

RULES

FOR THE CLASSIFICATION AND CONSTRUCTION OF CHEMICAL TANKERS

PART IV

STABILITY, SUBDIVISION AND FREEBOARD

ND No. 2-020101-164-E



St. Petersburg
2022

RULES FOR THE CLASSIFICATION AND CONSTRUCTION OF CHEMICAL TANKERS

Rules for the Classification and Construction of Chemical Tankers of Russian Maritime Register of Shipping (RS, the Register) have been approved in accordance with the established procedure and come into force on 1 January 2022.

The present edition of the Rules is based on the 2021 edition taking into account the amendments developed immediately before publication.

The provisions of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code) with relevant amendments thereto implemented by resolutions MSC.460(101) and MEPC.318(74) of the International Maritime Organization (IMO) have been taken into consideration in the Rules.

The Rules establish requirements, which are specific for ships carrying dangerous chemicals 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 "Structure of Chemical Tanker";

Part III "Cargo Containment";

Part IV "Stability, Subdivision and Freeboard";

Part V "Fire Protection";

Part VI "Systems and Piping";

Part VII "Electrical Equipment";

Part VIII "Instrumentation";

Part IX "Materials of Construction";

Part X "Personnel Protection";

Part XI "Summary of Technical Requirements";

Part XII "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 Stability of a chemical tanker shall comply with the requirements of Part IV "Stability" of the Rules for the Classification and Construction of Sea-Going Ships¹.

1.2 Each chemical tanker shall be fitted with a stability instrument capable of verifying compliance with intact and damage stability requirements approved by the Register.

¹ Hereinafter referred to as "the Rules for the Classification".

2 SUBDIVISION AND DAMAGE STABILITY

2.1 Subdivision and damage stability shall comply with the requirements of Part V "Subdivision" of the Rules for the Classification.

2.2 Calculations of damage trim and stability shall be made for all conditions of loading anticipated in service with due regard for variations in draught and trim.

2.3 The scope of calculations made in accordance with [2.2](#) of the Rules for the Classification and Construction of Chemical Tankers¹ shall be sufficient to develop curves (table) of the permissible minimum values of metacentric height or limiting values of center of gravity height depending on the ship's draught and the level of filling of the damage cargo compartments.

It is recommended that each of such curves (tables) would be constructed separately for each case of expected damage.

If for a certain case of damage an evidence will be presented to the effect that this damage is not dangerous in relation to the damage trim and stability, such curves (tables) may be not constructed and the scope of calculations may be reduced accordingly.

2.4 According to the shipowner desire, calculations of damage stability may be made for a limited number of load conditions. In this case, curves (tables) required by [2.2](#) may be not constructed and the design load conditions shall be entered in the Certificate of Fitness for the Chemical Tanker as operational restrictions.

2.5 When making calculations in accordance with [2.3](#) filling of the floodable cargo compartments before damaging shall be taken to be equal to 25, 50, 75 and 100 %.

2.6 In case where damage trim and stability comply with the requirements of Part V "Subdivision" of the Rules for the Classification for the conventional load condition given in [2.7](#) of this Part, calculations in accordance with [2.2—2.5](#) of this Part may be dispensed with.

2.7 The conventional load condition shall be such at which the ship has maximum draught and trim, the greatest possible center of gravity height (with due regard for free surface effect of liquids and stores) and void compartments in way of expected damage.

2.8 For chemical tankers type 1 and chemical tankers type 2 requirements for damage trim and stability shall be also fulfilled when the ship has sustained local side damage at any place within the cargo area. The transverse extent of the damage is taken to be equal to 760 mm and is measured inboard from the side shell at right angles to be centerline.

2.9 At final stage of flooding the emergency source of power shall be capable of operating.

2.10 The requirements of [2.2—2.9](#) apply only to the case where dangerous chemicals are carried in bulk. The normal residues of such cargoes in compartment after discharging the ship are ignored.

2.11 When carrying several products presenting different degree of hazard the requirements for damage trim and stability shall correspond to those imposed upon ships carrying the most dangerous product in bulk.

¹ Hereinafter referred to as "these Rules".

3 FREEBOARD

3.1 Chemical tankers shall be assigned the freeboard in compliance with the requirements of the Load Line Rules for Sea-Going Ships. The requirements of 3.2.11.1 of the Load Line Rules for Sea-Going Ships applied to provision of valves fitted to discharges are limited by the following:

.1 each discharge of pipelines which have or may have open in board ends shall be provided with one non-return valve with a positive means of closing from above the freeboard deck. The positive means of closing of the valves shall be readily accessible and equipped with an indicator showing whether the valve is open or shut;

.2 where the vertical distance from the summer load waterline to the inboard end of the discharge pipe exceed $0,01L$, two non-return valves without positive means of closing may be fitted to the discharge pipe. One of these valves shall be installed nearby ship's side and another valve shall be situated above the deepest waterline in salt water, admitted for this ship, in a position to be always accessible for examination under service conditions.

Russian Maritime Register of Shipping

Rules for the Classification and Construction of Chemical Tankers
Part IV
Stability, Subdivision
and Freeboard

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