

Inland Shipping(Fire Safety) Rules 2001

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S. R. O. no 301-Law/2001- As empowered by Section 82 of Inland Shipping Ordinance ,1976(LXXII of 1976) government has made following rules which was pre published on 27th September 1999 also 12th Ashwin 1406 Bangla vide S,R,O No 281-Law/99 as required by subsection (1) of section 82 of this ordinance.

Chapter – 1

Induction

1. Brief Title:

These rule will be termed as Inland Shipping (Fire Safety) Rules 2001.

2. Definitions:

Unless otherwise specified, in these regulations:

- a) Ordinance: Inland Shipping Ordinance, 1976 (LXXII of 1976)
- b) Inland water: As defined in ordinance
- c) Leaving quarter: places such as cabins, corridors, sanitary places and such other area that are used for public
- d) Open passenger ship: Vessel used to carry more than 12 passengers which is not fitted with weather deck and roof
- e) Weather deck: The deck below which there are arrangement to close all the openings which, in turn, will prevent water ingress into the vessel or any other floating equipment.
- f) Vessel or Inland vessel: As defined in ordinance section 2(c)
- g) Tanker: Vessel used to carry liquefied cargo in bulk
- h) Dumb barge: Vessel or any other floating platform which is not considered as traditional vessel, which is used to carry dry or liquid cargo and not used to carry any passenger
- i) Length: Ship's length between forward of stem and aft of radar post (in absence of radar post, center of radar stock) along load water line
- j) New ship: Any ship registered after the date of effectiveness of these regulations.
- k) Existing ship: The ship which is not new.
- l) Floating equipment: Miscellaneous equipment such as dredger, floating crane, etc which is not self propelled and which is used to carry out different functions while afloat.
- m) Fishing vessel: Vessel used for fishing or similar purpose
- n) Cargo vessel: Self propelled vessel used to carry cargo and passengers not more than 12 persons.
- o) Passenger: All persons embarked on a vessel excluding master, officers and crew. Nonetheless, passenger below 1 year old would not be considered for counting.
- p) Passenger ship: Vessel used to carry more than 12 passengers which is fitted with weather deck, inland vessel with multi platforms would also be included.
- q) Road ferry: Open flush deck vessel used as ferry for at least 12 or more passengers and 1 or more vehicles.

3. Identification:

- a. Vessel's name to be written explicitly on all firefighting equipment.
- b. Refilling date to be marked on such equipment which is sub to refilling and/or servicing.
- c. Places for keeping fire fighting appliances to be marked visibly.
- d. If any fire fighting appliance kept in locker, locker door to be clearly marked.

4. Application:

Unless otherwise specified, these regulations will be applicable of all inland water vessels.

Chapter – 2

Fire Fighting Equipment

5. Fire Pump:

If one or more fire pump is required, that will comply with the following:

- a. A minimum of 2 bar pressure will be maintained at all hydrants.
- b. Minimum capacity of the pump(s) will be 10 cubic meter/hour
- c. Pump(s) may take the form of combined bilge, ballast and general service.
- d. One or more relief valve will be fitted in case fire pump(s) develop excessive pressure for pipe, hydrant and hose.
- e. Suction on vessel's end to be located as deep as possible.

6. Fire pipe and Hydrant:

- a. If mechanical fire pump fitted, permanent fire line will be established.
- b. Main and branch fire lines will be established in such a manner so that the vessel covered completely by water jet by a single fire hose of maximum 15 meter long.
- c. All fire pipes will be made of steel.
- d. Only one type of hydrant will be fitted on ship and its minimum diameter will be 40 mm.
- e. Pipe and hydrant will be fitted in such a manner so that fire hose can be easily connected to the hydrant, and, if cargo is carried on deck, hydrant should be easily available.
- f. Valve will be fitted to all hydrants.
- g. Main fire line should have inner diameter of minimum 50 mm.
- h. Fire line may be used for deck washing as well.

7. Fire Hose and Nozzle:

For fire hose, following to be complied with:

- a. At least one fire hose for each hydrant and total three on board
- b. Hoses will be kept in designated box properly marked or inside reel near the hydrants
- c. Hoses will be made of approved materials

- d. Length of the hose will be 10-15 meter
- e. Diameter of the hose will be at least 40 mm
- f. Irrespective of the diameter, all hoses will be fitted with standard couplings
- g. All hoses will be equipped with 12 mm dia nozzle and necessary coupling

8. Portable fire extinguishers

- A. Portable fire extinguishers are divided into following categories:
 - a. A class: used for fighting fire of wood, paper, machines, etc
 - b. B class: used for fighting fire of liquid combustible
 - c. E class: used for fighting fire of electrical items
- B. No portable fire extinguisher will weigh more than 20 kg
- C. Each portable fire extinguisher will be serviced annually.
- D. Portable extinguishers will be of approved type.
- E. Extinguishers of similar class and capacity will be of similar design.
- F. Trade mark of portable fire extinguishers will not be of more than two types.
- G. If two portable fire extinguishers are kept for a particular place, one of them will be kept at the entrance.

9. Fire bucket:

Fire bucket will be made of non-combustible materials. Its capacity will be 9 litre. A hanging sling of at least 4 meter long will be connected to the fire bucket.

10. Fixed installations:

For fixed CO2 system, following to be complied with:

- a. Piping will be established in such a manner so that it covers the cargo holds effectively and uniformly.
- b. Opening of release cabinet door will activate automatic alarm.
- c. CO2 cylinders will be kept in locked locker.
- d. CO2 cylinders will be checked annually and pressure tested at 150% of actual pressure at every 12 years.
- e. Necessary warning signs will be posted at the places where required.
- f. Volume of released gas will be at least 30% of the volume of the largest cargo hold.

11. Approval:

All fire extinguishers will be approved by administration of inland water vessel safety or department of shipping.

Chapter – 3

Distribution of Fire Fighting Appliances

12. Application:

- a. Requirement as stated in this chapter for fire pump, fire line, hydrants, fire hoses and nozzles will only be applicable for new ship.
- b. Fire pump, fire line, hydrants, fire hoses and nozzle already fitted in existing ship and floating arrangement will be kept suitably maintained and ready for use.

13. Cargo vessel:

1. Each cargo vessel must carry following fire fighting appliances according to below mentioned scale:

For ship with total engine capacity 12-40 kW:

- a. 2 fire extinguishers of class BE with 9 liter capacity each to be placed in machinery space
- b. 2 fire buckets to be placed in passable area.

For ship with total engine capacity 40-180 kW:

- a. 4 fire extinguishers of class BE with 9 liter capacity each to be placed in machinery space
- b. 6 fire buckets to be placed in passable area.
- c. One sand box with handle with a capacity of at least 50 liter to be placed in machinery space.

For ship with total engine capacity 180-450 kW:

- a. As per rule 5, one fire pump which may be driven by main engine
- b. As per rule 6, fire line and hydrant, 2 hydrants to be fitted in machinery space.
- c. As per rule 7, fire hose and nozzle
- d. 2 BE class portable extinguishers of 9 liter capacity each and additionally 2 BE class portable extinguishers of 6 liter capacity for machinery space.
- e. 9 fire buckets in accessible places.
- f. One sand box with handle with a capacity of at least 50 liter to be placed in machinery space.
- g. One fire axe

For ship with total engine capacity 450-800 kW:

- a. One fire pump of a capacity of at least 15 m³ or such a fire pump as per regulation 5 which must be run independently without the help of main engine.
 - b. As per rule 6, fire line and hydrant, 2 hydrants to be fitted in machinery space.
 - c. As per rule 7, fire hose and nozzle
 - d. 2 BE class portable extinguishers of 9 liter capacity each and additionally 4 portable extinguishers of 9 liter capacity for machinery space.
 - e. 9 fire buckets in accessible places.
 - f. 2 sand boxes with handle with a capacity of at least 50 liter to be placed in machinery space.
 - g. 2 fire axes
 - h. One crow bar
2. *Apart from the firefighting equipment as required by sub regulation 1 above, each cargo vessel must carry following additional fire fighting appliances according to below mentioned scale:*
- a. One fire extinguisher of AB class of 9 liter capacity in each accommodation deck
 - b. One fire extinguisher of ABE class of 6 liter capacity inside wheel house
 - c. One fire extinguisher of AB class of 6 liter capacity at each cooking area, and, if any electrical apparatus is kept in that area, the extinguisher will be of ABE class.

14. Dumb barge:

Each cargo vessel which does not carry dangerous goods must carry following fire fighting appliances according to below mentioned scale:

- a. 4 fire extinguishers of class ABE of 9 liter capacity each to be placed in accessible place
- b. If any person leaves in dumb barge, in addition to above(a), at least one fire extinguisher of class AB of 9 liter capacity to be placed in accommodation place, and one fire extinguisher of AB class of 6 liter capacity to be placed at cooking area.
- c. 6 fire buckets

15. Inland vessel or barge carrying dangerous goods:

Firefighting equipment according to regulation 13 & 14 to be placed on vessel or barge which carries dangerous goods, and in addition to that, a fixed CO₂ extinguishing system according to regulation 10 to be fitted in cargo carrying compartments.

16. Tanker:

- a. Each inland tanker must carry fire fighting appliances according to regulation 13 and in addition to that, 2 fire extinguishers of B class of 26 liter capacity to be placed.
- b. For new ship, all air pipes and air passages facing cargo tanks to be fitted with flame screens.
- c. All electrical appliances on tank deck and inside pump room to be of explosion proof and safe type.
- d. For new ship, no door or any other exit way cannot be opened towards tank deck.

17. Open passenger launch:

Each open passenger launch must carry following fire fighting appliances according to below mentioned scale:

For ship with total engine capacity up to 40 kW, or passenger capacities up to 100, or maximum length 20 meter:

- a. 2 BE class portable extinguishers of 9 liter capacity each for machinery space.
- b. 2 fire buckets in accessible places.
- c. 2 fire extinguishers of ABE class of 9 liter capacity on accommodation deck
- d. 2 fire extinguishers of ABE class of 6 liter capacity inside wheel house
- e. 2 fire extinguishers of BE class of 6 liter capacity at each cooking area, and, if any electrical apparatus is kept in that area, the extinguisher will be of ABE class

For ship with total engine capacity 41 -180 kW, or passenger capacities 101 – 200, or length 20 - 30 meter:

- a. 4 fire extinguishers of class BE with 9 liter capacity each to be placed in machinery space
- b. 6 fire buckets to be placed in accessible area.
- c. One sand box with handle with a capacity of at least 50 liter to be placed in machinery space.
- d. 4 fire extinguishers of class ABE of 9 liter capacity each to be placed at each accommodation deck.
- e. One fire extinguisher of ABE class of 6 liter capacity inside wheel house
- f. One fire extinguisher of BE class of 6 liter capacity at each cooking area, and, if any electrical apparatus is kept in that area, the extinguisher will be of ABE class

For ship with total engine capacity more than 180 kW, or passenger capacities more than 200, or length more than 30 meter, requirements for the fire fighting appliances will comply with the requirement of rule 18.

18. Passenger Ferry:

Each passenger ferry must carry following fire fighting appliances according to below mentioned scale:

For ship with total engine capacity up to 180 kW, or passenger capacities up to 200, or maximum length up to 30 meter:

- a. As per rule 5, one fire pump which may be driven by main engine
- b. As per rule 6, fire line and hydrant, at least 2 hydrants must be fitted in machinery space.
- c. As per rule 7, fire hose and nozzle
- d. 4 BE class portable extinguishers of 9 liter capacity each to be placed in machinery space.

- e. 6 fire buckets with rope connected to be placed in accessible places. The length of the rope will be minimum 4 meter and must be at least 2 meter longer than the height of the light water line from the place of bucket.
- f. One sand box with handle with a capacity of at least 50 liter to be placed in machinery space.
- g. One fire axe
- h. 6 fire extinguishers of class BE of 9 liter capacity each to be placed at each accommodation deck.
- i. One fire extinguisher of ABE class of 9 liter capacity to be placed inside wheel house
- j. One fire extinguisher of BE class of 9 liter capacity at each cooking area, and, if any electrical apparatus is kept in that area, the extinguisher will be of ABE class

For ship with total engine capacity 181 - 450 kW, or passenger capacities 201 - 400 or length 30 - 45 meter:

- a. One fire pump of a capacity of at least 15 m³ or such a fire pump as per rule 5 which must be run independently without the help of main engine
- b. As per rule 6, fire line and hydrant. The arrangement of hydrants will be such that one fire hose of maximum 15 meter length and one double hose of 15+15 meter long will be able to cover all area of the ship with 2 water jets, and at least 2 hydrants will be fitted in machinery space.
- c. As per rule 7, fire hose and nozzle, and in addition to that, 50% extra hose which will be kept fitted with couplings.
- d. 4 fire extinguishers of class BE of 9 liter capacity each, and in addition to that, 2 fire extinguishers of class BE of 9 liter capacity each for machinery place.
- e. 10 fire buckets of capacity 9 liters each with rope connected to be placed in accessible places. The length of the rope will be minimum 4 meter and must be at least 2 meter longer than the height of the light water line from the place of bucket.
- f. 2 sand box with handle with a capacity of at least 50 liter to be placed in machinery space.
- g. 2 fire axes
- h. 8 fire extinguishers of class AB of 9 liter capacity each to be placed at each accommodation deck.
- i. One fire extinguisher of ABE class of 9 liter capacity inside wheel house
- j. One fire extinguisher of AB class of 9 liter capacity at each cooking area, and, if any electrical apparatus is kept in that area, the extinguisher will be of ABE class

For ship with total engine capacity 451 - 800 kW, or passenger capacities 401 - 800 or length 45 - 60 meter:

- f. One fire pump of a capacity of at least 20 m³ or such a fire pump as per rule 5 which must be run independently without the help of main engine
- g. As per rule 5, such a second fire pump which may be driven by main engine
- h. As per rule 6, fire line and hydrant. The arrangement of hydrants will be such that one fire hose of maximum 15 meter length and one double hose of 15+15 meter long will be able to cover all area of the ship with 2 water jets, and at least 2 hydrants will be fitted in machinery space.
- i. As per rule 7, fire hose and nozzle, and in addition to that, 50% extra hose which will be kept fitted with couplings.

- j. 8 fire extinguishers of class BE of 9 liter capacity each, and in addition to that, 4 fire extinguishers of class BE of 9 liter capacity each for machinery space.
- k. 12 fire buckets of capacity 9 liters each with rope connected to be placed in accessible places. The length of the rope will be minimum 4 meter and must be at least 2 meter longer than the height of the light water line from the place of bucket.
- l. 2 sand box with handle with a capacity of at least 50 liter to be placed in machinery space.
- m. 4 fire axes
- n. Fire extinguishers of class AB of 9 liter capacity each to be placed at below spaces:
 - i. One extinguisher at each cabin corridor, and, if corridor is more than 30 meter long, 2 extinguishers to be placed.
 - ii. For other passenger spaces, one extinguisher for each 100 square meter area
 - iii. One extinguisher for each crew compartment
 - iv. At least 10 extinguishers for each accommodation deck
- o. 2 fire extinguishers of ABE class of 6 liter capacity to be placed inside wheel house
- p. 2 fire extinguisher of AB class of 9 liter capacity at each cooking area and galley, and, if any electrical apparatus is kept in that area, the extinguisher will be of ABE class

For ship with total engine capacity more than 800 kW, or passenger capacities more than 800, or length more than 60 meter:

- a. One fire pump of a capacity of at least 20 m³ or such a fire pump as per rule 5 which must be run independently without the help of main engine
- b. As per rule 5, such a second fire pump which may be driven by main engine
- c. One emergency fire pump with independent drive and which is fitted with valve as per rule 5 to be fitted at forward of the vessel. This emergency fire pump to be connected to ship's fire main.
- d. As per rule 6, fire line and hydrant. The arrangement of hydrants will be such that 2 single fire hose of maximum 15 meter length will be able to cover all the area of the ship with 2 water jets, and at least 4 hydrants will be fitted in machinery space.
- e. As per rule 7, fire hose and nozzle, and in addition to that, 50% extra hose which will be kept fitted with couplings.
- f. 8 fire extinguishers of class BE of 9 liter capacity each, and in addition to that, 6 fire extinguishers of class BE of 9 liter capacity each for machinery space.
- g. 12 fire buckets of capacity 9 liters each with rope connected to be placed in accessible places. The length of the rope will be minimum 4 meter and must be at least 2 meter longer than the height of the light water line from the place of bucket.
- h. 2 sand box with handle with a capacity of at least 50 liter to be placed in machinery space.
- i. 6 fire axes
- j. 2 crow-bars
- k. Fire extinguishers of class AB of 9 liter capacity each to be placed at below spaces:

- i. One extinguisher at each cabin corridor, and, if corridor is more than 30 meter long, 2 extinguishers to be placed.
 - ii. For other passenger spaces, one extinguisher for each 100 square meter area
 - iii. One extinguisher for each crew compartment
 - iv. At least 12 extinguishers for each accommodation deck
- l. 2 fire extinguishers of ABE class of 6 liter capacity to be placed inside wheel house
 - m. 2 fire extinguishers of AB class of 9 liter capacity at each cooking area and galley, and, if any electrical apparatus is kept in that area, the extinguisher will be of ABE class

19. Road Ferry:

Each road ferry must carry fire extinguisher of 9 liter capacity of class BE according to below mentioned scale:

- a. 2 extinguishers for engine capacity up to 40 kW
- b. 4 extinguishers for engine capacity 41- 180 kW
- c. 6 extinguishers for engine capacity 181- 360 kW
- d. 8 extinguishers for engine capacity 361- 720 kW
- e. One fixed CO2 extinguishing system to be fitted for engine capacity of more than 720 kW
- f. 10 fire buckets

20. Floating arrangement:

Each floating arrangement must carry portable fire extinguisher according to below mentioned scale:

- a. One extinguisher of 9 liter capacity of class BE to be placed in each compartment where oil treatment or oil transfer equipments or any machinery with a capacity up to 40 kW are set up.
- b. 2 extinguishers of 9 liter capacity of class BE to be placed in each compartment where any machinery with a capacity up to 180 kW is set up.
- c. 4 extinguishers of 9 liter capacity of class BE to be placed in each compartment where any machinery with a capacity up to 450 kW is set up.
- d. 4 extinguishers of 9 liter capacity of class BE and 2 extinguishers of 9 liter capacity of class AB to be placed in each compartment where any machinery with a capacity of more than 450 kW is set up.
- e. 2 extinguishers of 9 liter capacity of BE class to be placed in each floating arrangement.

21. Fishing and Service vessel:

Fishing and service vessel must carry fire fighting appliances according to the requirement of rule 13 applicable for cargo vessels.

Chapter – 4

Structural Fire Protection

22. Application:

Unless otherwise specified, requirement as stated in this chapter will only be applicable for new ships and it will not be applicable for open vessels.

23. Machinery spaces:

- a. Boundary bulkheads of tanks adjacent to accommodation and machinery spaces with its outer casing will be of steel and at least 5 mm thick.
- b. Lining on bulkheads will be of non-combustible type.
- c. All doors of machinery space will be made of steel.

24. Exhaust pipe:

- a. This rule will be applicable for all inland vessels.
- b. Each exhaust pipe of each engine of a capacity of more than 40 kW will be covered by non-combustible materials in such a way that maximum temperature on pipe outer wall will not be more than 60°C. This cover will be protected by suitable galvanizing.

25. Sight glass:

- a. This rule will be applicable for all inland vessels.
- b. All sight glasses of fuel oil tanks will be made of approved fire and oil resistant materials.
- c. Arrangements will be made for protection of all sight glasses from any mechanical damage.
- d. Bottom part of sight glass will be fitted with self-closing valve.

26. Pump room:

- a. Pump room will be kept as safe as machinery space.
- b. No connection will be made between pump room and machinery space.

27. Stair:

- a. If inside stair connects two decks, a door will be fitted by the side of the deck made of non-combustible materials.
- b. If inside stair connects more than two decks, it will be protected by a water resistant bulkhead made of at least 4 mm thick, and one door will be fitted to each deck.
- c. Stair door will be opened outwards and it will be made of non-combustible materials.

28. Air intakes:

- a. Arrangement will be made to close all air intakes, except for machinery space, in such a way that it can be closed from outside.
- b. If closing arrangement remains inside trunk or casing, closing provision will be marked explicitly.
- c. This closing arrangement will be kept in maintained and ready to use condition.

Chapter – 5

Arrangement of Protection from Fire & Explosion

29. Light and Electrical appliances:

- a. No naked light will be kept in tanks, holds, stores or open deck of tankers.
- b. All electrical wire connection system will be insulated and if required, conduit pipe will be used.
- c. Electrical appliances in pump room, paint store, lamp and battery lockers will be of explosion proof type.

30. Muster list and drill:

- a. Master of the vessel or floating arrangement will make a detail list of the crew and their duties who will be engaged in firefighting of the vessel/floating arrangement. This detail list will be displayed in conspicuous places of the vessel.
- b. If any fire occurs, crew will act according to the muster list.
- c. For this purpose, fire drill will be held on vessel every month and same will be recorded in ship's log book.

31. Combustible and easily combustible materials:

- a. No dangerous goods will be carried on passenger ship.
- b. Any combustible or easily combustible materials of weight more than 20 kg or of volume more than 1 m³ will be kept protected at a place far from the passenger area and will be covered by tarpaulin or other suitable materials.
- c. If any oil sprayed over the places of deck bilge and machinery space, that will be wiped out by cotton rags.
- d. Following visual indication or light will be displayed while any movements of combustible oil, fuel or goods take place:
 - i. At night, red light to be shown that may be visible at least 1.5 km along horizon.
 - ii. During day light, a red flag to be hoisted.

32. Do & Don't for passengers:

- a. Passengers are not permitted to move through machinery space and cargo area.
- b. Passengers are not permitted to enter into any dangerous area and all dangerous spaces will be kept protected.
- c. "No smoking" sign will be posted where appropriate.

33. Welding :

No hot work, welding or gas cutting is permitted on vessel or floating arrangement if appropriate fire fighting system and fire extinguishers are not available.

34. Welding on Tanker:

Before starting welding or any other hot work on tanker or on any tank of other vessel containing combustible material, "gas free" certificate must be obtained from explosive department and hot work permit system to be followed.

35. Ventilation:

Adequate arrangement to be established for ventilation for machinery space, batter room, pump room and store space

By order of the President

Md Nasir Uddin

Deputy Secretary(Shipping)