



2018

Introduction to the Classification Technical Rules

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1. LIST OF CLASSIFICATION TECHNICAL RULES

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- Rules for Offshore Structures - Rules for the Classification of Mobile Offshore Units (K/E) (2018) - Rules for the Classification of Fixed Offshore Structures (K/E) (2014) - Rules for the Classification of Mobile Offshore Drilling Units (K/E) (2018)	- Guidance for Offshore Structures - Guidance Relating to the Rules for the Classification of Mobile Offshore Units (K/E) (2018) - Guidance Relating to the Rules for the Classification of Mobile Offshore Drilling Units (K/E) (2018) - Guidance for Floating Offshore Production Units (K/E) (2015) - Guidance for Floating Liquefied Gas Units (K/E) (2017) - Guidance for OSV (K/E) (2018)

RULES	GUIDANCE
Other Rules - Rules for the Classification of Steel Barges (K/E) (2016) - Rules for the Classification of Dredgers (K) (2015) - Rules for the Classification of Underwater Vehicles (K/E) (2015) - Rules for the Classification of FRP Ships (K/E) (2014) - Rules for the Classification of Floating Docks (K/E) (2018) - Rules for the Classification of High Speed and Light Crafts (K/E) (2018) - Rules for the Towing Survey of Barges and Tugboats (K/E) (2014) - Rules for the Classification of Ships Using Low-flashpoint Fuels (K/E) (2018)	Other Guidance - Guidance Relating to the Rules for the Classification of Steel Barges (K/E) (2016) - Guidance Relating to the Rules for the Classification of Underwater Vehicles (K/E) (2015) - Guidance Relating to the Rules for the Classification of FRP Ships (K/E) (2014) - Guidance Relating to the Rules for the Classification of Floating Docks (K/E) (2015) - Guidance Relating to the Rules for the Classification of High Speed and Light Craft (K/E) (2018) - Guidance Relating to the Rules for the Classification of Ships Using Low-flashpoint Fuels (K/E) (2018) - Guidance for Approval of Manufacturing Process and Type Approval, Etc. (K/E) (2018) - Guidance for Floating Structures (K/E) (2010) - Guidance for Freight Containers (K/E) (2018) - Guidance for Single Point Mooring (K/E) (2017) - Guidance for Ships Carrying CNG in Bulk (K/E) (2011) - Guidance for WIG ships (Wing-In-Ground Effect Ships) (K/E) (2018) - Guidance for Recreational Crafts (K/E) (2018) - Guidance for Large Yachts (K/E) (2014) - Guidance for Fuel Cell Systems on Board of Ships (K/E) (2015) - Guidance for Ships for Navigation in Ice (K/E) (2018) - Guidance for Approval of Risk-based Ship Design (K/E) (2015) - Guidance for Assessment of Sloshing Load and Structural Strength of Cargo Containment System (K/E) (2015) - Guidance for LNG Fuel Ready Ships (K/E) (2017) - Guidance on Strength Assessment of Containerships Considering the Whipping Effect (K/E) (2017) - Guidance for Structural Strength Assessment of Pump Tower of LNG Carrier (2017) - Guidance for Noise and Vibration (2017) - Guidance for Shiplift and Transfer Systems (2017) - Guidance for Large Battery Systems on Board of Ships (2018) - Guidance for Maritime Cybersecurity Management System (2018) - Guidance for Floating LNG Bunkering Terminal (2018)

2. USER'S GUIDE TO CLASSIFICATION TECHNICAL RULES

2.1 General

- 2.1.1** The purpose of this General has been prepared to introduce kinds, contents and user's guide for Classification Technical Rules published by Korean Register of Shipping (hereinafter called "the Society") to users.
- 2.1.2** Classification Technical Rules published by the Society are grouped into "Rules", which means all rules for the classification of ships, offshore installations and related equipment, etc., and "Guidance", which means rules prepared with the purpose of providing guidelines for the treatment of detailed contents during surveys carried out in accordance with the requirements in Rules. The list of Classification Technical Rules is given in 1.
- 2.1.3** Where the formulated or revised contents of classification rules are not too voluminous, or it is anticipated that the revised contents will become effective early, Circular Letter shall be published for users to know its contents easily, instead of printing complete volumes.

2.2 User's Guide

2.2.1 Enforcement

Rules, in principle, shall come into force after 3 months from the approved date and "Major Changes and Effective Date" is recorded at the beginning of each Rule for ready use.

2.2.2 Format

"Rules for Steel Ships" are composed of 13 kinds and "Guidances for Steel Ships" are composed of 11 kinds.

"Rules for Offshore Structures" are composed of 3 kinds and "Guidances for Offshore Structures" are composed of 5 kinds.

"Other Rules" are composed of 8 kinds and "Other Guidances" are composed of 25 kinds.

2.3 Numbering System

2.3.1 "Rules for the Classification of Steel Ships" and "Guidance Relating to the Rules for the Classification of Steel Ships"

- (1) In principle, the text consists of Part, Chapter, Section, Article, Paragraph, Sub-paragraph, (A), (a) and (i).
- (2) An article consists of a section number and serial number, and the hundred means section number and the rest means serial number.
(e.g.) For eleventh article in **Section 2 ; 211**.
- (3) The number of a figure or a table consists of part, chapter and serial number in each chapter. The figure number is placed in the center under the figure, and the table number is placed in the top left hand corner of the table.
(e.g.) For eighth figure in **Chapter 7 of Part 3; Fig 3.7.8**
For second table in **Chapter 1 of Part 5; Table 5.1.2**

2.3.2 Other Rules and Other Guidance

The same as 2.3.1

2.3.3 Classification Rules other than 2.3.1 and 2.3.2

- (1) In principle, the text consists of Chapter, Section, Article, Paragraph, Sub-paragraph, (A), (a) and (i).
- (2) The remainder are the same as those specified in **2.3.1**. The number of a figure or of a table consists of chapter and serial number in each chapter.
(e.g.) For ninth figure in **Chapter 3; Fig 3.9**
For tenth table in **Chapter 3; Table 3.10**.

2.4 Cross-Reference to Articles and Paragraphs

2.4.1 "Rules for the Classification of Steel Ships" and "Guidance Relating to the Rules for the Classification of Steel Ships"

- (1) Where a paragraph in any chapter is quoted from an other chapter in the same part, the chapter, relevant article and paragraph are written in sequence.
(e.g.) For rules: in **Ch 1, 201. 1 (1)**, or in **Ch 1, 201. 1 (1)** of the Guidance.
For guidances: in **Ch 1, 201. 1 (1)** of the Rules, or in **Ch 1, 201. 1 (1)** of the Guidance.
- (2) Where a paragraph in any part is quoted from an other part, the part, chapter, relevant article and paragraph are written in sequence.
(e.g.) For rules: in **Pt 1, Ch 1, 201. 1 (1)**, or in **Pt 1, Ch 1, 201. 1 (1)** of the Guidance.
For guidances: in **Pt 1, Ch 1, 201. 1 (1)** of the Rules, or in **Pt 1, Ch 1, 201. 1 (1)** of the Guidance.

2.4.2 Classification Rules other than 2.4.1

Where the contents of any rules are quoted in the rules other than **2.4.1**, the names of the rules, part, chapter, relevant article and paragraph are written.

(e.g.) Where **Pt 1, Ch 2, 202.** of "Rules for the Classification of Steel Ships" is quoted in "Rules for the Classification of Steel Barges"; **Pt 1, Ch 2, 202.** of **Rules for the Classification of Steel Ships**.

2.5 Cross-Reference to Figures and Tables

2.5.1 "Rules for the Classification of Steel Ships" and "Guidance relating to the Rules for the Classification of Steel Ships"

- (1) Where a figure or a table in any chapter is quoted from an other chapter in the same part, the number of the figure (or the table) is written.
(e.g.) For rules: in **Fig 2.1.1 (or Table 2.1.1)**, or in **Fig 2.1.1 (or Table 2.1.1)** of the Guidance.
For guidances: in **Fig 2.1.1 (or Table 2.1.1)** of the Rules, or in **Fig 2.1.1 (or Table 2.1.1)** of the Guidance.
- (2) Where a figure or a table is quoted from an other part, the part and the number of the figure (or the table) are written.
(e.g.) For rules: in **Pt 2, Fig 2.1.1 (or Table 2.1.1)**, or in **Pt 2, Fig 2.1.1 (or Table 2.1.1)** of the Guidance.
For guidances: in **Pt 2, Fig 2.1.1 (or Table 2.1.1)** of the Rules, or in **Pt 2, Fig 2.1.1 (or Table 2.1.1)** of the Guidance.

2.5.2 Classification Rules other than 2.5.1

Where a figure or a table of any rules is quoted in the rules other than **2.5.1**, the name of the rules, the part and the number of the figure (or the table) are written.

(e.g.) Where **Pt 3, Fig 3.3.1 (or Table 3.3.1)** of "Rules for the Classification of Steel Ships" is quoted in "Rules for the Classification of Steel Barges": in **Pt 3, Fig 3.3.1 (or Table 3.3.1)** of **Rules for the Classification of Steel Ships**.

2.6 Units

The SI-units (International System of Units) shown in **4.** are generally used in Classification Rules. However, the MKS-units (Metric System of Units) may be used together with SI-units, at the discretion of the Society. ↕

3. CONTENTS OF CLASSIFICATION TECHNICAL RULES

3.1 Contents of Rules for the Classification of Steel Ships

PART 1 CLASSIFICATION AND SURVEYS

CHAPTER 1 CLASSIFICATION

- Section 1 General
- Section 2 Character of Classification
- Section 3 Classification Survey during Construction
- Section 4 Classification Survey after Construction
- Section 5 Certificates and Reports
- Section 6 Application for Survey
- Section 7 Cooperation Duties of Owners
- Section 8 Competence and Duties of Surveyors
- Section 9 Suspension/Withdrawal of Class and Reclassification
- Section 10 Fees
- Section 11 Appeal on Disagreement
- Section 12 Related Regulations and Surveys
- Section 13 Classification of Other Installations or Equipment
- Section 14 External Audit
- Section 15 Miscellaneous

CHAPTER 2 PERIODICAL AND OTHER SURVEYS

- Section 1 General
- Section 2 Annual Survey
- Section 3 Intermediate Survey
- Section 4 Special Survey(Hull, Equipment and Fire-extinguishing Appliances)
- Section 5-1 Special Survey(Machinery, Electrical Installations and Additional Installations)
- Section 5-2 Special Survey(Additional Requirements to Ship Types)
- Section 6 Docking Survey
- Section 7 Surveys of Propeller Shaft and Stern Tube Shaft, Etc.
- Section 8 Boiler Survey
- Section 9 Continuous Survey of Machinery
- Section 10 Occasional Survey
- Section 11 Alteration Survey
- Section 12 Survey of Ships Carrying Dangerous Goods and Other Special Cargoes
- Section 13 Additional Installations Survey
- Section 14 Hull Surveys for General Dry Cargo Ships
- Section 15 Hull Surveys for Liquefied Gas Carriers
- Section 16 Survey Requirements for Shell and Inner Doors, Etc. of RoRo Ships
- Section 17 Additional Requirements
- Section 18 Special Requirements for Ships Subject to Korean Ship Safety Act or Fishing Vessels Act

CHAPTER 3 HULL SURVEYS OF SHIPS SUBJECT TO THE ENHANCED SURVEY PROGRAMME

- Section 1 General
- Section 2 Bulk Carriers
- Section 3 Oil Tankers
- Section 4 Chemical Tankers
- Section 5 Double Hull Oil Tankers
- Section 6 Double Skin Bulk Carriers

PART 2 MATERIALS AND WELDING

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- Section 1 General
- Section 2 Test Specimens and Testing Procedures
- Section 3 Rolled Steels
- Section 4 Steel Tubes and Pipes
- Section 5 Castings
- Section 6 Steel Forgings
- Section 7 Copper and Copper Alloy
- Section 8 Aluminium Alloys

CHAPTER 2 WELDING

- Section 1 General
- Section 2 Test Specimens and Testing Procedures
- Section 3 Welding work and Inspection
- Section 4 Welding Procedure Qualification Tests
- Section 5 Welders and Welder Performance Qualification [Scheme](#)
- Section 6 Welding Consumables

PART 3 HULL STRUCTURES

CHAPTER 1 GENERAL

- Section 1 Definitions
- Section 2 General
- Section 3 Approval of Plans and Documents
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- Section 1 Stems
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- Section 1 General
- Section 2 Bending Strength
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- Section 1 General
- Section 2 Plate Keels
- Section 3 Shell Plating below Strength Deck
- Section 4 Special Requirements for Shell Plating
- Section 5 Side Plating in way of Superstructure
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- Section 7 Local Compensation of Shell Plating

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- Section 1 General
- Section 2 Effective Sectional Area of Strength Deck
- Section 3 Deck Plating

Section 4 Wood Decks and Deck Compositions

CHAPTER 6 SINGLE BOTTOMS

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Section 2 Centre Keelsons
Section 3 Side Keelsons
Section 4 Floor Plates

CHAPTER 7 DOUBLE BOTTOMS

Section 1 General
Section 2 Centre Girders and Side Girders
Section 3 Solid Floors
Section 4 Bottom Longitudinals
Section 5 Inner Bottom Plating, Margin Plates and Bottom Shell Plating
Section 6 Hold Frame Brackets
Section 7 Open Floors
Section 8 Construction of Strengthened Bottom Forward

CHAPTER 8 FRAMES

Section 1 General
Section 2 Frame Spacing
Section 3 Hold Frames
Section 4 Side Longitudinals
Section 5 Tween Deck Frames

CHAPTER 9 WEB FRAMES AND SIDE STRINGERS

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Section 2 Web Frames
Section 3 Side Stringers
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CHAPTER 10 BEAMS

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CHAPTER 11 DECK GIRDERS

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Section 4 Deck Girders in Tanks
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Section 2 Scantling of Pillars

CHAPTER 13 ARRANGEMENTS TO RESIST PANTING

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Section 2 Arrangements to Resist Panting forward the Collision Bulkhead
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CHAPTER 14 WATERTIGHT BULKHEADS

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- Section 2 Arrangement of Watertight Bulkheads
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- Section 1 General
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CHAPTER 18 MACHINERY SPACES AND ENGINE CASINGS

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- Section 2 Main Engine Foundation
- Section 3 Construction of Boiler Rooms
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- Section 1 General

PART 4 HULL EQUIPMENT

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- Section 1 General
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- Section 6 Rudder Plates, Rudder Frames and Rudder Main Pieces
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- Section 5 Hatch cover details - Closing Arrangement, Securing Devices and Stoppers
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- Section 7 Miscellaneous Openings

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- Section 1 Bow Doors and Inner Doors
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- Section 1 Bulwarks and Guardrails
- Section 2 Freeing Ports
- Section 3 Side Scuttles, Rectangular Windows and Skylights
- Section 4 Ventilators
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- Section 3 Anchors
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- Section 1 Application and Implementation
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- Section 2 Towing and Mooring

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- Section 2 Internal Combustion Engines
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CHAPTER 5 BOILERS AND PRESSURE VESSELS

- Section 1 Boilers
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- Section 3 Ship-side Valves and Overboard Discharge
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- Section 5 Feed Water and Condensate System for Boiler
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- Section 3 Controls
- Section 4 Materials, Constructions and Strength
- Section 5 Testing
- Section 6 Additional Requirements Concerning Tankers of 10,000 Gross Tonnage and Upwards and Other Ships of 70,000 Gross Tonnage and Upwards

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- Section 9 Explosion-protected Electrical Equipment
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- Section 2 Harmonized Notations and Corresponding Design Loading Conditions
- Section 3 Double Bottoms
- Section 4 Hopper Tanks
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- Section 7 Hold Frames

- Section 8 Decks and Shell Platings
- Section 9 Hatch Covers and Hatch Coamings of Cargo Holds
- Section 10 Longitudinal Strength of Hull Girder in Flooded Condition for Bulk Carriers
- Section 11 Evaluation of Allowable Hold Loading for Bulk Carriers Considering Hold Flooding
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- Section 13 Requirements for the Fitting of a Forecastle for Bulk Carriers, Ore Carriers and Combination Carriers
- Section 14 Water Level Detection & Alarm and Drainage & Pumping Systems for Bulk Carriers and Single Hold Cargo Ships
- Section 15 Supplementary Provisions for Carriage of Liquid in Holds
- Section 16 Electrical Equipment of Coal Carriers
- Section 17 Renewal Criteria for Side Shell Frames and Brackets in Single Side Skin Bulk Carriers and Single Side Skin OBO Carriers
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- Section 4 Double Side Construction
- Section 5 Transverse Bulkheads
- Section 6 Deck Construction
- Section 7 Breakwater
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- Section 9 Strength at Large Flare Location
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- Section 1 General
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- Section 4 Cargo Containment
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- Section 6 Materials of Construction and Quality Control
- Section 7 Cargo Pressure/Temperature Control
- Section 8 Vent Systems for Cargo Containment
- Section 9 Cargo Containment System Atmosphere Control
- Section 10 Electrical Installations
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- Section 12 Mechanical Ventilation in the Cargo Area
- Section 13 Instrumentation and Automation Systems
- Section 14 Personnel Protection
- Section 15 Filling Limits for Cargo Tanks
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- Section 18 List of Chemicals to which this Chapter does not apply
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- Section 5 Structural Details
- Section 6 Special Requirements for Corrosion
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- Section 3 Miscellaneous Items of Ignition Sources And Ignitability
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- Section 1 Control of Air Supply And Flammable Liquid to The Spaces
- Section 2 Fire Protection Materials

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4. CONVERSION TABLE OF SI UNITS

Quantity	SI Unit	Other Unit	Remarks
mass	kg	t	$1 \text{ t} = 10^3 \text{ kg}$
density (mass density)	kg/m^3	-	-
moment of inertia	$\text{kg} \cdot \text{m}^2$	-	-
force	N	kgf	$1 \text{ kgf} = 9.81 \text{ N}$
moment (torque)	N · m	kgf · m	$1 \text{ kgf} \cdot \text{m} = 9.81 \text{ N} \cdot \text{m}$
stress	Pa or N/m^2	kgf/mm^2	$1 \text{ kgf}/\text{mm}^2 = 9.81 \text{ N}/\text{mm}^2 = 9.81 \text{ MPa}$
pressure	Pa	kgf/cm^2 or bar	$1 \text{ kgf}/\text{cm}^2 = 0.981 \text{ bar} = 98.1 \text{ kPa}$
work energy	J	kgf · m	$1 \text{ kgf} \cdot \text{m} = 9.81 \text{ J}$
electric potential	J	kW · h	$1 \text{ kW} \cdot \text{h} = 3.6 \times 10^6 \text{ J}$
power	W	PS	$1 \text{ PS} = 735.5 \text{ W}$
temperature	K or °C	°C	$x \text{ °C} = (x + 273.15) \text{ K}$
quantity of heat	J	cal or kcal	$1 \text{ kcal} = 4.19 \text{ kJ}$
heat flow rate	W	kcal/h	$1 \text{ kcal/h} = 1.16 \text{ W}$
frequency	Hz	-	-
rotational frequency	s^{-1}	$\text{min}^{-1}(\text{rpm})$	$\text{rpm} = 60 / \text{s}$
velocity	m/s	knot	$1 \text{ knot} = 1852 \text{ m/h}$
plane angle	rad	°, ', "	$1^\circ = \frac{\pi}{180} \text{ rad}$

5. LOAD LINE MARKS

(1) Assignment of Load Line

The Society is authorized to assign Load Lines to vessels registered by the Korean Government and other Governments.

(2) Load Line Mark for Ocean Going Vessels without Timber Load Line

The centre of the ring is to be placed on each side of the ship at the middle of the length as defined in the International Convention on Load Lines, 1966. The ring, lines and letters are to be painted in white or yellow on a dark ground or in black on a light ground. They are also to be permanently marked on the sides of the ship as shown in **Fig 1**.

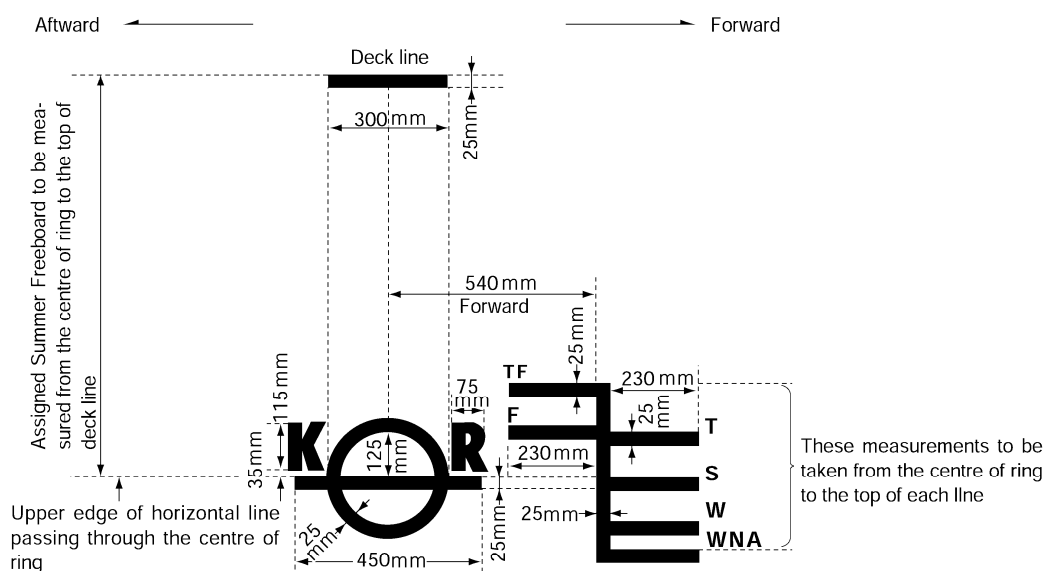


Fig 1

(3) Load Line Mark for Ocean Going Vessels with Timber Load Line

The centre of the ring is to be placed on each side of the ship at the middle of the length as defined in the International Convention on Load Lines, 1966. The ring, lines and letters are to be painted in white or yellow on a dark ground or in black on a light ground. They are also to be permanently marked on the sides of the ship as shown in **Fig 2**.

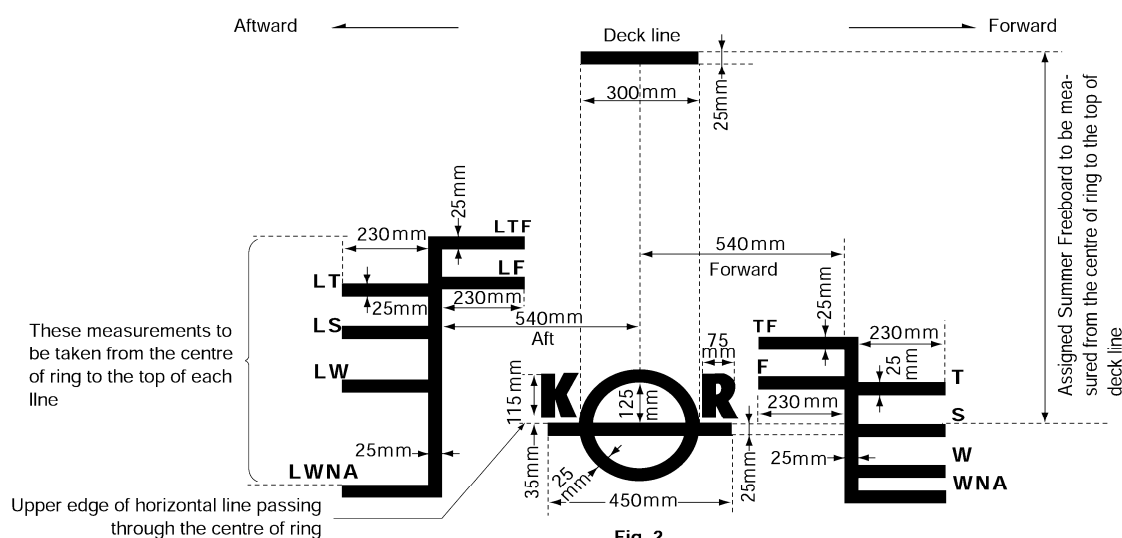


Fig 2

- 
- Introduction to the Classification Technical Rules 2018**



- Fig 4**



- (7) For Korean flagged high speed crafts which are less than 12 m in length and for domestic voyage, the load line mark is to be as shown in **Fig 6** Marking method refers to (2).

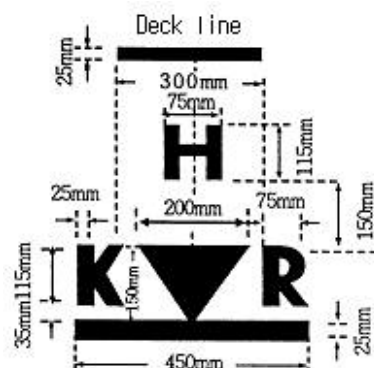


Fig 6

- (8) For Korean flagged high speed crafts which are over 12 m in length and for domestic voyage, the load line mark is to be as shown in **Fig 7** Marking method refers to (2).

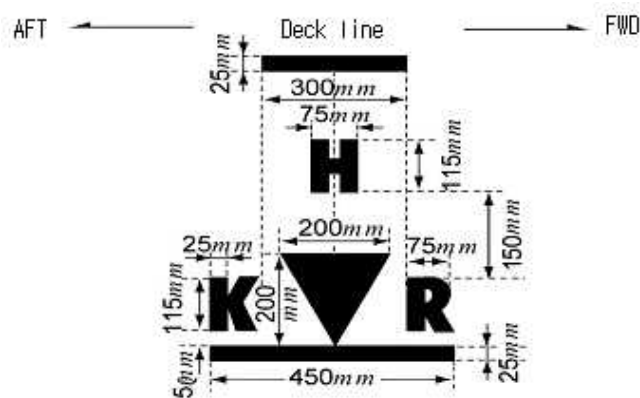


Fig 7

- (9) For high speed craft subject to 2000 HSC Code engaged in international voyage, the load line mark is to be as shown in **Fig 8** Marking method refers to (2).

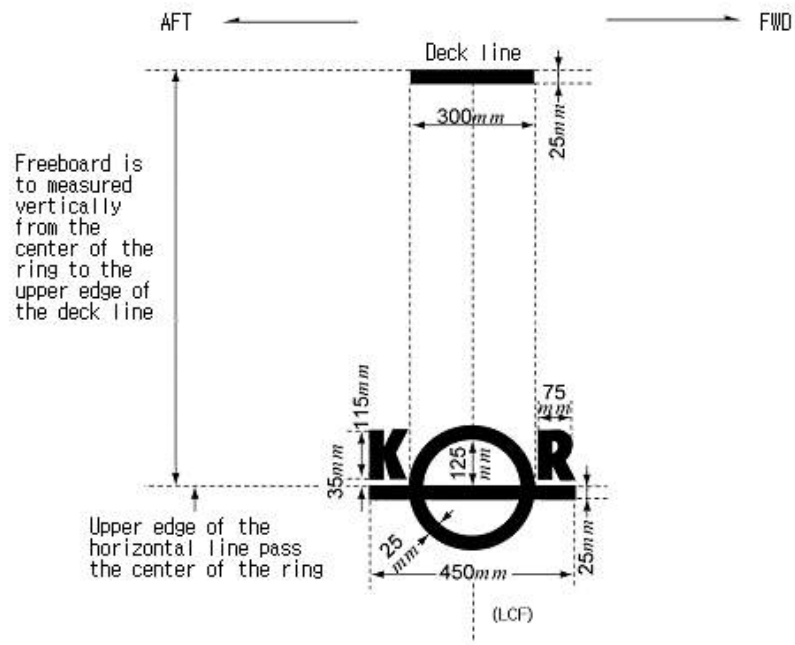


Fig 8

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Published by

KR

36, Myeongji ocean city 9-ro, Gangseo-gu,
BUSAN, KOREA

TEL : +82 70 8799 7114

FAX : +82 70 8799 8999

Website : <http://www.krs.co.kr>

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