code 2008**

	Engine 1	Engine 2	Engine 3	Engine 4	Engine 5
Name and model					
Serial number					
Power output (kW)					
Rated speed (RPM)					
Tier I (Mark "Yes" if compliant)					
Tier II (Mark "Yes" if compliant)					
Tier III (Mark "Yes" if compliant)					

**8. Details of Anti-Fouling System(s) Applied**

Type(s) of anti-fouling system(s) used .....

.....

Date(s) of application of anti-fouling system(s) .....

Name(s) of company(ies) and facility(ies)/ location(s) where applied .....

.....

Name(s) of anti-fouling system manufacturer(s) .....

.....

*Shah*

*AM*  
30/11/13



.....  
Name(s) and colour(s) of anti-fouling system(s) .....  
.....

.....  
Active ingredient(s) and their Chemical Abstract Service Registry Number(s) (CAS number(s))  
.....  
.....

Type(s) of sealer coat, if applicable .....

.....  
Name(s) and colour(s) of sealer coat applied, if applicable  
.....

Date of application of sealer coat .....

**THIS IS TO CERTIFY that this Record is correct in all respects**

**Issued at .....the .....day of ..... 20.....**

*(Official Seal)*

*(Authorised Signatory)*

*[Handwritten signature]*

*[Handwritten signature]*  
*30/11/16*