



TÜRK LOYDU RULE CHANGE SUMMARY

TL NUMBER: 05/2022

DECEMBER 2022

Latest editions of TL Rules incorporate all rule changes. The latest rule revisions of a published rule are shown with a vertical line. Changes after the publication of the rule are written in red colour.

Please note that within this document added items are written in red and for deleted items strikethrough is applied. After the publication of relevant rule, those revisions are to be indicated with a vertical line. Following Rule Changes presented in English are also implemented into Turkish Version of Rules.

RULE CHANGE SUMMARY

CLASSIFICATION AND SURVEYS

<u>No</u>	<u>Item</u>
01	Section 2
02	Section 3

CHAPTER 1 – HULL

<u>No</u>	<u>Item</u>
01	Section 1
02	Section 13
03	Section 16
04	Section 26
05	Section 33

CHAPTER 2 – MATERIALS

<u>No</u>	<u>Item</u>
01	Section 1
02	Section 2
03	Section 10
04	Section 13

CHAPTER 3 - WELDING

<u>No</u>	<u>Item</u>
01	Section 1

CHAPTER 4 - MACHINERY

<u>No</u>	<u>Item</u>
01	Section 1
02	Section 2
03	Section 3
04	Section 4
05	Section 7
06	Section 18

CHAPTER 5 – ELECTRICAL INSTALLATION

<u>No</u>	<u>Item</u>
01	Section 2
02	Section 3
03	Section 4
04	Section 8
05	Section 13

06

[Section 20](#)**CHAPTER 7 – HIGH SPEED CRAFTS**NoItem

01

[Section 1](#)

02

[Section 7](#)**CHAPTER 8 – CHEMICAL TANKERS**NoItem

01

[Section 15](#)**CHAPTER 9 – CONSTRUCTION AND
CLASSIFICATION OF YACHT**NoItem

01

[Section 5](#)

02

[Section 7](#)**CHAPTER 10 – LIQUEFIED GAS CARRIERS**NoItem

01

[Section 5](#)**CHAPTER 14 – FISHING VESSELS**NoItem

01

[General](#)**CHAPTER 19 – INLAND WATERWAY VESSELS**NoItem

01

[Section 13](#)**CHAPTER 23 – REDUNDANT PROPULSION AND
STEERING SYSTEMS**NoItem

01

[General](#)

CHAPTER 28 - VENTILATION

<u>No</u>	<u>Item</u>
01	Section 5

**CHAPTER 35 – TENTATIVE RULES FOR SHIP LESS
THAN 500 GRT**

<u>No</u>	<u>Item</u>
01	Section 2
02	Section 5

CHAPTER 36 – OFFSHORE SERVICE VESSELS

<u>No</u>	<u>Item</u>
01	Section 23

CHAPTER 76 – ENVIRONMENT SERVICE SYSTEMS

<u>No</u>	<u>Item</u>
01	Section 2

**CHAPTER 105 – NAVAL SHIP TECHNOLOGY,
ELECTRICAL INSTALLATION**

<u>No</u>	<u>Item</u>
01	Section 2
02	Section 3
03	Section 8
04	Section 13

**ADDITIONAL RULES - RULES FOR TESTING AND
CERTIFICATION OF MATERIALS AND EQUIPMENT
TO BE USED IN SHIPS CLASSED BY TÜRK LOYDU**

<u>No</u>	<u>Item</u>
01	General

**ADDITIONAL RULES - RULES FOR THE
CERTIFICATION, INSTALLATION AND TESTING OF
LITHIUM BATTERIES**

<u>No</u>	<u>Item</u>
01	General

CLASSIFICATION AND SURVEYS

01. Section 2 – Classification

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Item B.1.1 was revised to clarify that TL has right to decline classification.

B. Assignment and Transfer of Class

1. General

1.1 Request for classification of a new ship or an existing ship is to be submitted to **TL** in writing by the client. **TL reserves the right to decline the request for classification.**

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Item C.2.2 was revised according to UR Z10.3 Rev.20 as below:

~~For oil tanker and chemical tankers, a ballast tank is a tank which is used solely for the carriage of salt water ballast.~~

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Table under item D.2.1 was revised as below:

Notation Nature	Definition	Relevant Rules / Tables
Mandatory Notations	Construction symbol	Section 2 D.2.2
	Main character of class	Section 2 D.2.3
	Service area restriction	Section 2 D.2.4
	Main ship types	Table 2.1 ÷ 2.11 and Table 2.13, 2.16, 2.17
	Special service vessel types	Table 2.12
	Survey scheme	Table 2.14
	Damage stability	Table 2.15
Optional Notations	Related to cargo	Table 2.18 ÷ 2.23
	Related to service area	Table 2.24, 2.25, 2.26
	Related to survey scheme	Table 2.27 6
	Related to design features	Table 2.28 7 ÷ 2.32
	Related to equipment and systems	Table 2.33 ÷ 2.45
	Other optional notations	Table 2.46 ÷ 2.53

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Item D.2.4.1.3 was revised as below:

2.4.1.3 Coastal Service – K6

This range of service is limited for ~~passenger~~ vessels to trade along the coasts, provided that the distance to the nearest port of refuge and the offshore distance do not exceed 6 nautical miles. This area of service is restricted to trade in shoals, bays, haffs and firths or similar waters, where heavy seas do not occur.

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Table 2.12 was revised as below:

Class Notation	Description	Application	Rule Requirement, Design (1)	Rule Requirement, Survey
BARGE	Barges are unmanned or manned vessels, normally without self-propulsion, sailing in pushed or towed units and their cargo holds are suitable for the carriage of dry or liquid cargo. Barges built for the carriage of special cargo (e.g. liquid or ore cargo) are to be assigned the respective class notations (e.g. Oil Barge, Deck CargoBarge, etc.).	Barges	Part A Chapter 1 Section 33	Classification and Surveys Section 3 and Section 3 K.4
HOPPER BARGE	Barges specially designed for carrying spoils or dredged material	Hopper Barges	Part A Chapter 1 Section 33	Classification and Surveys Section 3
HOPPER DREDGER	Ships specially equipped for dredging activities and carrying spoils or dredged material	Hoppers Dredgers	Part A Chapter 1 Section 34	Classification and Surveys Section 3
PUSHER/BARGE	Ships specially intended for pushing and carriage	Pusher/Barges	Part C Chapter 17 Pusher, Pusher/Barge Units	Classification and Surveys Section 3
PUSHER	Ships specially intended for pushing	Pushers	Part C Chapter 17 Pusher, Pusher/Barge Units	Classification and Surveys Section 3
FLOATING CRANE	This notation is assigned to a crane, which is certified , with an undercarriage and used for water work and for work on waterfronts.	Floating Cranes		Classification and Surveys Section 3 and Section 3 K.4
PONTOON CRANE	This notation is assigned to a crane that is permanently fitted on a pontoon and crane of which is certified	Pontoon Cranes	Part A Chapter 1 Section 33, H	Classification and Surveys Section 3
ICE-BREAKER	For ships having an operational profile that includes escort or ice	Ice-Breakers		Classification and Surveys

Class Notation	Description	Application	Rule Requirement, Design (1)	Rule Requirement, Survey
	management functions and having powering and dimensions that allow it to undertake aggressive operations in ice-covered waters			Section 3
PILOT BOAT		Pilot Boats		
PONTOON	This notation is assigned to non propelled units intended to carry cargo and/or equipment on deck only. For pontoons with a permanently fitted crane, PONTOON CRANE notation is to be assigned.	Pontoons	Part A Chapter 1 Section 33	Classification and Surveys Section 3 and Section 3 K.4

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Item D, 3.3.2 was revised as below:

3.3.2 Navigation In Waters around and/or Comparable to Greenland and Labrador Ice

Table 2.26 Notations for navigation in waters around and/or comparable to Greenland and Labrador ice

Class Notation	Description	Application	Rule Requirement, Design	Rule Requirement, Survey
BF	Fishing vessels complying with the requirements of TL rules relating to hull and machinery installations for navigation in waters around and/or comparable to Greenland and Labrador ice	Fishing Vessels	Part C Chapter 14 Section 16, Section 33, Section 35	Part C Chapter 14 Section 1

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Item D, 3.5.5 was revised for the change of the guidelines to additional rules as below:

3.5.5 Battery systems

Table 2.31 Notations for Li-Ion Batteries

Class Notation	Description	Application	Rule Requirement, Design	Rule Requirement, Survey
Li-BATTERY	For ships, Lithium batteries used for propulsion and/or electric power supply purpose during ship operation.	Ships installed with Lithium batteries used for propulsion and/or electric power supply purpose.	Additional Rules Guidelines for the Certification, Installation and Testing of Lithium Batteries	Additional Rules for the Certification, Installation and Testing of Lithium Batteries

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Item D, 3.16 was added according to revised Chapter 14 Fishing Vessels Rules as below:

Table 2.55 Notations for fishing gear

Notation	Characteristics	Underlying rules
CFG	This notation is assigned for ships with certified fishing gear in compliance with Chapter 14, Section 6	TL Rules, Chapter 14, Section 6

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Item D, 3.17 was added according to new Guidelines on Cyber Security for Ships and Offshore Units as below:

Table 2.56 Notations for cyber security

Notation	Characteristics	Underlying rules
CYBER-SECURE	This notation is assigned for ships which their related systems, management policies and procedures to enable resilient operation against cyber risks in compliance with Guidelines on Cyber Security for Ships and Offshore Units	Guidelines on Cyber Security for Ships and Offshore Units
CYBER-MANAGED	This notation is assigned for ships which have safety and security management policies and procedures to enable resilient operation against cyber risks	Guidelines on Cyber Security for Ships and Offshore Units, Section 2

02. Section 3 – Surveys

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Items A.1.23, 1.24 and A.16 were added according to UR Z29 New as below:

1.23 A Remote Survey is a process of verifying that a ship and its equipment are in compliance with the rules of TL where the verification is undertaken, or partially undertaken, without attendance on board by a surveyor.

16. Remote Classification Surveys

Note: For details of remote surveys see TL-R Z29.

Eligibility of remote survey is to be decided by TL based on type and scope of the requested survey, if applicable, flag State Administration acceptance and possible instructions.

Remote survey will only be appropriate provided the level of assurance is not compromised, and the survey is carried out with the same effectiveness as and is equivalent to, a survey carried out with attendance on board by a Surveyor.

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Table 3.18 was revised according to UR Z10.4 Rev.17 as below:

Table 3.18 Minimum requirements for the thickness measurements at hull class renewal surveys of double hull oil tankers

Class renewal survey No.1 Age ≤ 5	Class renewal survey No.2 5 < Age ≤ 10	Class renewal survey No.3 10 < Age ≤ 15	Class renewal survey No.4 and subsequent 15 < Age
Suspect areas.	Suspect areas.	Suspect areas.	Suspect areas.
One section of deck plating for the full beam of the ship within the cargo area	Within the cargo area: - Each deck plate - One transverse section	Within the cargo area: - Each deck plate - Two transverse sections (1) - All wind and water strakes.	Within the cargo area: - Each deck plate - Three transverse sections (1) - Each bottom plate.
	Selected wind and water strakes outside the cargo area.	Selected wind and water strakes outside the cargo area.	All wind and water strakes, full length.
Measurements for general assessment and recording of corrosion pattern of those structural members subject to close-up survey according to Table 3.16.	Measurements for general assessment and recording of corrosion pattern of those structural members subject to close-up survey according to Table 3.16.	Measurements for general assessment and recording of corrosion pattern of those structural members subject to close-up survey according to Table 3.16.	Measurements for general assessment and recording of corrosion pattern of those structural members subject to close-up survey according to Table 3.16.
(1) At least one section is to include a ballast tank within 0.5 amidships.			

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Table 3.23 was revised according to UR Z10.3 Rev.20 as below:

Table 3.23 Minimum requirements for the thickness measurements at hull class renewal surveys of chemical tankers

Class renewal survey No.1 Age ≤ 5	Class renewal survey No.2 5 < Age ≤ 10	Class renewal survey No.3 10 < Age ≤ 15	Class renewal survey No.4 and subsequent 15 < Age
Suspect areas.	Suspect areas.	Suspect areas.	Suspect areas.

One section of deck plating for the full beam of the ship within the cargo area (in way of a ballast tank, if any, or a cargo tank used primarily for water ballast)	Within the cargo area: - Each deck plate - One transverse section	Within the cargo area: - Each deck plate - Two transverse sections (1) - All wind and water strakes.	Within the cargo area: - Each deck plate - Three transverse sections (1) - Each bottom plate.
	Selected wind and water strakes outside the cargo area.	Selected wind and water strakes outside the cargo area.	All wind and water strakes, full length.
Measurements for general assessment and recording of corrosion pattern of those structural members subject to close-up survey according to Table 3.22, Sheet 1 or Sheet 2, as applicable.	Measurements for general assessment and recording of corrosion pattern of those structural members subject to close-up survey according to Table 3.22, Sheet 1 or Sheet 2, as applicable.	Measurements for general assessment and recording of corrosion pattern of those structural members subject to close-up survey according to Table 3.22, Sheet 1 or Sheet 2, as applicable.	Measurements for general assessment and recording of corrosion pattern of those structural members subject to close-up survey according to Table 3.22, Sheet 1 or Sheet 2, as applicable.
(1) At least one section is to include a ballast tank within 0.5 L amidships.			

PART A – CHAPTER 1 - HULL

01. Section 1 – General, Definitions

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item F.2 was revised according to UI SC 296 New as below:

2. Noise

Suitable precautions are to be taken to keep noises as low as possible particularly in the crew's quarters working spaces, passengers' accommodations etc. Ships, which are 1,600 gross tonnage and above as defined in SOLAS II-1/3-12 shall be constructed to reduce onboard noise and to protect personnel from the noise in accordance with "the Code on noise levels on board ships" (adopted by resolution MSC.337(91)) unless the Administration deems that compliance with a particular provision is unreasonable or impractical. **See TL-I SC296 for noise level limit in workshops onboard ships.**

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item J was revised as below:

J. International Conventions and Codes and Standards

Where the following sections refer to a standard without a specified publication date, the current version of the standard shall apply.

02. Section 13 – Superstructures and Deckhouses

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item A.5 was revised as below:

For ferries, ro-ro and ro-ro passenger ships, PCTC (Pure Car and Truck Carriers) vessels and other vessels which are generally characterised by either a reduced number or absence of structural transverse bulkheads the strength of structure above the bulkhead deck under transversal loads is to be carefully examined by using racking FEM analysis*, paying special attention to the following key factors:

- Connection of decks to the front bulkhead and the transom bulkhead
- Structural continuity of transverse/vertical members through the freeboard deck.
- Primary members are also to be checked against racking.

* *For details of FEM Analysis, refer to Guidelines for the Structural Design Assessment of Ro-Ro Vessels.*

03. Section 16 – Hull Outfitting

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item B.1.7 was revised according to UI LL11 Rev.4 as below:

1.7 Table 16.1 provides the acceptable arrangements of scupper, inlets and discharges.

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item E.2.4 was deleted according to UR M45 Del. as below:

~~2.4 The ventilation of machinery spaces shall be according to the principles laid down in SOLAS Regulation II-1/35 and supplied through suitably protected openings arranged in such a way that they can be used in all weather conditions, taking into account Reg.17(3) and Reg.19 of the 1966 Load Line Convention as amended by the Protocol of 1988.~~

~~The machinery spaces are those defined in SOLAS Regulation II-1/3.16.~~

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item F.2 was revised as below:

2. Guard Rails

2.1 Efficient guard rails or bulwarks are to be fitted to all exposed parts of the freeboard and superstructure deck. The height of the bulwarks or guard rails is to be at least 1 m from the deck, provided that where this height would interfere with the normal operation of the ship, a lesser height may be approved if **Flag Administration** is satisfied that adequate protection is provided.

Note: A guard rail should also be required for first tier deckhouses and for superstructures' ends.

2.2 Guard rails fitted on superstructure and freeboards decks are to have at least three courses. The opening below the lowest course of the guard rails is not to exceed 230 mm. The other courses are to be not more than 380 mm (see Figure 16.1 for guidance). In case of ships with rounded gunwales the guard rail supports are to be placed on the flat of the deck. In other locations, guard rails with at least two courses are to be fitted. Guard rails are to comply with the following provisions (see also TL-I LL47):

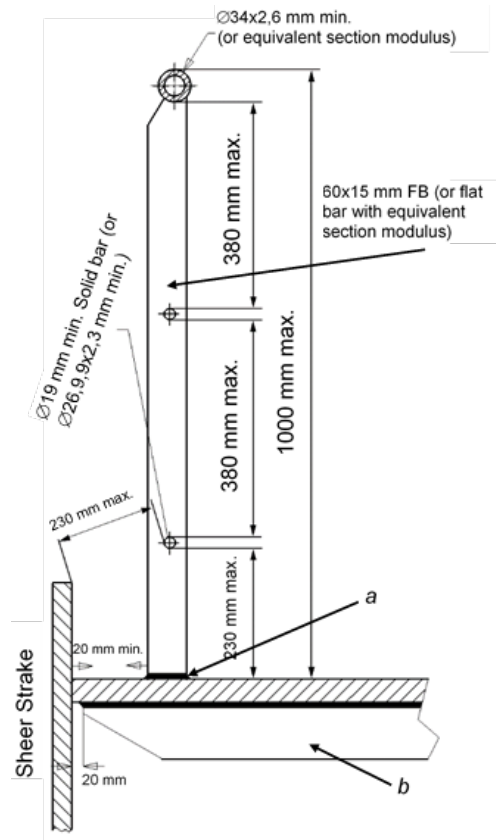


Figure 16.1

- (a) Guardrail stanchion, welded to deck with double continuous fillet weld with leg size of min. 7 mm or as specified by design standard.
- (b) Stanchions to be aligned with member below deck, min. 100x12 flatbar welded to deck by double continuous fillet weld. The stanchions need not be aligned with under deck structure for deck plating exceeding 20 mm.

2.2.1 Fixed, removable or hinged stanchions are to be fitted about 1.5 m apart.

2.2.2 At least every third stanchion is to be supported by a bracket or stay. As alternate arrangements (required by Regulation 25(3)(b)), flat steel stanchions shall be of increased breadth as given in Figure 16.2, and aligned with member below deck unless the deck plating thickness exceeds 20 mm.

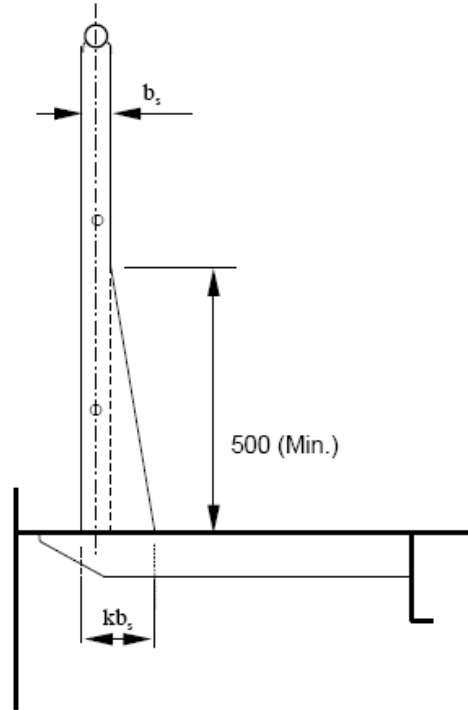


Figure 16.2

In lieu of at least every third stanchion supported by stay, alternatively:

- (a) at least every third stanchion shall be of increased breadth: $k.b_s = 2.9b_s$*
- (b) at least every second stanchion shall be of increased breadth: $k.b_s = 2.4b_s$*
- (c) every stanchion shall be of increased breadth: $k.b_s = 1.9b_s$*

where

b_s breadth of normal stanchion according to the design standard

Stanchions with increased breadth to be aligned with member below deck, min. 100x12 flatbar welded to deck by double continuous fillet weld. The stanchions with increased breadth need not be aligned with under deck structure for deck plating exceeding 20 mm.

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2.2.7 Guard rails shall comply with ISO 5480 or equivalent standards.

2.2.8 Guard rails shall not be welded to the shell plating.

Revision Date: Nov 2022

Entry into Force Date: 1 January 2023

Item H was revised as below:

H. Means of Access for Other Ships

1. General

This sub-section is applied for ships not within the scope of the sub-section G (see (7)). National requirements are to be applied in addition to the requirements provided in this sub-section.

All ships are to be provided with means of access for safe inspection of the internal structures as required by Classification and Surveys, Section 3.

The construction and materials of all means of access and their attachment to the ship's structure is to be to the satisfaction of TL.

For oil tankers and bulk carriers, the requirements in G should be followed as applicable.

2. Means of Access to Spaces

Cargo tanks, cargo holds with high hopper tanks, cofferdams and similar enclosed spaces are to be served by at least one access hatchway / manhole and ladder in general direct from the open deck.

Peak tanks, cargo holds with high hopper tanks, and cofferdams are to be provided with permanent access. Small tanks or spaces where permanent access is considered impracticable may be provided portable or other means of access.

3. Means of Access within Spaces

Means of access can be through stages, ladders, steps or other suitable arrangements, e.g. rafts. Where obstructions e.g. hull structural members impedes access to hull structures within the space, appropriate facilities such as ladders or steps are to be fitted.

4. Construction and arrangement of ladders

Permanent inclined ladders are to be inclined at an angle of less than 70°. Resting platforms of adequate dimensions are to be provided, at a maximum of 6 m. vertical height. Ladders and steps are to be extended upward and downward as deemed necessary and hand grips are to be provided appropriately.

For vertical ladders or spiral ladders, the width and construction should be in accordance with international (e.g. ISO 3797) or national standards accepted by TL. In any case, the width of ladders and steps are to be not less than 300 mm and the distance from the wall to the center of footsteps is not to be less than 150 mm.

04. Section 26 – Stability

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item B.6.2 was revised according to UI SC297 New as below:

However, in cases when these deviation limits are not exceeded, it is not necessary to amend the stability information supplied to the master **and that deviation of lightship properties should be noted in the onboard stability information and applied for all future references and stability/loading calculations.**

Note was added under item B.6.3 according to UI SC297 New and MSC.1/Circ.1362/Rev.1 as below:

Note: For further details, refer to MSC.1/Circ.1362/Rev.1 and TL-I SC297 Amendment to stability/loading information in conjunction with the alterations of lightweight.

05. Section 33 – Barges and Pontoons

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item H.4 was added as below:

4. Certification

When a crane is permanently fitted on board, the crane is to be certified by **TL**.

PART A – CHAPTER 2 - MATERIALS

01. Section 1 – Manufacture, Testing and Certification

Revision Date: Oct 2022

Entry into Force Date: 1 January 2023

Items A.2.1 was revised as below:

2. Other Relevant Specifications

2.1 Materials and products complying with international, national and proprietary specifications may be accepted by TL provided such specifications give reasonable equivalence to the requirements of these rules or are otherwise specially approved. *Where the following sections refer to a standard without a specified publication date, the current version of the standard shall apply.*

02. Section 2 – Mechanical and Technological Testing Procedures

Revision Date: Oct 2022

Entry into Force Date: 1 January 2023

Items B.1.2.10, 2.4, D.1.3, 2.1 and E.2.1 were revised according to UR W2 Rev.3 as below:

1.2.10 Tolerances

The tolerances on specimen dimensions are to be in accordance with ISO 6892-1, **ISO 6892-2** or other recognized standards as appropriate.

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For tables and graphs see ISO 2566-1; **ISO 2566-2**.

1.3 Testing machines

All impact tests are to be carried out on Charpy machines complying with the requirements of ISO 148-2 or other national and international recognized standards, and having a striking energy of not less than 150 J.

2.1 Drop weight specimens for determination of no-break performance according to ASTM standard (E-208:2019) are to comply with this ASTM standard and have one of the following dimensions:

2.1 The test specimen consists of a tube section having the ends perpendicular to the tube axis; the edges of the end to be tested may be rounded by filing. The length L of the drift expanding test specimen is to be as shown in Figure 2.10 and Table 2.4. Reference is made to ISO 8493.

03. Section 10 – Materials for Equipment

Revision Date: Oct 2022

Entry into Force Date: 1 January 2023

Items B.3.1 and 3.2.1 were revised according to UR W18 Rev.6 as below:

3.1 Design

Chain cables must be designed according to a standard recognized by TL, such as ISO 1704:2008. A length of chain cable must comprise an odd number of links. Where designs do not comply with this and where accessories are of welded construction, drawings giving full details of the design, the manufacturing process and heat treatment are to be submitted to TL for approval.

3.2 Dimensions and dimensional tolerances

3.2.1 The shape and proportion of links and accessories must conform to a recognized standard, such as ISO 1704:2008 or the designs specially approved.

04. Section 13 – Fibre Reinforced Plastics

Revision Date: Oct 2022

Entry into Force Date: 1 January 2023

Item A.5.6.2.1 was revised as below:

5.6.2.1 The various surface pretreatments for synthetic materials and metals are for example compiled in ~~VDI 2229~~ ISO 17212 and ~~VDI 3824~~ EN 13887.

PART A – CHAPTER 3 - WELDING

01. Section 1 – General Rules

Revision Date: November2022

Entry into Force Date: 1 January 2023

Item B.1.2 was revised as below:

1.2 Where the following sections refer to a standard ~~is in which~~ without a specified publication date is specified, the current version of the standard shall apply.

PART B – CHAPTER 4 - MACHINERY

01. Section 1 – General Rules and Instructions

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item A.3 was added as below:

3. Standards and Specifications

Where the following sections refer to a standard without a specified publication date, the current version of the standard shall apply.

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item E.6 was revised according to UR M45 Del as below:

6. Ventilation

The machinery ventilation is to be designed under consideration of ambient conditions as mentioned in Table 1.3. See, Chapter 1 – Hull, Section 16, E.2.4.

02. Section 2 – Internal Combustion Engines and Air Compressors

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items H.2 and H.3 were revised according to UR M61 Rev.1 as below:

2. Starting With Compressed Air

The arrangement for air starting is to be such that the necessary air for the first charge can be produced on board without external aid.

2.1 Where the main engine is arranged for starting by compressed air, two or more air compressors are to be fitted. ~~Main engines which are started with compressed air are to be equipped with at least two starting air compressors.~~ At least one of the air compressors ~~is to~~ must be driven independently of the main propulsion unit engine and ~~must supply at least 50% of the total capacity~~ is to have the capacity not less than 50 % of the total required.

2.2 The total capacity of air compressors is to be sufficient to supply within one hour the quantity of air needed to satisfy 2.4 by charging the receivers from atmospheric pressure. The capacity is to be approximately equally divided between the number of compressors fitted, excluding an emergency compressor which may be installed to satisfy the first paragraph.

~~The total capacity of the starting air compressors is to be such that the starting air receivers designed in accordance with 2.4 or 2.5, as applicable, can be charged from atmospheric pressure to their final pressure within one hour.~~

~~Normally, compressors of equal capacity are to be installed. This does not apply to an emergency air compressor which may be provided to meet the requirement stated in H.1.~~

2.3 ~~Where the main engine is arranged for starting by compressed air, at least two starting air receivers of about equal capacity are to be fitted which may be used independently. If the main engine is started with compressed air, the available starting air is to be divided between at least two starting air receivers of approximately equal size which can be used independently of each other.~~

2.4 The total capacity of air receivers is to be sufficient to provide, without their being replenished, not less than 12 consecutive starts alternating between Ahead and Astern of each main engine of the reversible type, and not less than six starts of each main non-reversible type engine connected to a controllable pitch propeller or other device enabling the start without opposite torque. **When other consumers such as auxiliary engines starting systems, control systems, whistle, etc., are to be connected to starting air receivers, their air consumption is also to be taken into account.**

Regardless of the above, for multi-engine installations the number of starts required for each engine may be reduced upon the agreement with TL depending upon the arrangement of the engines and the transmission of their output to the propellers.

~~**2.5** With multi-engine installations the number of start-up operations per engine may, with TL agreement, be reduced according to the concept of the propulsion plant.~~

~~**2.6** If starting air systems for auxiliaries or for supplying pneumatically operated regulating and manoeuvring equipment or tyfon units are to be fed from the main starting air receivers, due attention is to be paid to the air consumption of this equipment when calculating the capacity of the main starting air receivers.~~

2.75 Other consumers with a high air consumption apart from those mentioned in 2.64 may not be connected to the main starting air system. Separate air supplies are to be provided for these units. Deviations to this require the agreement of TL.

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2.86 If auxiliary engines are started by compressed air, sufficient air capacity for three consecutive starts of each auxiliary engine is to be provided.

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2.97 If starting air systems of different engines are fed by one receiver, it is to be ensured that the receiver air pressure cannot fall below the highest of the different systems minimum starting air pressures.

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2.408 Calculation of starting air capacity

2.408.1 Calculation of starting air capacity for installations with reversible engines

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2.408.2 Calculation of starting air capacity for installations with nonreversible engines

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2.449 For additional rules with ice class notation see also Section 19, D.1.

3. Electrical Starting Equipment

3.1 Where the main engine is arranged for electric starting, two separate batteries are to be fitted. The arrangement is to be such that the batteries cannot be connected in parallel. Each battery is to be capable of starting the main engine when in cold and ready to start conditions. The combined capacity of the batteries is to be sufficient without recharging to provide within 30 minutes the number of starts of main engines are required above in case of air starting.

~~Where main engines are started electrically, two mutually independent starter batteries are to be installed. The batteries are to be so arranged that they cannot be connected in parallel with each other. Each battery must enable the main engine to be started from cold.~~

~~The total capacity of the starter batteries must be sufficient for the execution within 30 minutes, without recharging the batteries, of the same number of start-up operations as is prescribed H.2.4 or H.2.5, as appropriate, for starting with compressed air.~~

3.2 Electric starting arrangements for auxiliary engines are to have two separate batteries or may be batteries when such are provided. In the case of a single auxiliary engine only one battery may be required. The capacity of the batteries for starting the auxiliary engines is to be sufficient for at least three starts for each engine.

~~If two or more auxiliary engines are started electrically, at least two mutually independent batteries are to be provided. Where starter batteries for the main engine are fitted, the use of these batteries is acceptable.~~

~~The capacity of the batteries must be sufficient for at least three start-up operations per engine.~~

~~If only one of the auxiliary engines is started electrically, one battery is sufficient.~~

3.3 The starting batteries are to be used for starting and the engine's own monitoring purposes only. Provisions are to be made to maintain continuously the stored energy at all times.

~~The starter batteries may only be used for starting (and preheating where applicable) and for monitoring equipment belonging to the engine.~~

~~**3.4** Steps are to be taken to ensure that the batteries are kept charged and the charge level is monitored.~~

03. Section 3 – Thermal Turbomachinery / Steam Turbines

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items C.9 and C.11.2.5 were revised as below:

9. Vibrations

The range of service speeds of turbine plant must not give rise to unacceptable bending vibrations or to vibrations affecting the entire installation. (The assessment may be based on ISO 240816-3 "Mechanical vibration - Measurement and eEvaluation of machine vibration by measurements on non-rotating parts" or an equivalent standard.)

.....

11.2.5 It is recommended that an alarm system should be fitted which responds to excessive vibration velocities. (The assessment may be based on ISO 240816-3 "Mechanical vibration - Measurement and eEvaluation of machine vibration by measurements on non-rotating parts" or an equivalent standard.)

04. Section 4 – Turbomachinery / Gas Turbines and Exhaust Gas Turbochargers

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items A.3.1, B.1 and C.2.1 were revised according to UR M73 Rev.1 as below:

A. General

1. Scope

.....

3.1 Documentation to be submitted

For every turbocharger type, the documents listed below are to be submitted to TL in triplicate for type approval:

.....

Category B and C:

- Cross sectional drawing with principal dimensions and materials of housing components for containment evaluation.

- Documentation of containment in the event of disc fracture, see C.7.2.1.

.....

- Documentation* of safe torque transmission when the disc is connected to the shaft by an interference fit, see C.7.2.4.

.....

B. Design and Installation

1. General

Turbochargers are to be designed to operate at least under the ambient conditions given in TL-R M46 and TL-R M28Section 4, C. The component lifetime and the alarm level for speed shall be based on 45°C air inlet temperature.

.....

C. Tests

1. Material Tests

.....

2. Containment Test

2.1 The turbocharger has to fulfill containment requirements in case of rotor burst. This requires that at rotor burst no part may penetrate the casing of the turbocharger or escape through the air intake. For documentation purposes (test/calculation), it shall be assumed that the discs disintegrate in the worst possible way.

For category B and C, containment shall be documented by testing. Fulfilment of this requirement can be awarded to a generic range** of turbochargers based on testing of one specific unit. Testing of a large unit is preferred as this is considered conservative for all smaller units in the generic range. In any case, it must be documented (e.g. by calculation) that the selected test unit really is representative for the whole generic range.

The following requirements are applicable for a type approval of turbochargers.

The minimum speeds for the containment test are defined as follows:

- Compressor: ≥ 120 % of its maximum permissible speed
- Turbine: ≥ 140 % of its maximum permissible speed or the natural burst speed (whichever is lower)

The containment test has to be performed at working temperature. The theoretical (design) natural burst speeds of compressor and turbine have to be submitted for information.

*** A generic range means a series of turbocharger which are of the same design, but scaled to each other.*

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items E.2 and E.3 were revised according to UR M60 Rev.1 as below:

2. Miscellaneous Automatic Safety Devices

2.1 Details of the manufacturer's proposed automatic safety devices to safeguard against hazardous conditions arising in the event of malfunctions in the gas turbine installation are to be submitted to the Classification Society together with the failure mode and effect analysis (FMEA).

Unless the FMEA required by item E proves otherwise, the shutdown functions for gas turbines are to be provided in accordance with Table 4.2 in addition to the general monitoring and safety system functions given by TL.

.....

3. Alarming Devices

3.1 *Although in principle* Alarming devices listed in Table 4.2 are to be provided, *they can be added or omitted, taking into account the result of FMEA specified in item 2.1.*

05. Section 7 – Gear, Couplings**Revision Date:** November 2022**Entry into Force Date:** 1 January 2023

Item A.2.4.6 was revised as below:

2.4.6 Surface finish of the tooth flank and, if applicable, of the root surface and of the fillets (according to ISO 21920-1 4302).

06. Section 18 – Fire Protection and Fire Extinguishing Equipment**Revision Date:** November 2022**Entry into Force Date:** 1 January 2023

Item K.2.2 was revised according to UI SC60 Del as below:

2.2 Deck foam systems on tankers carrying ~~(see note below)~~:

.....

shall be designed according to the revised Chapter 14 of the FSS Code as **amended by** ~~implemented with~~ Res.MSC.339(91).

Note: For details, refer to paragraph 2.2.1.1 of the revised Chapter 14 of the FSS Code adopted with Res. MSC.339(91).

Revision Date: November 2022**Entry into Force Date:** 1 January 2023

Items K.2.6.4 was revised according to UI SC169 Rev.1 as below:

2.6.4 A monitor and a hose connection for a foam applicator shall be situated to both port and starboard at the poop front or the accommodation spaces facing the cargo deck. The port and starboard monitors may be located in the cargo areas ~~provided they are aft of cargo tanks and that they protect~~ **above oil bunker tanks adjacent to cargo tanks if capable of protecting the deck** below and aft of each other. In addition, connections for foam applicator are to be sited between the monitors to give greater flexibility in the fighting of fires. The capacity of each foam applicator may not be less than 400 litres per minute and the applicator throw may not be less than 15 m. still air conditions.

Revision Date: November 2022**Entry into Force Date:** 1 January 2023

Items L.3.3 was revised according to UI SC198 New Corr.1 as below:

3.3 The fixed local application fire-fighting systems are to protect areas such as the following without the necessity of engine shutdown, personnel evacuation, or sealing of the spaces:

- For ships constructed before 1 July 2014, the fire hazard portions of internal combustion machinery used for the ship's main propulsion power generation and other purposes. For ships constructed after 1 July 2014,

the fire hazard portions of internal combustion machinery. In multi-engine installations, at least two sections should ~~should~~ **shall** be arranged.*

* *refer to item 3.2.4 of MSC.1/Circ.1387*

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Footnote (6) on table 18.1 and items Q.1.3.8, 2.2.1 and 2.2.2 were revised according to MSC.1/Circ.1395/rev.5 as below:

(6) *May be dispensed with on request where only coal, ore, grain, unseasoned timber, non-combustible cargoes or cargoes resending a low fire risk are carried. Reference is made to MSC.1/Circ. 1395/Rev.45.*

.....

1.3.8 IMO MSC.1/Circ.1395/Rev.45 "List of solid bulk cargoes for which a fixed gas fire-extinguishing system may be exempted or for which a fixed gas fire extinguishing system is ineffective"

.....

2.2.1 A ship may be exempted from the requirement of a fixed gas fire-extinguishing system if constructed and solely intended for the carriage of cargoes as specified MSC.1/Circ.1395/Rev.45. Such exemption may be granted only if the ship is fitted with steel hatch covers and effective means of closing all ventilators and other openings leading to the cargo spaces.

.....

2.2.2 For cargoes according to MSC.1/ Circ.1395/Rev.45, Table 2 a fire-extinguishing system giving equivalent protection is to be provided.

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items Q.2.1 was revised according to UI SC250 New Corr.2 as below:

2. Fire-Extinguishing System

2.1 Fixed gas fire-extinguishing system

.....

The self-heating phenomenon (for certain individual schedules of solid bulk cargoes in Appendix 1 of the IMSBC Code as amended, such as FISHMEAL (FISHSCRAP) STABILIZED UN 2216, ~~SEED CAKE containing vegetable oil UN 1386~~, **SEED CAKE (a) UN 1386 and SEED CAKE (b) UN 1386**, SEED CAKE UN 2217, **SEED CAKES AND OTHER RESIDUES OF PROCESSED OILY VEGETABLES of Group B** shall be regarded as an emergency condition such that it is not necessary to provide a separate fixed carbon dioxide fire-extinguishing system or inert gas system dedicated to the control of the self-heating of the cargo within the cargo holds. Fixed gas fire extinguishing systems or inert gas systems installed on board dedicated to the protection of spaces other than cargo spaces cannot be used for this purpose.

PART B – CHAPTER 5 - ELECTRICAL INSTALLATION

01. Section 2 – Installation of Electrical Equipment

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item A.1 was added as below:

A. Availability of Main Power Supply

1. General

A main electric power source may be a generator or a static storage device such as fuel cell or battery. For installation and safety requirements of lithium batteries refer to **TL** rules, Additional Rules for Certification, Installation and Testing of Lithium Batteries.

42. Main Generators

.....

23. Main Switchboards

.....

34. Distribution Switchboards

.....

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item B.1.1 was revised as below:

B. Generators

1. Main Generators with Their Own Prime Movers, Independent of Main Propulsion Plants

1.1 Installation of main generator, see A.42.

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items C.1.10 was added and items C.1.1 and C.4.1 were revised as below:

1.10 For installation and safety requirements for lithium battery electrical storage systems, refer to the **TL** rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".

.....

C. Storage Batteries

1. Storage batteries shall be installed in such a way that persons cannot be endangered and equipment cannot be damaged by exhausted gases or leaked-out electrolytes.

1.1 Storage batteries for essential equipment and associated power supply unit / battery charger and distribution switchboards are to be installed according A.34. For example the automation battery in the engine room. For storage batteries supplying emergency consumers, 4. and F.2.2 are to be observed.

.....

4. Ventilation of Spaces Containing Batteries

4.1 General requirements

All battery-installations, except for gastight batteries, in rooms, cabinets and containers shall be constructed and ventilated in such a way as to prevent the accumulation of ignitable gas mixtures.

~~Gastight NiCd-, NiMH- or Li- batteries need not be ventilated.~~

For ventilation of lithium batteries, refer to TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries"

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items F.1.1 and F.3 were revised as below:

F. Low-Voltage Switchboards (up to 1000 V AC resp. 1500 V DC)

1. Main Switchboards

1.1 Installation of main switchboards, see A.23 .

.....

3. Main Distribution Boards

The requirements set out in items 1.2, 1.4 and 1.7 for main switchboards also apply to main distribution panels.

Installation, see A.34.

02. Section 3 – Power Supply Installation

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item B.1.1 was revised as below:

B. Main Electrical Power Supply

1. Design

1.1 Every ship is to be provided with a main source of electrical power with sufficient capacity to meet the requirements of the plant mentioned in Section 1, A. 2. ~~This main source of electrical power shall consist of at least two mutually independent generating sets.~~

Source of main electric power may be generator or a static device such as fuel cell or battery.
 Main electric power shall consist of at least two mutually independent sources, which means that independent units shall not depend on any common components.
 For installation and safety requirements of lithium batteries, refer to the TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".

03. Section 4 – Installation Protection and Power Distribution

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items I.3.1 and I.8 were revised as below:

3. Essential Supply Cables

3.1 Primary and secondary essential equipment shall be preferably supplied direct from the main- or emergency switchboard in accordance with the Rules. Supply via distribution panels is only permissible if an equivalent safety of supply is guaranteed, see also Section 2, A. ~~3~~4.

.....

8. Emergency Shutdown Facilities

Emergency shutdown facilities placed outside the sites at which the equipment is installed are to be provided for the following consumers. The consumers may be arranged in groups, provided that redundant consumers are allocated to at least two electrically independent groups.

For emergency shutdown facility that is generally de-energized (i.e., normally open circuits), a wiring break monitoring device is to be supplied.

The design of the emergency shutdown system is to be such that no single failure will cause loss of essential equipment such as fuel and lubricating oil pumps which may cause loss of main power generation or main propulsion.

04. Section 8 – High-Voltage Installations

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item D.2.4.12 was revised as below:

2.4.12 The low voltage supply panels shall be equipped with a voltmeter and an ampere-meter. It shall be possible to display the currents and voltages of all three phases. Where instrumentation switches for voltage or ampere-meter are used it shall be ensured that a failure in measuring circuit doesn't impair or disable any protection function of this circuit.

05. Section 13 – Additional Rules for Electrical Propulsion Plants

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item A.1 was revised as below:

A. General

1. A ship has an electrical main propulsion plant if the main drive to the propeller is provided by at least one electrical propulsion motor, or if this motor provides temporarily the entire propulsive power.

Where lithium batteries are used for propulsion or as part of a hybrid propulsion system, refer to TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries" for installation and safety requirements.

06. Section 20 – Electrical Equipment

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item D.4.1.1 was revised according to UR E21 Rev.1 Corr.1 as below:

4. Uninterruptible Power Supplies (UPS)

4.1 General

4.1.1 These requirements to UPS units, as defined in IEC 62040-3:2011, apply when providing an alternative power supply or transitional power supply to services as defined in Section 3, C.

A UPS unit complying with these requirements may provide an alternative power supply as an accumulator battery in terms of being an independent power supply for services defined in ~~Section 3, C.3.2.4~~ **Section 14, C.1.2.3** ~~Section 14, C.1.2.3~~ **Section 3, C.3.2.4**.

PART C – CHAPTER 7 - High Speed Crafts

01. Section 01 – General Comments and Requirements

Revision Date: November 2022

Entry into Force Date: 1 Jan 2023

Footnote of item 1.2.1.2 was revised as below:

** Refer to the International Safety Management (ISM) Code adopted by the Organization by resolution A.741(18), as ~~may~~ be amended.

02. Section 07 – Fire Safety**Revision Date:** November 2022**Entry into Force Date:** 1 Jan 2023

Item 7.4.2.3 was revised according to UI HSC8 New Corr.1 as below:

7.4.2.3 Main load-carrying structures within areas of major fire hazard and areas of moderate fire hazard and structures supporting control stations shall be arranged to distribute load such that there will be no collapse of the construction of the hull and superstructure when it is exposed to fire for the appropriate fire protection time. The load-carrying structure shall also comply with the requirements of 7.4.2.4 and 7.4.2.5.

Note:

Following interpretation will be implemented on high-speed crafts the keels of which are laid on/after 1 January 2014

Protection time

The structural fire protection time of main load bearing structures located within areas of major fire hazard (classified as A) and areas of moderate fire hazard (classified as B), and load bearing structures supporting control stations shall, as a minimum, be the same as that required by tables 7.4-1 and 7.4-2 (as applicable), for the divisions enclosing the space where these supports are located. In accordance with para. 7.4.1.1 in no case shall the structural fire protection time be less than 30 min.

.....

Load case

When load carrying capability calculations are performed for an assumed fire within a space, all insulated or un-insulated steel structures, including pillars, as well as fire insulated aluminium and FRP structures in the space may be included; un-insulated aluminium and FRP structures shall not be included. A single fire concept can be applied where a fire is only presumed to originate in one enclosed space and not propagate to another enclosed space.

Example: Structures within a public space support a wheelhouse and a separate enclosed public space on the wheelhouse deck. Two load calculations shall then be made:

- i) One presuming a fire below the wheelhouse; utilizing, in the load calculations un-insulated steel and insulated aluminium and FRP structures within the public space on the wheelhouse deck;*
- ii) Another presuming fire within the public spaces on the wheelhouse deck; utilizing, in the load calculations, un-insulated steel and insulated aluminium and FRP structures within the public space below the wheelhouse.*

(Paragraphs 6 to 11 of MSC.1/Circ.1457)

Revision Date: November 2022**Entry into Force Date:** 1 Jan 2023

Footnote of item 7.17.3.8.1 was revised according to MSC.1/Circ.1395/rev.5 as below:

* *For cargoes for which a fixed gas fire extinguishing system is ineffective, refer to the List of cargoes in table 2 of MSC.1/Circ.1395/Rev.45.*

PART C – CHAPTER 8 - CHEMICAL TANKERS

01. Section 15 – Ship Survival Capability and Location of Cargo Tanks

Revision Date: November 2022

Entry into Force Date: 1 Jan 2023

Item 15.11.2 was revised according to UI CC6 Rev.1 as below:

15.11.2 Proposals for lining steel tanks and related piping systems with corrosion-resistant materials may be considered by the TL. The elasticity of the lining shall not be less than that of the supporting boundary plating.

"Lining" is an acid-resistant material that is applied to the tank or piping system in a solid state i.e. not spray on with a defined elasticity property.

The requirement for the elasticity of a lining to be not less than the supporting boundary plating is to prevent debonding at the interface between the lining and the lined surface.

PART C – CHAPTER 9 - Construction and Classification of Yachts

01. Section 05 – Hull Construction – Steel Hulls

Revision Date: November 2022

Entry into Force Date: 1 Jan 2023

Item H.6.3.3 were revised as below:

6.3.3 If the bracket thickness, in mm, is less than 15 ℓ_b , where ℓ_b is the length, in m, of the bracket free edge, the free edge of the bracket is to be flanged or stiffened by a welded face plate.

The sectional area, in cm^2 , of the flange or the face plate is to be not less than 10 ℓ_b

02. Section 07 – Machinery and Auxiliary Systems

Revision Date: November 2022

Entry into Force Date: 1 Jan 2023

Table 7.27 and Table 7.28 in Chapter 9 were revised as below:

Table 7.27 : Use of flexible hoses yachts having $L_c \geq 24$ m

Requirements for each service and locations (1)		
System	Machinery space or other spaces with fire risk	Spaces without fire risk

<p>Fuel oil system</p>	<p>Flexible hoses shall comply with the following requirements:</p> <ul style="list-style-type: none"> • For yachts of more than 500 GT, the requirements of 2.4 are to be complied with • For yachts of not more than 500 GT, flexible hoses can be accepted for the whole length of the system, in compliance with 2.4, they shall be type approved according to 2.4.1 and fire resistant in compliance with ISO 15540/15541 • For yachts of not more than 300 GT, flexible hoses can be accepted for the whole length of the system, fire resistant in compliance with ISO 15540/15541 and certified suitable for use by the manufacturer in compliance with national or international recognized standards. End connections of flexible hoses different from the crimped type may be accepted, provided that in any case, the end attachments are to TL satisfaction, and hoses complete with end connections are to be tested to verify fire resistance. 	<p>Flexible hoses shall comply with the following requirements:</p> <ul style="list-style-type: none"> • For yachts of more than 500 GT, the requirements in 2.4 are to be complied with • For yachts of not more than 500 GT, flexible hoses can be accepted for the whole length of the system, in compliance with 2.4: they shall be type approved according to 2.4.1 and fire resistant in compliance with ISO 15540/15541 • For yachts of not more than 300 GT, flexible hoses can be accepted for the whole length of the system and fire resistant A1/A2/A15 in compliance with ISO 7840
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Table 7.28: Use of flexible hoses: yachts having L_c <24 m

Requirements for each service and locations (1)		
System	Machinery space or other spaces with fire risk	Spaces without fire risk
<p>Fuel oil system</p>	<p>Flexible hoses shall comply with the following requirements:</p> <ul style="list-style-type: none"> • Hoses are to be in compliance with the ISO 7840 standard, type A1, A2 or A15. • Hoses shall be used in agreement with the application limits required in the standard. 	<p>Flexible hoses shall comply with the following requirements:</p> <ul style="list-style-type: none"> • as for machinery space; alternatively, hoses may be in compliance with the ISO 84619 standard, type B1, B2 or B15. • Hoses shall be used in agreement with the application limits required in the standard.

Revision Date: November 2022

Entry into Force Date: 1 Jan 2023

Items C.2.2.3 was revised and C.4 was added as below:

C.2.2.3 Corrosion-Resistant Propeller Shaft Materials

Shafts for which the scantling is determined according to the previous formula are to comply with the criteria listed in items a) to ~~e~~ f), irrespective of the shaft material:

- e) lateral shaft vibrations analysis is to be carried out according to Section 8 and if requested by TL, axial and torsional shaft vibration analysis are also to be submitted; for details of analysis refer to Chapter 4, Section 5 and 6.

Note: Lateral shaft vibration analysis may not be required if the span between two consecutive supports of the shaft is less than; (see 2.2.4 for the definitions).

$$l < d_p (7 - 10 \cdot \ln(d_p)).$$

Irrespective from the span, lateral shaft vibration analysis is to be submitted for shafting systems with cardan shafts,

- f) the use of corrosion resisting materials may be accepted only for yachts less than 300 GT.

C.4 Torsional Vibration

Torsional Vibration Calculations are to be carried out for yachts having main engines exceeding 500 kW power output and auxiliary engines for essential services (see Section 7, B.1) with exceeding 110 kW output. For detail of calculations, refer to Chapter 4, Section 5 and 6.

PART C – CHAPTER 10 - Liquefied Gas Carriers

01. Section 05 – Process Pressure Vessels and Liquid, Vapour and Pressure Piping Systems

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items 5.4.4 and 5.13.2.4 were revised according to UI GC32 Rev.1 as below:

5.4.4 The design pressure of the outer pipe or duct of gas fuel systems shall not be less than the maximum working pressure of the inner gas pipe. Alternatively, for gas fuel piping systems with a working pressure greater than 1 MPa, the design pressure of the outer duct shall not be less than the maximum built-up pressure arising in the annular space considering the local instantaneous peak pressure in way of any rupture and the ventilation arrangements.

Note:

1. The expression "duct" in 5.4.4 means to include the equipment enclosure required in 16.4.3.1 and 16.4.3.2 (e.g. GVV enclosure) as well as the structural pipe duct intended to contain any release of gas from inner pipe or equipment. The term "structural pipe duct" means an outer duct forming part of a structure such as a hull structure or superstructure or deck house, where permitted, other than gas valve unit rooms.

The gas valve unit rooms are to be:

- .1 gastight toward other enclosed spaces;
- .2 equipped with mechanical exhaust ventilation having a capacity of at least 30 air changes per hour and arranged to maintain a pressure less than the atmospheric pressure; and
- .3 able to withstand the maximum built-up pressure arising in the room in case of a gas pipe rupture, as documented by suitable calculations taking into account the ventilation arrangements.

2. The expression "design pressure of the outer pipe or duct" in 5.4.4 is either of the following:

.1 the maximum pressure that can act on the outer pipe or equipment enclosure after the inner pipe rupture as documented by suitable calculations taking into account the venting arrangements; or

.2 for gas fuel systems with inner pipe working pressure greater than 1 MPa, the "maximum built-up pressure arising in the annular space", after the inner pipe rupture, which is to be calculated in accordance with paragraph 9.8.2 of the IGF Code as adopted by MSC.391(95).

5.13.2.4 In double wall gas-fuel piping systems, the outer pipe or duct shall also be pressure tested to show that it can withstand the expected maximum pressure at gas pipe rupture.

Note:

1. The expression "duct" in 5.13.2.4 means to include the equipment enclosure required in 16.4.3.1 and 16.4.3.2 (e.g. GUV enclosure) as well as the structural pipe duct intended to contain any release of gas from inner pipe or equipment. The term "structural pipe duct" means an outer duct forming part of a structure such as a hull structure or superstructure or deck house, where permitted, other than gas valve unit rooms.

The gas valve unit rooms are to be:

- .1 gastight toward other enclosed spaces;
 - .2 equipped with mechanical exhaust ventilation having a capacity of at least 30 air changes per hour and arranged to maintain a pressure less than the atmospheric pressure; and
 - .3 able to withstand the maximum built-up pressure arising in the room in case of a gas pipe rupture, as documented by suitable calculations taking into account the ventilation arrangements.
2. The expression "maximum pressure at gas pipe rupture" in 5.13.2.4 is the maximum pressure to which the outer pipe or duct is subjected after the inner pipe rupture and for testing purposes it is the same as the design pressure used in 5.4.4.

PART C – CHAPTER 14 – Fishing Vessels

01. General

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Chapter 14 was re-structured and translated to English.

PART C – CHAPTER 19 - Inland Waterway Vessels

01. Section 13 – Electrical Installations

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item B.2.1 d) was revised and E.1.1.3 was added as below:

d) Other energy generating systems can be permitted by TL.

Note: For installation and safety requirements of lithium batteries used for propulsion or as part of a hybrid propulsion system, refer to the **TL** rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".

E. Storage Batteries

1. General

1.1 Application

1.1.1 These regulations apply to permanently installed storage batteries.

1.1.2 Only storage batteries suitable for vessels use can be used.

1.1.3 For installation and safety requirements for lithium battery electrical storage systems, refer to the TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".

PART C – CHAPTER 23 - Redundant Propulsion And Steering Systems

Revision Date: November 2022

Entry into Force Date: 1 January 2023

This chapter was rearranged and updated in general.

PART C – CHAPTER 28 - Ventilation

01. Section 01 – Ventilation

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item E.9.1 was revised as below:

9. Spaces Containing Batteries

9.1 General requirements

All battery-installations, except for gastight batteries, in rooms, cabinets and containers shall be constructed and ventilated in such a way as to prevent the accumulation of ignitable gas mixtures. ~~Gastight NiCd, NiMH or Li batteries need not be ventilated.~~

For ventilation of lithium batteries, refer to **TL** rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".

PART C – CHAPTER 35 - Tentative Rules for Ships Less Than 500 GRT (CHAPTER 35-C Electric Installations)

01. Section 02 – Power Supply Installations

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item B.1.1 was revised as below:

B Sources of electrical power

1. Main Electrical Power Supply

1. Design

1.1 Every ship is to be provided with a main source of electrical power and associated switchboard with sufficient capacity to meet the requirements of the plant (i.e. for services necessary for maintaining the ship in normal operational conditions). ~~This main source of electrical power shall consist of at least two mutually independent generating sets.~~ **A main electric power source may be a generator or a static storage device such as fuel cell or battery. For installation and safety requirements of lithium batteries, refer to the TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".**

Main electric power shall consist of at least two mutually independent sources, which means that independent units shall not depend on any common components.

02. Section 05 – Power Supply Installations

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item G.1.3 was revised as below:

1.3 Storage batteries may be of the lead-acid or nickel-alkaline **and lithium type**, due consideration being given to the suitability for any specific application.

For installation and safety requirements of lithium battery electrical storage systems, refer to the TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".

PART C – CHAPTER 36 – OFFSHORE SEFICE VESSELS

01. Section 23 – Environmental Protection

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items B.6 and E.2.3 were revised according to MEPC 331(76) as below:

6. Antifouling Systems

The anti-fouling systems used on Offshore Service Vessels shall not contain any organotin compounds which act as biocides **and Cybutryne**, see also E.2.

The application, re-application, installation or use of harmful anti-fouling systems containing organotin compounds which act as biocides **and Cybutryne** is prohibited.

2.3 Advanced Strategy

If anti-fouling systems are available, which are suitable under consideration of the vessel parameters (e.g. planned docking intervals, speed, vessel type, operation area, etc.) and according to the characteristics defined by the producer, the biocide **and cybutryne**-free alternative shall be applied.

PART D - CHAPTER 76 – ENVIRONMENTAL SERVICE SYSTEMS

01. Section 2 – Environmental Passport

Revision Date: November 2022

Entry into Force Date: 01 January 2023

Item B.6 was revised according to MEPC 331(76) as below:

6. Anti-fouling Systems

~~6.1 Application of biocide free antifouling is recommended.~~

~~6.2 The anti fouling systems used on ships shall not contain any organotin compounds which act as biocides.~~

~~6.3 The application, re-application, installation or use of harmful anti-fouling systems containing organotin compounds which act as biocides is prohibited from January 1st, 2003.~~

~~6.4 The certification of TBT free anti-fouling systems on ships shall be in accordance with the "International Convention on the Control of Harmful Anti-Fouling Systems on Ships".~~

The requirements of International Convention on the Control of Harmful Anti Fouling Systems (AFS/CONF/26) apply to all ships.

PART E – CHAPTER 105 - NAVAL SHIP TECHNOLOGY, ELECTRICAL INSTALLATION

01. Section 2 – Installation of Electrical Equipment

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items B.1.2 was revised as below:

1.2 Further types of batteries, e.g. lithium-ion batteries, may be approved under consideration of the following points:

- Resistance to short-circuits
- Fuse elements at occurring short-circuits
- Electrical monitoring elements

- Fire risk/fire behaviour including consequences on adjacent cells or components
- Special requirements for the installation location
- Suitability of the used electrical components
- Integration in the electrical plant including switch gears
- Charging devices and battery management system

Refer to TL Rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries" for further requirements.

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Items B.5.1 was revised as below:

5. Ventilation of Spaces Containing Batteries

5.1 All battery installations, except for gastight batteries, in rooms, cabinets and containers must be constructed and ventilated in such a way as to prevent the accumulation of ignitable gas mixtures.

~~Gastight NiCd, NiMH or Li-batteries need not be ventilated.~~

For ventilation of lithium batteries, refer to TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".

02. Section 3 – Power Supply Installations

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item B.1.1 was revised as below:

B. Main Electrical Power Supply

1. Availability of the main source of electrical power

1.1 Where the main source of electrical power is necessary for propulsion and steering of the ship and for its auxiliary systems, the system shall be so arranged that the supply of the primary essential equipment will be maintained or immediately restored in the case of power loss of any one of the generators in service.

Main electric power source may be generator or a static storage device such as fuel cell or battery. For installation and safety requirements of lithium batteries, refer to the TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries".

03. Section 8 – Medium-Voltage Installations

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item D.2.4.12 was revised as below:

2.4.12 The low voltage supply panels shall be equipped with a voltmeter and an ampere-meter. It shall be possible to display the currents and voltages of all three phases. **Where instrumentation switches for voltage or ampere-meter are used it shall be ensured that a failure in measuring circuit doesn't impair or disable any protection function of this circuit.**

04. Section 13 – Additional Rules for Electrical Main Propulsion Plants

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item A.1.5 was revised as below:

1.5 Where lithium batteries are used for propulsion or as part of a hybrid propulsion system, refer to **TL rules "Additional Rules for Certification, Installation and Testing of Lithium Batteries"** for installation and safety requirements.

1.56 If electrical main propulsion plants are supplied from the ship's low or medium voltage network the Rules in this Section apply also to the generators and the associated switchgear.

1.67 The static converters shall be easily accessible for inspection, repair and maintenance.

1.78 Equipment shall be provided to support the fault diagnosis process.

1.89 IEC publication 60092-501: "Special features

- Electric propulsion plant" shall be considered.

1.910 Number of propulsion plants

The main propulsion plant shall consist of at least two independent propulsion systems.

The design of the electrical propulsion system has to ensure that the ship at least remains manoeuvrable after a single failure in the mechanical or electrical part of the main propulsion plant.

1.4011 Redundant propulsion

For more stringent requirements concerning the propulsion plant see **TL Rules for Propulsion Plants, Section 2, K,** and the **TL Rules for Redundant Propulsion and Steering Systems.**

1.4412 Azimuthing Propulsors

For electrical requirements of azimuthing propulsors see also the **TL Rules for Propulsion Plants, Section 7B, G.**

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item G.3 was revised as below:

3. Defects in reducing and stopping devices shall not impair the remaining manoeuvrability in accordance with A.1.910.

ADDITIONAL RULES - RULES FOR TESTING AND CERTIFICATION OF MATERIALS AND EQUIPMENT TO BE USED IN SHIPS CLASSED BY TÜRK LOYDU

Revision Date: November 2022

Entry into Force Date: 1 January 2023

Item 6.1 was revised as below:

6. CERTIFICATION OF MATERIALS

6.1 Certification of Materials – General

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Inspection and taking of test samples **are** to be carried out by TL Surveyors. Test samples taken **are** to be marked ~~according to TL Stamping Procedure.~~

Tests are to be performed in;

- Independent accredited test laboratories in which samples and test results can be traceable,
- University laboratories having calibrated instruments,
- Non-accredited laboratories on the condition that they are found to be satisfactory ~~according to Work Instruction “ST-E14 Guidelines for the Approval of Firms Supplying Laboratory Services” attended by TL Surveyors or by subcontractor authorised by TL for related test,~~
- Manufacturer’s laboratory on the condition that it is found to be satisfactory ~~according to Work Instruction “ST-E14 Guidelines for the Approval of Firms Supplying Laboratory Services” attended by TL Surveyors or by subcontractor authorised by TL for related test,~~

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ADDITIONAL RULES - RULES FOR THE CERTIFICATION, INSTALLATION AND TESTING OF LITHIUM BATTERIES

Revision Date: November 2022

Entry into Force Date: 1 January 2023

This additional rule was formerly guideline and existing guidelines were re-structured as additional rule with small revisions

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