

RULES

FOR THE CLASSIFICATION AND CONSTRUCTION OF SHIPS CARRYING LIQUEFIED GASES IN BULK

PART III

STABILITY. SUBDIVISION. FREEBOARD

ND No. 2-020101-176-E



St. Petersburg
2023

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF SHIPS CARRYING LIQUEFIED GASES IN BULK

Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk of Russian Maritime Register of Shipping (RS, the Register) have been approved in accordance with the established approval procedure and come into force on 1 January 2023.

The present edition of the Rules is based on the 2022 edition taking into account the amendments developed immediately before publication.

The Rules establish requirements, which are specific for ships carrying liquefied gases in bulk, and supplement the Rules for the Classification and Construction of Sea-Going Ships and Rules for the Equipment of Sea-Going Ships of Russian Maritime Register of Shipping.

The Rules are published in the following parts:

Part I "Classification";

Part II "Ship Arrangement";

Part III "Stability. Subdivision. Freeboard";

Part IV "Cargo Containment";

Part V "Fire Protection";

Part VI "Systems and Piping";

Part VII "Electrical Equipment";

Part VIII "Instrumentation and Automation Systems";

Part IX "Materials and Welding";

Part X "Special Requirements".

The Annexes to the Rules are published separately.

REVISION HISTORY

(purely editorial amendments are not included in the Revision History)

For this version, there are no amendments to be included in the Revision History.

1 STABILITY

1.1 The stability of ships carrying liquefied gases in bulk¹ shall meet the requirements of Part IV "Stability" of the Rules for the Classification and Construction of Sea-Going Ships² covering tankers and shall be verified for each type of cargo for loading conditions specified in 3.4 of Part IV "Stability" of the Rules for the Classification.

The free surface effect in cargo tanks shall be taken into account according to their actual filling with due regard for its potential change in voyage.

1.2 During cargo operations a corrected metacentric height shall be at least 0,15 m. The calculations confirming fulfillment of this requirement shall be submitted as part of design documentation.

1.3 In addition to the requirements of 1.4.11 of Part IV "Stability" of the Rules for the Classification, the Stability Booklet shall include data on the LG carrier stability during cargo operations and the instructions on the sequence of cargo tanks loading and unloading.

1.4 Every ship shall be fitted with a stability instrument, capable of verifying compliance with applicable intact and damage stability requirements, approved by the Register.

¹ Hereinafter referred to as "the LG carriers".

² Hereinafter referred to as "the Rules for the Classification".

2 DAMAGE STABILITY WITH LOCAL DAMAGES

2.1 The requirements of 3.3 of Part V "Subdivision" of the Rules for the Classification shall be met at local damage anywhere in the cargo area. The damage extent shall be assumed not less than distance d calculated according to 2.4 of Part II "Ship Arrangement" of the LG Rules for the Classification and Construction of Ships Carrying Liquefied Gases in Bulk¹ and measured normal to the moulded line of the outer shell.

Number of flooded compartments shall be assumed according to 3.4.6 of Part V "Subdivision" of the Rules for the Classification.

¹ Hereinafter referred to as "the LG Rules".

3 SUBDIVISION

3.1 All ships shall meet the requirements of Part V "Subdivision" of the Rules for the Classification.

3.2 The main transverse bulkhead may have a recess provided that all recess parts are located between the vertical planes which are inside the hull at a distance of $B/5$ from the shell plating measured at right angles to the centerline at the level of the ship's subdivision load line.

Any part of the recess outside the above limits shall be considered as a step.

3.3 The ship shall be so designed as to keep the probability of unsymmetrical flooding to a minimum. Valves (slide valves) and cross-flooding pipes shall not be taken into account in damage trim and stability calculations. The exception concerns calculations of the ship's equalization time only.

The spaces linked by cross-flooding ducts of large cross-sectional area may be considered to be common.

3.4 If pipes, ducts and tunnels are situated within the extent of damage penetration defined in 3.2 of Part V "Subdivision" of the Rules for the Classification, provision shall be made for arrangements preventing ship's progressive flooding. The exception concerns the spaces whose flooding is considered in damage trim and stability calculations.

3.5 The angle of heel in the final stage of flooding shall not exceed the angle wherein the emergency source of power may still be capable of operating.

4 FREEBOARD

4.1 The minimum freeboard for LG carriers is assigned in accordance with the Load Line Rules for Sea-Going Ships.

The assigned freeboard shall not be less than that wherein the requirements of this Part are met.

Russian Maritime Register of Shipping

**Rules for the Classification and Construction
of Ships Carrying Liquefied Gases in Bulk**

Part III

Stability. Subdivision.

Freeboard

FAI "Russian Maritime Register of Shipping"
8, Dvortsovaya Naberezhnaya,
191186, St. Petersburg,
Russian Federation
www.rs-class.org/en/