Tasneef®
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Rules for the Classification of Ships

New Service Class Notation: "(Landing Craft)"

Tasneef/RFC/002/ANN/01
Effective from 1 Dec 2019

The following requirements are annexure to the Rules.

PART A – CLASSIFICATION AND SURVEYS

CHAPTER 1: PRINCIPLES OF CLASSIFICATION AND CLASS NOTATIONS

SECTION 2: CLASSIFICATION NOTATIONS

Pt A, Ch 1, Sec 2, [4.2.18] (NEW)

Add new item as follows:

(Reason: introduction of the new additional class notation Landing Craft)

4.2.18 LANDING CRAFT *(1/12/2019)*

The service class notation **LANDING CRAFT** is assigned to ships intended to carry vehicles, loads etc. The additional requirements of Part E, Chapter 1 are applicable to these ships in general. However requirements as detailed in Part E, Chapter 30. This service notation may be completed by additional service features as per [4.2.15] as applicable.

CHAPTER 4: SCOPE OF SURVEYS IN RESPECT OF THE DIFFERENT SERVICES OF SHIPS

SECTION 10: OTHER SERVICE NOTATIONS

Pt A, Ch 4, Sec 10

26 LANDING CRAFT (01/12/2019)

26.1 General

26.1.1 These requirements are additional to those laid down in Chapter 3, according to the relevant surveys.

26.1.2 Special consideration may be given of relevant requirements of this section to commercial vessels owned or chartered by Governments, which are utilized in support of military operation or service.

26.1.3 Confirmation to be obtained that no unapproved changes have been made on board since last survey.

26.2 Annual and Renewal Surveys

26.2.1 Structural Examination

The annual survey of Ramps and related equipment consists of

- General examination of the installation, particular attention to be paid to condition of steel cables.
- Confirmation of proper operation of platform/ramp and of mechanical stops and locks
- Checking as far as practicable, of alarms and safety devices

Whenever a crack is found, an examination with NDT to be carried out in the surrounding area and for similar items as considered necessary by the surveyor.

- Clearances of hinges, bearings, thrust bearings are to be taken when no dismantling is required. Where the function test is not satisfactory, dismantling may be required. If dismantling is carried out, visual examination of hinge pins and bearings together with NDT of the hinge pin to be carried out. Clearances of securing, supporting and locking devices are to be measured, where indicated in Operations and Maintenance Manual.
- Function test of the indicator system if any to be carried out.
- An examination of sealing arrangement to be carried out if applicable.
- Tightness testing to be carried out to the satisfaction of the surveyor. If the visual examination and function test are satisfactory, tightness test need not to be carried out unless considered necessary by surveyor.

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CHAPTER 30:

LANDING CRAFT

SECTION 1: GENERAL

SECTION 2: HULL and STABILITY

SECTION 3: MACHINERY

SECTION 4: ELECTRICAL INSTALLATIONS

SECTION 1: GENERAL

1.1 Application

1.1.1 Ships complying with the requirements of this chapter are eligible for the service notation **Landing Craft,** as defined in Pt A, Ch 1, Sec 2, [4.2.18].

1.1.2 Ships dealt with in this chapter are to comply with the requirements stipulated in Part A, B, C and D as applicable and with the requirements of this Chapter, which are specific to Landing Craft.

1.2 Summary Table

1.1.3 Tab 1 indicates, for easy reference, the sections of this chapter dealing with the requirements applicable to Landing Craft.

Table – 1

Main Subject	Reference
Ship Arrangement	**(1)**
Hull and Stability	Sec 2
Machinery	Sec 3
Electrical Installations	Sec 4
Automation	**(1)**
Fire Protection, Detection and extinction	**(1)**
(1) No Specific requirements for Landing Craft are given in this Chapter	

SECTION 2: Hull and Stability

1. General

1.3 Application

The requirements of this section apply to ships having service notation as Landing Craft as defined in Part A, Ch 1, Sec 2 [4.2.18]

2. Structural design principles

2.1 General

2.1.1 Wood sheathing is recommended for trucks and unusual vehicles.
It is recommended that a piece of wood of suitable thickness to be provided under each crutch in order to distribute the mass over the plate and nearest stiffeners.

2.1.2 The cargo and vehicle area shall be provided with means for securing of heavy items.

2.2 Hull Structure

2.2.1 Framing
In general, the strength deck and the bottom are to be longitudinally framed. Where a transverse framing system is adopted, it is to be considered by society on case-by-case basis.

3. Design Loads

3.1 Wheeled Loads

3.1.1 The wheeled loads included by vehicles are defined in Pt B, Ch 5, Sec 6 [6].

4. Hull Girder Strength

4.1 Basic Criteria

4.1.1 Strength Deck
In addition to the requirements in Pt B, Ch 6, Sec 1 [2.2], the contribution of hull structures upto the strength deck to the longitudinal strength is to be assessed through a finite element analysis of the whole ship if considered necessary.

5. Hull Scantling

5.1 Hull Scantling and other structures to be in compliance with the requirements of Part E, Ch1, Sec 2 [5].

6. External ramps

6.1 The requirements applicable to external ramps are defined in Pt B, Ch 9, Sec 8 [2].

7. Hull Outfitting

7.1 The requirements applicable to are defined in Part E, Ch1, Sec 2 [7].

8. Beaching Operations

8.1 General

8.1.1 The safety aspect of beaching from a classification point of view is mainly relying on operational limitations with respect to wave-height and surf in the beaching area.

8.1.2 Beaching operations for a landing craft is considered mainly as an operational question. The design formula

covering beaching operations shall be based on a “middle” design level. It is therefore possible for the owner to specify higher or lower level as long as it does not have implications on the safety of the craft.

8.2 Structural Strength

8.2.1 The requirements are applied to hull bottom structure where the possibility of loads from landing operations (grounding) exists. The extent of application of the following Rule requirements shall be agreed between client and the Society.

8.2.2 Strengthening requirements for beaching operations cover craft made of steel or aluminium. Strengthening of FRP craft will have to be evaluated in each case.

8.2.3 Determination of the hull scantlings by more sophisticated methods than the formulae and values given in this section may be permitted. Such analysis, methods and criteria are subject to special approval.

8.2.4 The beaching protection length shall extend from front of the craft and to extend 0.3 L aft from the forward perpendicular.

8.3 Plating

8.3.1 Bottom plating within the beaching protection length shall be increased by 20%.

8.4 Bottom Stiffeners

8.4.1 Bottom stiffening within the beaching protection length shall be designed in accordance with the requirements of main class and increased by 20%. For impact areas the spacing of longitudinals not to be greater than 500 mm.

8.5 Girders and Web Frames

8.5.1 In additions to the ordinary loads, girders and web frames within the beach protection length shall be dimensioned for an average beaching pressure (To be evaluated case by case basis)

8.5.2 The stiffening and support of girders shall be increased within the beaching protection length. Stiffening of the girder web is required at half the web height as given by the main rules. Stiffening spacing given in main rules shall be halved.

8.6 Weld Connections

8.6.1 For bottom structure in way of the beaching protection length, the following requirements shall apply:
— double continuous welding
— stiffener webs shall be connected to web frames
— rubbing strakes shall be continuously welded.

8.7 Rubbing Strakes

8.7.1 Rubbing strakes shall be fitted to the bottom shell in way of areas subject to grounding loads.

8.7.2 Rubbing strakes shall be aligned with internal structure and structural discontinuities shall be avoided. The ends of rubbing strakes shall be tapered at an angle of not less than 1 in 3.

8.7.3 The connection of rubber strakes to the hull shall be so designed that in the event of a rubbing strake being ripped off the risk of damage to the hull is minimised.

8.7.4 Alternative protection arrangement of bottom contact area for special beaching conditions may be separately agreed.

8.7.5 Rubbing strakes for FRP craft shall preferably be arranged so that the bottom plating structure does not get in contact with the beach.

8.8 Ramp Structure

8.8.1 The ramp structure shall be dimensioned for wheel loads as defined in Pt B, Ch 9, Sec 8 [2].

8.8.2 The ramp carrying structure shall be calculated for the most unfavourable positions of wheel point loads.

8.8.3 In order to cover unevenness at the beach, the ramp shall be designed for a support point from the beach located along the forward end positioned 1/3 from the side.

8.8.4 The ramp opening and closing mechanisms shall be dimensioned for:
— opening and closing loads
— wheel loads, if they are carried by the opening and closing mechanisms. This can be ignored if the ramp is resting fully on the beach.

8.8.5 The loading ramps shall have mechanical closing mechanism for the closed position.

8.9 Sea loads on aft structure

8.9.1 Transverse aft structure shall be dimensioned for breaking waves that may occur in the surf zone of a beach.

8.9.2 Surf slamming shall be considered when the vertical angle is between 0° and 105° and the horizontal angle is between 0° and 30°.

8.9.3 The structural calculations of surf slamming shall be as for bottom slamming defined in Pt.B if applicable.

8.10 Push-out and pull-out strength

8.10.1 If the craft shall be pushed out from the beach, the front ramp (or other structure) shall be dimensioned for push-out loads from tractors or bulldozers.

8.10.2 Push out loads to be calculated on case by case basis.

8.10.3 If the craft shall be equipped with pull-out anchors or similar, winches shall be dimensioned based on the pull out force.
Fairleads and the foundation for winches shall be dimensioned for the capacity of the winch.

8.11 Air Intakes

8.11.1 Air intakes shall be protected from water ingress from breaking waves in the surf zone. Air intakes and ventilation openings are generally not to be placed in 0.2L from aft.

8.12 Sea cooling water and sea inlets

8.12.1 Machinery for propulsion and power generation shall be connected to at least two seawater inlets.

8.12.2 The cooling water system shall be arranged with redundant strainers. It should be possible to clean each strainer without stopping the seawater supply to the machinery.

8.13 Fuel Tanks

8.13.1 Fuel tanks located within the beaching protection length shall be separated from the outer hull plate.

8.14 Protection of propellers, waterjets and rudders

8.14.1 Any protruding parts of propeller and rudder shall be protected from contact with sea bottom. Protection of the propellers and rudders may be in the form of skeg, extended keel, or special arrangement of the hull.

8.14.2 Waterjet intakes shall be equipped with suitable grating or similar to avoid rocks being sucked into the jets.

SECTION 3: Machinery

1. General

1.1 Application

The requirements of Pt E, Ch 1, Sec 3 to be complied with.

2. Sounding Pipe

2.1 The requirements stipulated in Pt C , Ch 1, Sec 10, [2.9.2] apply.
Sounding pipes used in flammable (except lubricating) oil system may terminate in vehicle space on the condition as defined in Pt E, Ch 1, Sec 3 [3.1.1]

SECTION 4: Electrical Installation

1. General

1.1 Application

The requirements of Pt E, Ch 1, Sec 4 to be complied with.

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