

**PART II    RULE FOR THE CONSTRUCTION AND  
CLASSIFICATION OF SHIPS IDENTIFIED BY THEIR  
MISSION**

**TITLE 42    TUG BOAT/PUSHER**

**SECTION 1 NAVAL ARCHITECTURE**

**CHAPTERS**

- A    SCOPE
- B    DOCUMENTS, REGULATIONS AND STANDARDS  
      - See Part II, Title 11, Section 1
- C    ENVIRONMENT  
      - See Part II, Title 11, Section 1
- D    ACTIVITIES AND SERVICES
- E    CONFIGURATIONS  
      - See Part II, Title 11, Section 1
- F    DIMENSIONS AND LINES OF THE HULL  
      - See Part II, Title 11, Section 1
- G    CAPACITIES AND COMPARTMENTING  
      - See Part II, Title 11, Section 1
- H    LOADING CONDITIONS, BUOANCY AND  
      STABILITY
- I    PROPULSION PERFORMANCE  
      - See Part II, Title 11, Section 1
- T    INSPECTIONS AND TESTS



**CONTENTS**

**CHAPTER A** .....4

**SCOPE** .....4

**A1. APPLICATION** ..... 4

    100. *Vessels*..... 4

    200. *Proportions and dimensions* ..... 4

**A2. DEFINITIONS** .....4

    100. *Terms* ..... 4

**CHAPTER D**.....4

**ACTIVITY AND SERVICES**.....4

**D1. ACTIVITIES AND SERVICES**..... 4

    100. *Towing operations* ..... 4

    200. *Pushing configurations*..... 4

**CHAPTER H**.....4

**LOADING CONDITIONS, BUOYANCY AND STABILITY** .....4

**H5. STABILITY**..... 4

    100. *Weight distribution* ..... 4

    200. *Free surface* ..... 4

    300. *Intact Stability*..... 4

**CHAPTER T** .....5

**INSPECTIONS AND TESTS** .....5

**T2. COMPLETION OF CONSTRUCTION**..... 5

    100. *to 300.* ..... 5

    400. *Bollard pull test* ..... 5

**T3. NAVIGATION TRIALS** ..... 5

    100. *Propulsion and maneuvering performance*..... 5

## CHAPTER A SCOPE

### CHAPTER CONTENTS

#### A1. APPLICATION

#### A2. DEFINITIONS

---

### A1. APPLICATION

#### 100. Vessels

101. This section of this Title applies to tug boats and pusher boats.

#### 200. Proportions and dimensions

See Part II, Title 11, Section 1.

### A2. DEFINITIONS

#### 100. Terms

101. In addition to the terms set forth in Part II, Title 11, Section 1, are here used the following.

102. Bollard pull – capacity of pulling force of the tug, measured in standardized test (see Chapter T), with the cable attached to a mooring bollard.

## CHAPTER D ACTIVITY AND SERVICES

### CHAPTER CONTENTS

#### D1. ACTIVITIES AND SERVICES

---

### D1. ACTIVITIES AND SERVICES

#### 100. Towing operations

101. Towing mode:

- a. Series;
- b. Tandem;
- c. Side towing.

102. Towing devices:

- a. Towing hook;
- b. Towing bollards;
- c. Towing winch

#### 200. Pushing configurations

201. By means of bow pushing device.

#### *Guidance*

*See RBNA “Guide for Towing Operations”*

*End of guidance*

## CHAPTER H LOADING CONDITIONS, BUOYANCY AND STABILITY

### CHAPTER CONTENTS

H1. LOAD LINE  
See Part II, Title 11, Section 1

H2. LIGHT WEIGHT  
See Part II, Title 11, Section 1

H3. LOADING CONDITIONS  
See Part II, Title 11, Section 1

H4. BUOYANCY  
See Part II, Title 11, Section 1

H5. STABILITY

---

### H5. STABILITY

#### 100. Weight distribution

See Part II, Title 11, Section 1

#### 200. Free surface

See Part II, Title 11, Section 1

#### 300. Intact Stability

301. All new ships with a length of 24 m and above will be assigned class only after it has been demonstrated that their intact stability is adequate for the service intended

302. **Stability check – vessels with GT < 500 subject to National Administration:** The checking of the stability is carried out by comparison with the standards of the National and International Administrations. For ships with GT < 500, the present Rules follows the requirements of NORMAM 01.

303. For ships having  $GT \geq 500$ , the following set of criteria is to be met:

- a. All ships  $\geq 24m$  in length - IS Code Part A Chapter 2

## CHAPTER T INSPECTIONS AND TESTS

### CHAPTER CONTENTS

- T1. DURING CONSTRUCTION  
See Part II, Title 11, Section 1, Subchapter T1
- T2. COMPLETION OF CONSTRUCTION
- T3. TRIALS DURING NAVIGATION
- 

## T2. COMPLETION OF CONSTRUCTION

### 100. to 300.

See Part II, Title 11, Section 1

### 400. Bollard pull test

401. On Brazilian Flag vessels, a bollard pull according to the requirements of NORMAM 01 is mandatory before entering into operation, as a requirement to deserve the mention "Tug" on the Certificates.

402. On request, RBNA may survey the bollard pull test. Upon satisfactory results, a Bollard Pull certificate will be issued. The test must follow prescriptions on Section 3, Sub-chapter T1. of the present Title 42.

403. The bollard pull test is to be carried over in the presence of a RBNA surveyor. The load cell is to be able to provide at any time readout of the bollard pull. Before the test, the operators shall present a certificate of calibration of the load cell by an accredited body, in full validity.

404. Safety precautions are to be taken to avoid any person being injured by the rupture of the tow cable. The location of the load cell monitor is to be chosen away from cable rupture hazards.

405. The test conditions shall be submitted to RBNA for verification of compliance with NORMAM 01 regulations and approval.

406. When a bollard pull test is carried out by RBNA for a foreign flag vessel in Brazilian

jurisdictional waters, the NORMAM 01 requirements shall be complied with.

407. When a bollard pull test is carried out by RBNA for a foreign flag vessel outside Brazilian jurisdictional waters, National Regulations are to be applied. In the absence of such regulations, RBNA will apply the NORMAM 01 requirements.

## T3. NAVIGATION TRIALS

### 100. Propulsion and maneuvering performance

101. In vessels with self propulsion or that are coupled or integrated in a convoy that behaves as a vessel, sea trials should be performed to evaluate the following performances:

- a. speed;
- b. turning diameter;
- c. zig-zag direction;
- d. stopping distance with reversal of engines;
- e. stopping distance without reversal of engines;
- f. astern drifting when traveling in reverse.

Rgmm14en-PIIT42S1-adht-00