28 October 2021

# Explanatory notice of the amendments in ES-TRIN 2021

In October 2020, CESNI adopted the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN), edition 2021/1 (see Resolution CESNI 2020-II-1).

The CESNI Secretariat prepared a draft explanatory notice with a view to documenting the requirements behind these amendments to the ES-TRIN and the consequences associated with the amendments introduced by ES-TRIN 2021 (see annex). This notice is for documentary purposes only; it is not intended to be the subject of a CESNI resolution.

By analogy with the explanatory notices of previous editions of ES-TRIN, the list of amendments introduced by ES-TRIN 2021 is also included.

This notice is organised as follows:

1. Safety clearance, freeboard and draught scales
2. Reduction in the two noise level thresholds for a vessel both under way and stationary
3. Lithium-ion accumulators
4. Portable fire extinguishers
5. Provision and use of individual acoustic protection equipment
6. Doors in accommodation
7. Separate engine room or electrical service room in passenger vessels
8. Recreational craft equipment
9. Bunkering of Liquefied natural gas (LNG)
10. Clarifications regarding the validity of the Union certificate on the Rhine
11. Recognition of special anchor with reduced mass
12. Update of references to RIS Standards
13. Editorial corrections, update of references to European and International Standards and deletion of transitional provisions that have expired

Annex – List of amendments (compared to ES-TRIN 2019/1)

## 1. Safety clearance, freeboard and draught scales

The work on this topic led to the following ES-TRIN provisions being amended or added: Article 4.01(3); Article 4.02(7), (8) and (9); Article 4.03; Article 4.04(3); Article 4.05(2); Article 19. 01(1)(b); Article 22.09; Article 29.04; Article 32.03(2); Article 32.04, new (3) and corresponding additional numbering up to and including (7); Article 32.05(4) and in the table to Article 33.02(2) the new entry of Article 4.03 and deletion of Article 4.04.

### 1.1 Needs to be addressed by the amendments

There was a need to further clarify, complete and restructure the requirements in Chapter 4 with regard to draught scales in order to take into account the inland waterways vessel zones.
At the same time, editorial changes have been made to improve readability and clarity.

### 1.2 Possible alternative to the amendments

The CESNI did not discuss any proposal for alternative requirements. If the amendments had not been implemented, questions and discussions would continue to arise about the location and implementation of the draught marks, especially on waterways other than zone 3.
In addition, open container vessels are coming increasingly into use and proper draught marks delimit the carrying capacity, thus ensuring safety and avoiding distortion of competition.

### 1.3 Consequences of these amendments

Some of the requirements have been reformulated to improve clarity; no substantive changes to existing requirements are envisaged.
The requirements have been partly redrafted into new articles. For example, Article 4.03 of the 2019/1 edition has been transferred to Article 4.02 of the 2021/1 edition with additional numbering. The previous Article 4.04 has now become 4.03 whereby the (4), (5) and (6) have been amended in order to also indicate and describe the draught marks for zones other than zone 3 (equal to zone R).

In addition, (12) and (13) are included in Article 4.03 for vessels with open cargo holds. Here it is stated what the draught marks look like and how they should be fitted.

In Articles 4.04 and 4.05 the requirements are taken from Articles 4.06 and 4.07 respectively of the ES-TRIN 2019/1 edition.

Furthermore, the references in Articles 19.01, 22.09 and 29.04 have been adapted to the new numbering.

In the transitional provisions in Article 32.03(2), the reference to Article 4.03 in the table has been removed because the transition period has now expired.

In Article 32.04, a new (3) has been added stipulating that existing vessels must carry out the draught marks in accordance with Article 4.03 at the latest when renewing their inland navigation vessel certificates after 30 December 2024. The subsequent paragraphs are renumbered.

The reference in Article 32.05(4) will also be renumbered. Furthermore, in Article 33.02(2) a new entry is made for Article 4.03, in which - according to Article 4.04 - the draught marks have to be carried out at the latest when renewing the inland navigation vessel certificate after 30 December 2024. The transitional provision for Article 4.04 is also deleted here.

## 2. Reduction in the two noise level thresholds for a vessel both under way and stationary

The work on this topic led to the following ES-TRIN provisions being amended or added: Articles 8.10(2) and (3), 32.02 ad 8.10, 32.05 ad 8.10, 33.02 ad 8.10.

### 2.1 Needs to be addressed by the amendments

CESNI strives to reduce the environmental impact of inland navigation. In this context, CESNI approved a roadmap in April 2019 regarding noise and vibrations from inland navigation vessels. One of the actions foreseen by CESNI was to ask all European Inspections Bodies to provide the results of noise measurements (values in dB(A) – under way and stationary), which were undertaken in preparation of issuing a vessel certificate for the first time. The collection of data can derive mainly from certification of new vessels but also from technical archives of the inspection bodies.

Based on the analysis of the data collected (132 vessels' records for the period 2007-2020, provided especially France, Germany, classification societies), CESNI endorsed a lowering of the two noise level thresholds defined in Article 8.10(2) and (3), namely for the vessel both under way or stationary. These new thresholds (respectively 70 and 60 dB(A)) are included in ES-TRIN 2021 and will apply solely to new vessels with effect from 1 January 2022.

### 2.2 Possible alternative to the amendments

One alternative would have been to retain the existing thresholds of ES-TRIN 2019. However, the analysis of the data collected showed that the reduction of the noise emitted by a vessel (under way and stationary) is technically possible for newly built vessels. Reduction of noise is highly desirable to reinforce the sustainability of inland navigation.

### 2.3 Consequences of these amendments

The amendment of Article 8.10(2) lowers the accepted sound pressure level of the noise generated by a vessel under way from 75 to 70 dB(A) (at a lateral distance of 25 m from the ship's side).

The amendment of Article 8.10(3) lowers the accepted sound pressure level of the noise generated by a stationary vessel from 65 to 60 dB(A) (at a lateral distance of 25 m from the ship's side).

An amendment of Articles 32.02, 32.05 and 33.02 enables appropriate derogation for existing vessels, without time limit, subject to compliance with the old noise level thresholds (75 and 65 dB(A)).

## 3. Lithium-ion accumulators

The work on this topic led to the following ES-TRIN provisions being amended or added: Article 10.11(14), (17) to (19), and ESI-I-2.

### 3.1 Needs to be addressed by the amendments

Article 10.11 of ES-TRIN governs the use of batteries, accumulators and their charging devices.

Although Article 10.11(15) and (16) of ES-TRIN 2019 includes some provisions for lithium-ion accumulators, the booming use of such accumulators within the vessel propulsion system and the experience gathered with first incidents invited to consider further the associated risks.

An amendment of ES-TRIN is deemed necessary following a risk-based approach that takes into consideration available technologies for lithium-ion accumulators (chemistry, energy stored, characteristics of associated electrical systems…) and the quick development of new solutions. A fire protection concept developed by an expert is required to address the fire protection and containment of thermal runaway.

### 3.2 Possible alternative to the amendments

CESNI initially examined a proposal based on the general use of a pressurised water mist fire-fighting system in line with Article 13.05(14) to protect accumulators, while the fire protection concept is used for derogation. However, the majority of experts considered that the water mist system is one of the possible appropriate solutions but not the only one (and not in all cases).

CESNI envisaged to require a dedicated room for lithium-ion accumulators to limit the fire risks from other equipment in the room. However, the majority of experts considered that a “special room” is sufficient for lithium-ion accumulators. For example, converters or electrical motor can be installed in the room. However, account should be taken of the specific fire risks and the need to be able to enter the “special room” in the event of a fire.

### 3.3 Consequences of these amendments

The consequences of the amendment of Article 10.11(14), (17) to (19), can be summarised as follows:

#### 3.3.1 Definitions

With Chapter 10, the CESNI adopted the following definitions in Article 1.01:

*“3.4 ‘electrical service room’ a room in which components of an electric propulsion system such as control cabinets or electric engines are located, and which is not a main engine room or engine room;*

*11.3 ‘accumulator’ a rechargeable storage device for electrical energy on an electro-chemical basis;*

*11.4 ‘battery’ a non-rechargeable storage device for electrical energy on an electro-chemical basis;”*

For the time being, the CESNI decided to retain the current definitions with the two terms: accumulator and battery.

### 3.3.2 Safety objectives

The use of lithium-ion accumulators within the propulsion system implies certain risks which should be addressed.

The total hazards should be divided in:

- hazards in the accumulator itself and
- hazards in the accumulator room or enclosed space (also in relation with adjacent rooms).

In the first case, EN 62619 already provided hazards to be covered: “fire; burst/explosion; critical electrical short-circuit due to leakage of cell electrolyte; venting which continuously vents out flammable gases; rupture of the casing of cell, module, pack, and accumulator system with exposure of internal components.” As reminder, in accordance with EN 62619, an accumulator management system is required for lithium-ion accumulators in Article 10.11(16).

In the second case, in accordance with Article 10.11(17), the fire protection concept developed by an expert will cover the followings: the fire protection and containment of thermal runaway (within the accumulator room, in relation with other equipment possibly located in the same room, and in relation to other rooms). Such concept is complementary to the requirements of EN 62619 and the accumulator management system. In accordance with ESI-I-2, the expert must have knowledge on lithium-ion accumulators and fire protection. This fire protection concept must take into account instructions of the manufacturer of the lithium-ion accumulators and the provisions for alarm systems. A fire protection concept may be dispensed with in specific cases.

Moreover, rooms in which lithium-ion accumulators are stored shall be shielded with A60 partitions and shall be mechanically ventilated to open deck.

### 3.3.3 Scope of application for lithium-ion accumulators

Generally, the requirements in Article 10.11(2) apply to all accumulators, except those in mobile equipment and those with charging power of less than 0,2 kW.

Charging power is the existing criteria in Article 10.11. Another factor is the amount of energy stored, called “capacity”. The capacity represents the crucial factor in terms of danger and influences largely the choice of the various safety measures. If several sets of accumulators are installed in the same room, the sum of capacities shall then be considered.

Furthermore, the charging power is controlled by the accumulator management system which is mandatory for lithium-ion accumulators. Modern charging devices provide “quick charge” procedures that will always exceed the exiting limits, even for small portable devices. Thus, the charging power might not be the appropriate criteria anymore.

Following a proposal by classification societies, the CESNI decided to use the following criteria to apply the specific requirements for rooms in which lithium-ion accumulators are stored: the cumulative capacity of the lithium-ion accumulators in the room is equal or above 20 kWh.

### 3.3.4 Location of lithium-ion accumulators

As summary, according to ES-TRIN 2019, accumulators shall be installed:

- in a special room below deck or enclosed cupboard on deck, *if the accumulator requires a charging power of more than 2,0 kW,*
- in a cupboard below and on deck, *if the accumulator requires a charging power not exceeding 2,0 kW,*
- without casing and protection against falling objects and dripping water, in an engine room, electrical service room or any other well-ventilated place, *if the accumulator requires a charging power not exceeding 2,0 kW*.

Accumulators shall not be installed in the wheelhouse, accommodation lounges and holds and in the case of passenger vessels in passenger rooms, cabins and galleys. It shall not apply for accumulators in mobile equipment or with charging power of less than 0,2 kW.

CESNI agreed that “special room” (and not dedicated room) is sufficient for lithium-ion accumulators. For example, converters or electrical engine can be installed in the room. However, the fire protection concept must take into account the other equipment in the room and the associated risks, as well as the necessity to enter the room in the event of an emergency.

### 3.3.5 Traction batteries

Initial experience with Chapter 10 revealed a certain need to amend Article 10.11(14). Indeed, traction batteries typically require a higher charging voltage.

## 4. Portable fire extinguishers

The work on this topic led to the following ES-TRIN provisions being amended or added: Article 13.03(2) to (4).

### 4.1 Needs to be addressed by the amendments

First, the amendment aims at deleting the requirement for alcohol resistance (“AR”) in article 13.03(2). Indeed, the AR foam agent is suitable for extinguishing large liquid fires involving alcohol-based products, such as methanol. Such foam is used, for example, in foam fire-fighting systems for storage tanks. Consequently, it is highly unlikely that the AR requirement would be applicable to portable fire extinguishers that must be installed in the areas referred to in Article 13.03(1). In addition, vessels carrying dangerous goods shall be equipped with at least two additional hand-held fire extinguishers suitable for fighting fires involving the dangerous goods carried. Moreover, there is no manufacturer that supplies portable spray foam fire extinguishers with fire extinguishing agents that are both alcohol resistant and frost proof.

Second, the amendment aims to ensure consistency with the European Standard EN 3-7. In rooms where fires which involve vegetable or animal oils and fats are likely to occur, Class F fire extinguishers should be used.

Third, several editorial changes are included, especially the alignment of the Dutch version with the other versions in Article 13.03(3). Indeed, extinguishers referred to in Article 13.03(3) are “additional” to those required in Article 13.03(2).

### 4.2 Possible alternative to the amendments

The initial draft amendments foresaw the deletion of the frost-proofness requirement. However, CESNI was in favour of retaining the frost-proofness requirement (Article 13.03(2)) because such extinguishers are available on the market. The problem arose from the combination of alcohol resistance and frost-proofness requirements.

### 4.3 Consequences of these amendments

The amendment of Article 13.03(2) second paragraph removes the requirement for alcohol resistance ("AR"). It allows a wider choice of extinguisher for the shipowners.

The new third paragraph of Article 13.03(2) allows the inspection body to require one or more portable fire extinguishers suitable for extinguishing Class F fires in rooms where fires which involve vegetable or animal oils and fats are likely to occur. This possibility ensures consistency with the European Standard EN 3-7.

The amendment of Article 13.03(3) allows the alignment of the linguistic versions and prevents misunderstandings.

## 5. Provision and use of individual acoustic protection equipment

The work on this topic led to the following ES-TRIN provisions being amended or added: Article 14.09(3).

### 5.1 Needs to be addressed by the amendments

CESNI strives to improve the protection of workers. In this context, CESNI approved a roadmap in April 2019 regarding noise and vibrations from inland navigation vessels. One of the actions foreseen by CESNI was an exchange with the European Commission's services regarding the compatibility of directives 2002/44/EC and 2003/10/EC. In the light of the opinion of the European Commission's services and after coordination with the shipping industry, CESNI observed that lowering by 5 dB(A) the thresholds for provision and use of individual acoustic protection equipment in Article 14.09(3) ensures compatibility between national/EU legislations and ES-TRIN.

### 5.2 Possible alternative to the amendments

An alternative would have been to keep the existing thresholds in ES-TRIN. However, it would have maintained legal uncertainty for shipowners and would not have provided better protection for workers.

### 5.3 Consequences of these amendments

The amendment addresses first the provision of individual acoustic protection devices for persons who are likely to be exposed to noise levels exceeding 80 dB(A) every day. Moreover, in working spaces where the noise level can exceed 85 dB(A), it shall be indicated that wearing of acoustic protection devices is mandatory by an appropriate symbol. These requirements make no distinction between employed and self-employed personnel. In practice, the impact is very limited because these stringent noise thresholds are already applicable in national law.

## 6. Doors in accommodations

The work on this topic led to the following ES-TRIN provisions being amended or added: Articles 15.02(11), 32.02(2) ad 15.02, 32.05(5) ad 15.02, 33.02(2) ad 15.02.

### 6.1 Needs to be addressed by the amendments

An update of requirements for doors in accommodations of inland vessels is needed to ensure the proper evacuation of the crew in case of emergency. Experience showed that the good practices, especially the direction of door openings, are not well-known and implemented. In ships with several accommodations, an undesired situation can arise where the escape route is blocked by the outward-opening doors. The proposed amendment will prevent this undesirable situation. It is also necessary for safety that the doors of all accommodation can be opened from both sides in the event of an emergency.

In addition to the general requirements set out in Article 15.02, conditions for doors in passenger rooms are set out in Article 19.06(4) and remain unchanged.

### 6.2 Possible alternative to the amendments

Several alternative amendments have been discussed by CESNI. The initial proposal was to require that doors in accommodations (except doors leading to connecting corridors) shall be capable of being opened outwards or be constructed as sliding doors. The possibility to regulate only doors leading directly to open decks was also examined. However, both alternatives appeared insufficient to ensure the proper evacuation of the crew in case of emergency or too limitative in the light of the possible technical arrangements.

Finally, options for the short-term, medium-term and long-term transition periods were discussed. In Article 15.02(11), the existing requirements are included under a and b and additional requirements are included under c (not hindering the evacuation of persons when they are opened) and d (capable of being opened from the outside in an emergency). For item c a structural modification of existing vessels is required, while for item d simpler solutions are available. After examination, CESNI decided on a 50 years transition period for letter c) and respectively 25 years for letter d) of Article 15.02(11), without making distinction if a vessel operates on the Rhine or not.

### 6.3 Consequences of these amendments

The amendment reorganised the existing provisions of Article 15.02(11). Meanwhile some provisions remain unchanged (letter a) and last sentence), the clarification were introduced with letters b, c and d:

- Doors in accommodations shall be capable of being opened outwards from both sides.
- Doors which are located along escape routes shall not hinder the evacuation of persons when they are opened.
- Doors which are locked from the inside shall be capable of being opened from the outside in an emergency.

An amendment of Articles 32.02, 32.05 and 33.02 enables appropriate transitional timescales to be brought in for these requirements introduced with ES-TRIN 2021/1 and which will apply for the first time on 1 January 2022.

## 7. Separate engine room or electrical service room in passenger vessels

The work on this topic led to the following ES-TRIN provisions being amended or added: Articles 19.07(2), 32.02(2) ad 19.07(2), 32.05(5) ad 19.07(2).

### 7.1 Needs to be addressed by the amendments

The safety objective of Article 19.07 is that a passenger vessel can continue to make steerageway under its own power in the event of a fire and/or a leak in the engine room. For example, if the bow thruster of a passenger vessel can also be used for sailing ahead, as referred to in ESI-II-11, and that it serves as a second independent propulsion, its energy supply and control must be independent of any energy source in the engine room.

The amendment to Article 19.07 of ES-TRIN clarifies the situation when the passenger vessel is equipped with electric propulsion systems and the energy storage and control are located in areas other than the propulsion systems themselves. The structural fire protection between the different rooms remains the same as in the original situation from engine rooms to other rooms on board in conventionally powered passenger vessels.

Moreover, the amendments of Articles 32.02(2) ad 19.07(2) and 32.05(5) ad 19.07(2) clarify the application of the transitional provisions, especially in relation with transitional provisions for fire-fighting systems.

### 7.2 Possible alternative to the amendments

No alternative was considered.

### 7.3 Consequences of these amendments

Considering the booming development of electrical propulsion systems, the amendment to Article 19.07 of ES-TRIN prevents misunderstandings for the certification of passenger vessels with such electrical propulsion systems and ensures that these vessels achieve the same level of safety as those for conventionally powered passenger vessels.
The amendments of Articles 32.02(2) ad 19.07(2) and 32.05(5) ad 19.07(2) do not introduce legal change but avoid misunderstanding in relation with transitional provisions for fire-fighting systems.

## 8. Recreational craft equipment

The work on this subject has led to the deletion of the following provision in ES-TRIN: reference to Article 13.07 is removed in Article 26.01(1)(h).

### 8.1 Needs to be addressed by the amendments

For recreational craft the obligation to have a standardised ship's boat on board is deleted. In Article 21.02 of Annex II of the Directive 2006/87/EC (respectively in Article 21.02 of the RVIR, 2016 version) the equipment with a dinghy was not provided either. Furthermore, it seems that Article 26.01 of the ES-TRIN 2019/1 is in a way contradictory, since pleasure craft as referred to in the Article 26.01(2) do not have to be equipped with a dinghy either.

### 8.2 Possible alternative to the amendments

No alternative has been discussed

### 8.3 Consequences of these amendments

This removes the obligation for recreational craft to have a standardised ship's boat on board. It does not reduce the safety of recreational craft because it was not required before the ES-TRIN came into force. As it is a lightening of the regulations, no transitional provision is required.

## 9. Bunkering of Liquefied natural gas (LNG)

The work on this topic has led to the amendment or addition of the following provisions in ES-TRIN: Annex 8(2.8).

### 9.1 Needs to be addressed by the amendments

In accordance with Article 5 of the Commission delegated regulation (EU) 2019/1745 of 13.8.2019 supplementing and amending Directive 2014/94/EU, the LNG refueling points must comply with the Standard EN/ISO 20519 (5.3 to 5.7) where this applies to interoperability only. This delegated regulation shall enter into force on 12 November 2021.

An update of ES-TRIN appears desirable to ensure consistency of the requirements on shore and on board (reference to EN 1474 is replaced by EN 20519 (5.3 to 5.7)).

### 9.2 Possible alternative to the amendments

No alternative was considered.

### 9.3 Consequences of these amendments

The current inland navigation vessels which use LNG as fuel are already in compliance with EN 20519 (5.3 to 5.7). There are therefore no consequences for the existing fleet.

## 10. Clarifications regarding the validity of the Union certificate on the Rhine

The work on this topic has led to the amendment of the following provisions in ES-TRIN: ESI-I-1

### 10.1 Needs to be addressed by the amendments

As a reminder, a vessel operating on EU waterways or Rhine must carry either a Union inland navigation certificate or a Rhine vessel inspection certificate. Both certificates are issued by the competent national authorities (inspection bodies) and confirm the full compliance of the vessel with the technical requirements (in particular ES-TRIN). Based on Article 1.04 and Annex O of the Rhine vessel inspection regulations (RVIR), the Central Commission for the Navigation of the Rhine has recognised the Union certificates as being equivalent, thereby entitling the holder to travel on the Swiss section of the Rhine as far as the Mittlere Brücke. The purpose of this amendment is to recall this principle in ESI-I-1 and therefore prevent possible misunderstandings by the inspection bodies.

### 10.2 Possible alternative to the amendments

An amendment of the model of vessel certificate is the main alternative to improve the clarity regarding validity of the Union certificate on the Rhine. However, the revision of the new model of certificate is still on-going and will be implemented only in the future edition of ES-TRIN. Therefore, the amendment of ESI-I-1 allows to provide clarification without delays.

### 10.3 Consequences of these amendments

No impact. This is only a reminder of the mutual recognition of a Union inland navigation certificate or a Rhine vessel inspection certificate.

## 11. Recognition of special anchor with reduced mass

### 11.1 Needs to be addressed by the amendments

The ES-TRIN contains in ESI-II-9, part 1 a list of allowed anchors with reduced mass. The Dutch delegation proposed to add a new anchor, type HYT-12 HHP, with a reduction factor of 40%. The tests, as described in the instruction ESI-II-9, have been carried out by an approved classification society.

### 11.2 Possible alternative to the amendments

No alternative was considered.

### 11.3 Consequences of these amendments

With this addition, 18 types of reduced mass anchors are now permitted on inland vessels.

## 12. Update of references to RIS Standards

The work on this topic led to the following ES-TRIN provisions being amended or added: Article 1.01 (7.9) to (7.11), Article 32.02(2) ad 7.06(2) and 7.06(3), Article 32.05(5) ad 7.06(2) and 7.06(3), Article 33.02(2) ad 7.06(2) and 7.06(3).

### 12.1 Needs to be addressed by the amendments

Article 1.01(7.9), (7.10) and (7.11) of ES-TRIN 2019 provides, respectively, definitions of the following standards: "VTT standard", "Inland ECDIS Standard" and "Test Standard for Inland AIS" (including reference to a certain edition). These definitions were introduced with the ES-TRIN 2017 in order to facilitate the implementation of vessel technical requirements, especially to recognise the co-existence of CCNR and EU standards at that time.

The CESNI Test Standard Inland AIS has been revised to reflect technical developments, as well as the new normative framework (Commission Implementing Regulation (EU) 2019/838 of 20 February 2019, ITU-R Recommendation M.1371-5 and edition 2018 of IEC 61993-2). The new Test Standard Inland AIS 2021/3.0 was published in October 2020.

In accordance with Directive 2005/44/EC, by means of implementing a regulation, the European Union (EU) has recently adopted a new edition of the RIS Standards.

CESNI decided to update the definitions (7.9), (7.10), (7.11) with the correct reference. Otherwise, ES-TRIN 2021 would include obsolete references.

### 12.2 Possible alternative to the amendments

Experts do not consider necessary to update ECDIS equipment already installed on board before January 2022, because such equipment is able to display the minimum content and depth information that is not available for certain inland waterways.

### 12.3 Consequences of these amendments

The amendment ensures that the definitions in Article 1.01(7.9), (7.10), (7.11) are up to date. Specific transitional provisions have been included for Inland AIS equipment and Inland ECDIS equipment already installed on board existing vessels.

For the Inland AIS equipment, the following implementation calendar was approved:

- The new Test Standard Inland AIS 2021/3.0 comes into force on 1.1.2022 (the same as ES-TRIN 2021).
- There will be a 2-year transitional period during which Inland AIS equipment that complies with the Test Standard 2.0 can continue to be installed aboard vessels. From 1.1.2024, only Inland AIS equipment that complies with the Test Standard 3.0 can be installed.
- Inland AIS equipment which is already installed and complies with previous editions of the Test Standard (1.0, 1.01 and 2.0) can continue to be used indefinitely.

For the Inland ECDIS equipment, the following implementation calendar was approved:

- After January 2022, installation and use of Inland ECDIS equipment which is already type-approved in navigation mode should remain permitted, when the current edition (so-called 2.4) of the presentation library and the feature catalogue has been implemented in the equipment.
- Inland ECDIS equipment which is already installed and already type-approved in navigation mode in compliance with previous editions of the Standard (so-called 1.02, 2.0 or 2.3) can continue to be used indefinitely.

## 13. Editorial corrections, update of references to European and International Standards and deletion of transitional provisions that have expired

In addition to the amendments clarified above, ES-TRIN also incorporates numerous editorial corrections and deletes transitional provisions that have expired. For example, the transitional provisions for permanently installed fire-fighting systems in engine rooms, boiler rooms and pump rooms (Article 13.05) have been clarified.

ES-TRIN provides for the compliance with European and International Standards by some materials or parts used in shipbuilding and marine equipment. The standards are regularly updated or replaced with new standards by the relevant standard setting organisations. The respective predecessor standards are cancelled and become invalid. Subsequently, the relevant citations of standards in ES-TRIN must be adapted. The transitional provisions of Articles 32.04(5), 32.05(4), 33.05 apply in this context. This new Article 33.05 introduced with ES-TRIN 2021 ensures that the provisions of Article 32.04(5) apply by analogy to craft operating exclusively on waterways outside the Rhine.

**Annex**

## Summary of amendments to the technical requirements for inland waterway vessels included in the draft of ES-TRIN 2021

1. *The table of contents is amended as follows:*

   a) *The note relating to Chapter 4 is worded as follows:*

   "CHAPTER 4 SAFETY CLEARANCE, FREEBOARD AND DRAUGHT SCALES
   *Article 4.01 Safety clearance*
   *Article 4.02 Freeboard*
   *Article 4.03 Draught marks*
   *Article 4.04 Draught scales*
   *Article 4.05 Specific requirements applicable to vessels navigating on zone 4 waterways"*

   b) *The note relating to Article 33.05 hereafter is added after the note relating to Article 33.04:*

   "*Article 33.05 Other transitional provisions"*

2. *Article 1.01 is amended as follows:*

   a) *(1.5) is deleted.*

   b) *The current (1.6) to (1.30) become (1.5) to (1.29).*

   c) *(7.9) to (7.11) is worded as follows:*

   "7.9 'VTT Standard' 'Vessel Tracking and Tracing Standard for Inland Navigation' in accordance with the technical specifications defined by Implementing Regulation (EU) 2019/838[1] or equivalent Standard adopted by CESNI;

   7.10 'Inland ECDIS Standard': 'Electronic Chart Display and Information System for Inland Navigation' in accordance with the technical specifications defined by Implementing Regulation (EU) No 909/2013 [2] as amended by Implementing Regulation (EU) 2018/1973[3] or equivalent Standard adopted by CESNI;

   7.11 'Test Standard for Inland AIS': the CESNI Standard 'Test Standard Inland AIS' edition 3.0[4];"

[1] Commission Implementing Regulation (EU) 2019/838 of 20 February 2019 on technical specifications for vessel tracking and tracing systems and repealing Regulation (EC) No 415/2007 (OJ L 138/31 dated 24.5.2019).

[2] Commission Implementing Regulation (EU) no. 909/2013 of 10 September 2013 on the technical specifications pertaining to the Electronic Chart Display and Information System for Inland Navigation (Inland ECDIS) referred to in Directive 2005/44/EC of the European Parliament and Council (OJ L 258 dated 28.9.2013).

[3] Commission Implementing Regulation (EU) 2018/1973 of 7 December amending Implementing Regulation (EU) No 909/2013 on the technical specifications for the electronic chart display and information system for inland navigation (Inland ECDIS) referred to in Directive 2005/44/EC of the European Parliament and of the Council (OJ L 324/1 dated 19.12.2018).

[4] Test Standard Inland AIS edition 3.0; CESNI Resolution 2020-II-2 dated 13 October 2020.

3. *Article 3.04(6)(c) (concerns only the French version)*

4. *Chapter 4 is worded as follows:*

"***CHAPTER 4***
***SAFETY CLEARANCE, FREEBOARD AND DRAUGHT SCALES***

**Article 4.01**
***Safety clearance***

1. The safety clearance shall be at least 300 mm.

2. The safety clearance in the case of vessels whose openings cannot be closed by spray-proof and weathertight devices, and for vessels sailing with their holds uncovered, shall be increased in such a way that each of those openings shall be at least 500 mm from the plane of maximum draught.

3. However, for safety reasons, the inspection body may lay down a greater value for the safety clearance.

**Article 4.02**
***Freeboard***

1. The freeboard of vessels with a continuous deck, without sheer and superstructures, shall be 150 mm.

2. The freeboard of vessels with sheer and superstructures shall be calculated using the following formula:

$$F = 150\ (1 - \alpha) - \frac{\beta_v \cdot Se_v + \beta_a \cdot Se_a}{15}\ \text{[mm]}$$

where:

$\alpha$ is a correction coefficient that takes account of all of the superstructures involved;

$\beta_v$ is a coefficient for correcting the effect of the forward sheer resulting from the presence of superstructures in the forward quarter of length $L$ of the vessel;

$\beta_a$ is a coefficient correcting the effect of the aft sheer resulting from the presence of superstructures in the aft quarter of length $L$ of the vessel;

$Se_v$ is the effective forward sheer in mm;

$Se_a$ is the effective aft sheer in mm.

3. The coefficient $\alpha$ is calculated using the following formula:

$$\alpha = \frac{\sum le_a + \sum le_m + \sum le_v}{\mathrm{L}}$$

where:

$le_m$ is the effective length, in m, of a superstructure located in the median part corresponding to half of length $L$ of the vessel;

$le_v$ is the effective length, in m, of a superstructure in the forward quarter of vessel length $L$;

$le_a$ is the effective length, in m, of a superstructure in the aft quarter of vessel length $L$.

The effective length of a superstructure is calculated using the following formulae:

$$le_m = l \cdot \left(2{,}5 \cdot \frac{b}{B} - 1{,}5\right) \cdot \frac{h}{0{,}36} \ [\mathrm{m}]$$

$$le_v, resp.\ le_a = l \cdot \left(2{,}5 \cdot \frac{b}{B_1} - 1{,}5\right) \cdot \frac{h}{0{,}36} \ [\mathrm{m}].$$

where:

$l$ is the effective length, in m, of the superstructure involved;

$b$ is the width, in m, of the superstructure involved;

$B_1$ is the width of the vessel, in m, measured on the outside of the vertical sideplates at deck level halfway along the superstructure involved;

$h$ is the height, in m, of the superstructure involved. However, in the case of hatches, $h$ is obtained by reducing the height of the coamings by half of the safety distance according to Article 4.01. In no case will a value exceeding 0,36 m be taken for $h$.

If $\frac{b}{B}$ or $\frac{b}{B_1}$ is less than 0,6 the effective length $le$ of the superstructure will be zero.

4. Coefficients $\beta_v$and $\beta_a$ are calculated using the following formulae:

$$\beta_v = 1 - \frac{3 \cdot le_v}{L}$$

$$\beta_a = 1 - \frac{3 \cdot le_a}{L}$$

5. The effective aft/forward sheers $Se_v$/$Se_a$ are calculated using the following formulae:

$$Se_v = S_v \cdot p$$

$$Se_a = S_a \cdot p$$

where:

$S_v$ is the actual forward sheer, in mm; however $S_v$ shall not be taken to be more than 1000 mm;

$S_a$ is the actual aft sheer, in mm; however $S_a$ may not be taken to be more than 500 mm;

$p$ is a coefficient calculated using the following formula:

$$p = 4 \cdot \frac{x}{L}$$

$x$ is the abscissa, measured from the extremity of the point where the sheer is 0,25 $S_v$ or 0,25 $S_a$ (see Figure 1).

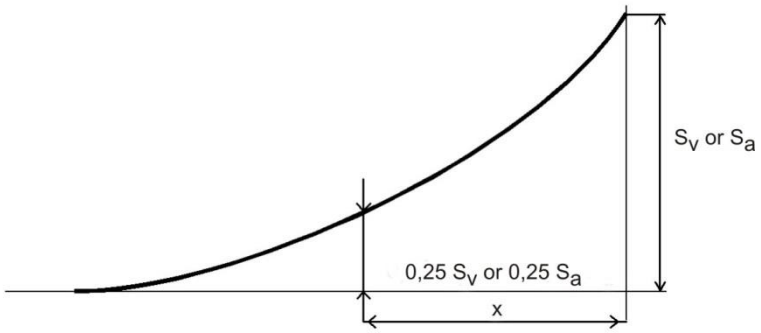


Figure 1

However, coefficient $p$ will not be taken to be more than 1.

6. If $\beta_a \cdot Se_a$ is greater than $\beta_v \cdot Se_v$, the value of $\beta_v \cdot Se_v$ will be taken as being the value for $\beta_a \cdot Se_a$.

7. In view of the reductions referred to in (2) to (6) the freeboard shall be not less than 0 mm.

8. However, for safety reasons, the inspection body may lay down a greater value for the freeboard.

9. For vessels intended to operate in zones 1 and 2, the inspection body may take into account salinity when calculating freeboard.

## Article 4.03
## *Draught marks*

1. Zone R is equivalent to Zone 3.

2. The plane of maximum draught for each permitted zone shall be determined in such a way that the specifications concerning freeboard, safety clearance and the vessel's maximum design draught are all met.

3. The plane of maximum draught shall be indicated by means of highly visible, indelible draught marks.

4. Draught marks are to be designed as follows:

   a) The topmost draught mark points towards the stern and is a rectangle 300 mm long and 30 mm high, the baseline of which is horizontal and coincides with the plane of the deepest authorised draught. If the topmost draught mark is the one applicable to zone 3, it is 40 mm high.

   b) The additional draught marks to be added point towards the bow and the following provisions apply:

      aa) Draught marks for zone 3 comprise a rectangle 300 mm long and 40 mm high

      bb) Draught marks for zones 1 and 2 comprise a rectangle 150 mm long and 30 mm high, the baseline of which is horizontal and coincides with the plane of the maximal permissible draught.

   c) If the draught mark to be added for zone 3 or 4 coincides with the uppermost draught mark, the latter can be dispensed with.

5. The number of the zone, in characters 60 mm high x 40 mm deep, is to be added next to the draught marks towards the bow; in the case of zone 4, the number can be dispensed with.

6. The draught marks according to (4) and (5) and their orientation are to be in accordance with Figure 2.

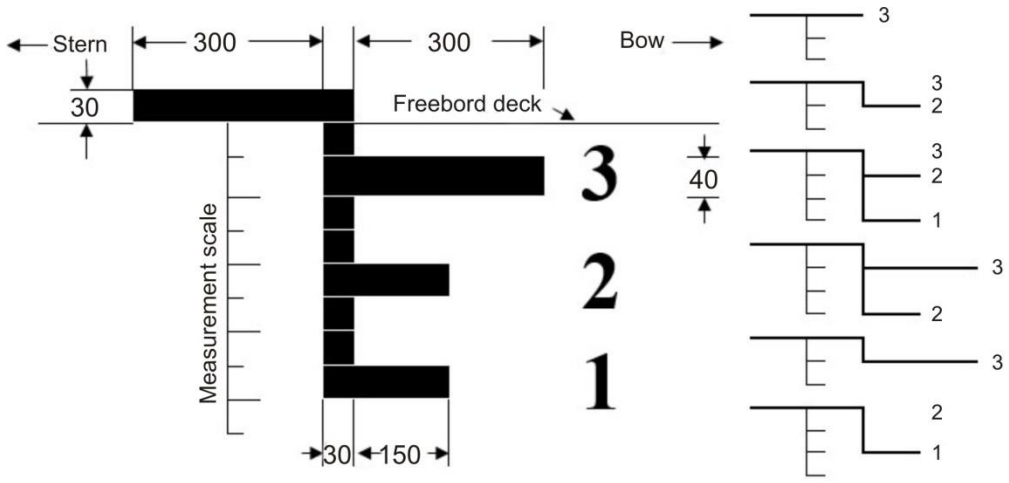


*Figure 2*

7. Vessels shall have at least three pairs of draught marks, of which one shall be at 1/2 of the length $L$ and the two others located, respectively, at a distance from the bow and stern that is equal to 1/6 of the length $L$.

8. Marks or indications which cease to be valid following a further inspection shall be deleted or marked as being no longer valid under the supervision of the inspection body. Illegible draught marks may only be replaced under the supervision of an inspection body.

9. Where a vessel has been measured in implementation of the 1966 Convention on the Measurement of inland navigation vessels and the measurement mark is at the same height as the uppermost of the draught marks prescribed in (4), this measurement mark shall also be deemed to be the draught mark for this zone; this shall be mentioned in the inland navigation vessel certificate.

10. By way of derogation from (7)

a) where a vessel is less than 40 m in length $L$ it will suffice to affix two pairs of draught marks at a distance from the bow and stern, respectively, that is equal to approximately a quarter of the length $L$;

b) where vessels are not intended for the carriage of goods, a pair of draught marks located roughly halfway along the vessel will suffice.

11. If the plane of maximum draught of a vessel for one or more zones has been determined by assuming that the holds may be closed in such a way as to make them spray-proof and weathertight, and if the distance between the plane of maximum draught and the upper edge of the coamings is less than the permissible safety clearance for the zone in question, the maximum draught for sailing with uncovered holds shall be determined.

The following statement shall be entered on the inland navigation vessel certificate:

'Where the hold hatches are totally or partly uncovered the vessel may only be loaded up to ... mm below the draught marks for Zone … .'

12. In the case of vessels with open holds, in addition to the provisions of (7) the draught marks for the relevant zones are to be supplemented by a rectangle 75 mm long by 30 mm high, pointing aft, the base of which is horizontal and coinciding with the level of the maximum permissible draught for navigation in the zone in question with open holds.

13. The draught marks according to (12) and their orientation are to be in accordance with Figure 3.

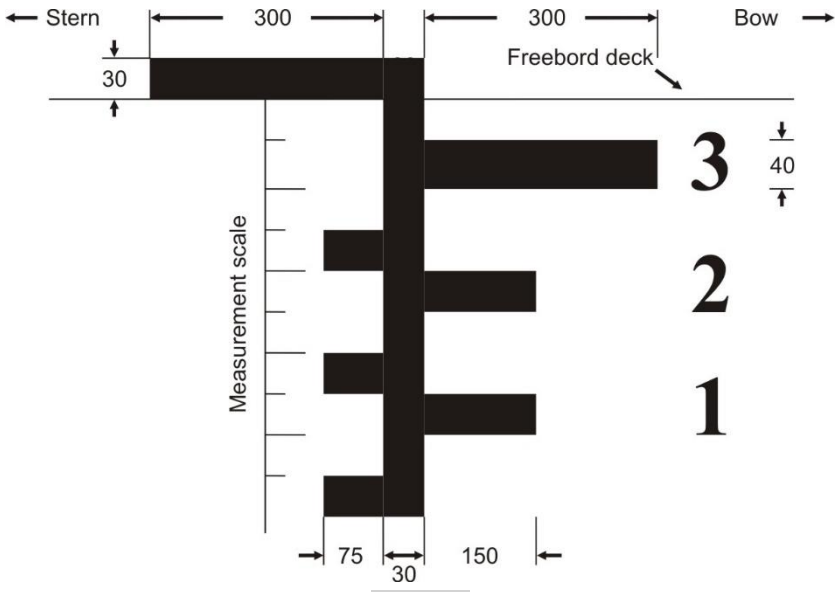


*Figure 3*

**Article 4.04**
***Draught scales***

1. Vessels whose draught may exceed 1 m shall bear a draught scale on each of their sides towards the stern; they may bear additional draught scales.

2. The zero points on each draught scale shall be taken vertically to this within the plane running parallel to the plane of maximum draught passing through the lowest point of the hull or of the keel where such exists. The vertical distance above the zero point shall be graduated in decimetres. That graduation shall be located on each scale, from the unladen water line up to 100 mm above the maximum draught by means of punched or chiselled marks, and shall be painted in the form of a highly-visible band in two alternating colours. That graduation shall be identified by figures at a distance of every five decimetres marked next to the scale as well as at the top of the scale.

3. The two stern measurement scales affixed pursuant to the 1966 Convention on the Measurement of inland navigation vessels may replace the draught scales, provided that they include a graduation that meets the requirements plus, where appropriate, figures indicating the draught.

**Article 4.05**
***Specific requirements applicable to vessels navigating on zone 4 waterways***

1. By way of derogation from Article 4.01 the safety clearance of doors and openings other than hold hatches for vessels navigating on Zone 4 waterways is reduced as follows:
   a) for openings which can be closed spray-proof and weathertight, to 150 mm;
   b) for openings which cannot be closed spray-proof and weathertight, to 200 mm.

2. By way of derogation from Article 4.02, the freeboard of vessels navigating on Zone 4 waterways may not be less than 0 mm, if the safety clearance according to (1) is respected."

5. *Article 5.07(2) is worded as follows:*

"2. Where vessels and convoys with a length $L$ of not more than 86 m and with a breadth $B$ of not more than 22,90 m the stopping capacity mentioned above may be replaced by turning capacity."

6. *Article 6.01(1) (concerns only the French version)*

7. *Article 8.09(2), paragraph 2, is worded as follows:*

"The connections used in order to empty the receptacles referred to above shall comply with European Standard EN 1305 : 2018."

8. *Article 8.10(2) and (3), is worded as follows:*

"2. The sound pressure level of the noise generated by a vessel under way shall not exceed 70 dB(A) at a lateral distance of 25 m from the ship's side.

3. Apart from transhipment operations, the sound pressure level of the noise generated by a stationary vessel shall not exceed 60 dB(A) at a lateral distance of 25 m from the ship's side."

9. *Article 9.04*

*a) (1) (concerns only the Dutch version)*

*b) (2)(b) (concerns only the French version)*

10. *Article 10.01(5) (concerns only the French version)*

11. *Article 10.08(1) is worded as follows:*

"1. The feed-in unit, that is the entire onboard equipment for transferring electrical power to the craft, must be designed as follows:

a) Transfer from shoreside power supply systems:

aa) For currents up to 125 A, the requirements of European Standards EN 15869-1 : 2019 and EN 15869-3 : 2019 are to be complied with.

bb) For currents greater than 250 A, the requirements of European Standards EN 16840 : 2017 are to be complied with.

b) In all other cases, the requirements of (2) to (9) shall apply. The requirements specified shall be deemed to have been complied with if the Standards referred to in (a) are adhered to for the use in question."

12. *Article 10.11 is amended as follows:*

*a) The following sentence is added at the end of (14):*

"The figure increases to 125 % for traction batteries."

*b) (15) is worded as follows:*

"15. The requirements of European Standard EN 62619 : 2017 and EN 62620 : 2015 shall apply for lithium-ion accumulators."

*c) (17) is worded as follows:*

"17. Rooms in which lithium-ion accumulators are stored shall comply with the following requirements:

a) These rooms shall be protected against fire of one or several lithium-ion accumulators on the basis of a fire protection concept developed by an expert

aa) having regard to the other equipment located in the same room,

bb) having regard to instructions of the manufacturer of the lithium-ion accumulators,

cc) including provisions for alarm systems.

A fire protection concept may be dispensed with if the lithium-ion accumulators are stored in a fireproof enclosure, which is equipped

aa) with at least one monitoring device (fire and thermal runaway) and

bb) by derogation from article 13.06, with one suitable fixed fire-extinguishing installation for protecting objects.

b) In the case referred to in (a) first sentence, these rooms shall be shielded with A60 partitions.

c) These rooms or the lithium-ion accumulators housed in a fireproof enclosure shall be mechanically ventilated to the open deck. The exhaust outlet of the ventilation shall be located in such a way that the safety of persons on board is not endangered.

These requirements do not apply if the cumulative capacity of the lithium-ion accumulators in the room is below 20 kWh."

*d) After (17), (18) is added as follows:*

"18. The requirements of (16) and (17) do not apply to accumulators with a charging power of less than 0,2 kW."

*e) The current (17) becomes (19):*

"19. For batteries, (1) to (12) and (16) shall apply *mutatis mutandis*."

13. *Article 10.18 (concerns only the French version)*

*a) (2)*

*b) (8)*

14. *Article 10.19(1), paragraph 3 (concerns only the French version)*

15. *Article 11.01 (concerns only the French version)*

    *a) (2)(a) and (b)*

    *b) (6)*

16. *Article 11.05(3) (concerns only the French version)*

17. *Article 11.07(1) (concerns only the French version)*

18. *Article 11.08(1) (concerns only the French version)*

19. *Article 13.01(10)(a) is worded as follows:*

    "a) 40 m for vessels whose length $L$ does not exceed 30 m;"

20. *Article 13.02(3)(b), last sentence, is worded as follows:*

    "Motor cargo vessels, motor tankers and pushers that are able to tow shall be equipped with a towing cable that is at least 100 m long and whose breaking load, in kN, is not less than one quarter of the total power, in kW, of the main engine(s)."

21. *Article 13.03 is amended as follows:*

*a) (2) to (4) is worded as follows:*

"2. For the portable fire extinguishers required by (1), only powder type extinguishers with a content of at least 6 kg or other portable extinguishers with the same extinguishing capacity may be used. They shall be suitable for Class A, B and C fires.

By way of derogation on vessels with no liquefied gas installations, spray foam fire extinguishers using aqueous film-forming foam (AFFF) frost proof to - 20 °C are permissible even if they are unsuitable for Class C fires. These fire extinguishers shall have a minimum capacity of 9 litres.

In rooms where fires involving vegetable or animal oils and fats are likely to occur the Inspection body may require one or more portable fire extinguishers suitable for extinguishing Class F fires. Such portable fire extinguishers shall be entered in item 52 of the inland navigation vessel certificate.

All extinguishers shall be suitable to extinguish fires in electrical systems of up to 1000 V.

3. In addition powder, water or spray foam fire extinguishers may be used which are suitable at least for the class of fire most likely to occur in the room for which they are intended.

4. Portable fire extinguishers with $CO_2$ as the extinguishing agent may be used only for extinguishing fires in galleys and electrical installations. The content of these fire extinguishers shall be no more than 1 kg per 15 $m^3$ of the room in which they are made available for use."

*b) (5) and (6) (concerns only the French version)*

22. *Article 13.04(5) is worded as follows:*

"5. Systems spraying smaller quantities of water shall have a type-approval pursuant to IMO Resolution A.800 (19)[1] or another Standard recognised by one of the Member States. Type-approval shall be carried out by a recognised classification society or an accredited testing institution. The accredited testing institution shall comply with the European Standard EN 17025 : 2017."

[1] IMO Resolution A.800 (19) adopted on 23 November 1995 - Revised Guidelines for Approval of Sprinkler Systems Equivalent to that referred to in SOLAS Regulation II-2/12.

23. *Article 13.05 is amended as follows:*

*a) (14)(a) is worded as follows:*

"a) The fire-fighting system shall have a type-approval pursuant to MSC/Circ. 1165[1] or another Standard recognised by one of the Member States. Type-approval shall be carried out by a recognised classification society or an accredited testing institution. The accredited testing institution shall comply with the European Standard EN 17025 : 2017."

*b) (15)(a) is worded as follows:*

"a) The fire-fighting system shall have a type-approval pursuant to MSC/Circ. 1270[2] or another Standard recognised by one of the Member States. Type-approval shall be carried out by a recognised classification society or an accredited testing institution. The accredited testing institution shall comply with the European Standard EN 17025 : 2017."

24. *Article 13.07(1)(a), is worded as follows:*

"a) motor cargo vessels, motor tankers and barges exceeding 150 t deadweight;".

25. *Article 13.08(2) and (3) (concerns only the Dutch version)*

26. *Article 14.04(1)(b) (concerns only the French version)*

[1] Circular MSC/Circ. 1165 – Revised guidelines for the approval of equivalent water-based fire-extinguishing systems for machinery spaces and cargo pump-rooms – adopted on 10 June 2005 and as amended by MSC/Circ.1269, MSC/Circ.1386 and MSC/Circ.1385.

[2] Circular MSC/Circ. 1270 – Revised Guidelines for the approval of fixed aerosol fire-extinguishing systems equivalent to fixed gas extinguishing systems, as referred to in SOLAS 1974, for machinery spaces – adopted on 4 June 2008. Circular MSC/Circ. 1270/Corr. 1 – Corrigendum – adopted on 29 August 2008.

27. *Article 14.09(3) is worded as follows:*

"3. For persons who are likely to be exposed to noise levels exceeding 80 dB(A) every day, individual acoustic protection devices shall be available. In working spaces where the noise level can exceed 85 dB(A) it shall be indicated that wearing of acoustic protection devices is mandatory by a symbol 'Wear acoustic protection device' with a diameter of at least 10 cm in accordance with Figure 7 of Annex 4."

28. *Article 15.02(11) is worded as follows:*

"11. Doors

a) shall have an opening whose upper edge is at least 1,90 m above deck or above the floor and a clear width of at least 0,60 m. The prescribed height may be achieved by means of sliding or hinged covers or flaps;

b) shall be capable of being opened outwards from both sides;

c) which are located along escape routes shall not hinder the evacuation of persons when they are opened;

d) which are locked from the inside shall be capable of being opened from the outside in an emergency.

Sills shall not be more than 0,40 m high, but shall nonetheless comply with the provisions of other safety regulations."

29. *Article 18.01(2) is worded as follows:*

"2. a) On-board sewage treatment plants shall comply with the following limit values during the type test:

Table 1: Limit values to be observed in operation in the outflow of the on-board sewage treatment plant (test plant) during the type test

| Parameter | Concentration (Stage II) | Sample |
|---|---|---|
| Biochemical oxygen demand ($BOD_5$) ISO 5815-1 : 2019 and 5815-2 : 2003[1] | 20 mg/l | 24h composite sample, homogenised |
| | 25 mg/l | Random sample, homogenised |
| Chemical oxygen demand (COD)[2] ISO 6060 : 1989[1)] | 100 mg/l | 24h composite sample, homogenised |
| | 125 mg/l | Random sample, homogenised |
| Total organic carbon (TOC) EN 1484 : 2019[1] | 35 mg/l | 24h composite sample, homogenised |
| | 45 mg/l | Random sample, homogenised |

1) Member States may implement equivalent procedures.

2) Instead of the chemical oxygen demand (COD) the total organic carbon (TOC) may also be referred to for the check."

b) On-board sewage treatment plants shall comply with the following control values during operation:

Table 2: Control values to be observed in the outflow of the on-board sewage treatment plant during operation

| Parameter | Concentration (Stage II) | Sample |
|---|---|---|
| Biochemical oxygen demand ($BOD_5$) ISO 5815-1 : 2019 and 5815-2 : 2003[1] | 25 mg/l | Random sample, homogenised |
| Chemical oxygen demand (COD)[2] ISO 6060 : 1989[1] | 125 mg/l | Random sample, homogenised |
| | 150 mg/l | Random sample |
| Total organic carbon (TOC) EN 1484 : 2019[1] | 45 mg/l | Random sample, homogenised |

1) Member States may implement equivalent procedures.

2) Instead of the chemical oxygen demand (COD) the total organic carbon (TOC) may also be referred to for the check."

30. *Article 18.09(2) is worded as follows:*

"2. The random samples shall be measured in accordance with the specifications of Article 18.01(2), Table 2."

31. *Article 18.10 is worded as follows:*

"**Article 18.10**
***Competent authorities and technical services***

The technical services responsible shall satisfy the European Standard EN 17025 : 2017, taking the following conditions into account:

a) manufacturers of on-board sewage treatment plants cannot be recognised as technical services;

b) for the purposes of this Chapter a technical service may, with the agreement of the competent authority, make use of facilities external to its own laboratory."

32. *Article 19.01(1)(b) is worded as follows:*

„b) Article 4.01 and 4.02;".

33. *Article 19.03(5) is worded as follows:*

"5. The heeling moment due to wind pressure $M_w$ shall be calculated as follows:

$$M_w = p_w \cdot A_w \cdot \left(L_w + \frac{T}{2}\right) [kNm]$$

where:

$p_w$ = the specific wind pressure of 0,25 kN/m²;

$A_w$ = lateral plane of the vessel above the plane of draught according to the considered loading condition in [m²];

$l_w$ = distance of the centre of gravity of the lateral plane $A_w$ from the plane of draught according to the considered loading condition in [m].

In calculating the lateral plane, account shall be taken of the intended enclosure of the deck by awnings and similar mobile installations."

34. *Article 19.07(2) is worded as follows:*

"2. The second independent propulsion system must be located in a separate engine room or electrical service room. If both rooms have common partitions, these shall be built according to Article 19.11(2)."

35. *Article 19.09 (concerns only the Dutch version)*

*a) (2)*

*b) (4)*

36. *Article 19.11 is amended as follows:*

*a) (1), 1st sentence (concerns only the French version)*

*b) (1)(a)(bb) is worded as follows:*

"bb) European Standard EN 17025 : 2017."

*c) (1)(d)(aa) (concerns only the German version)*

*d) (2)(a), footnotes 1 and 2 (concerns only the French and Dutch version)*

*e) (2)(a), footnote 4 (concerns only the Dutch version)*

*f) (2)(b), introductory sentence, is worded as follows:*

"b) Type A partitions are bulkheads, walls and decks which meet the following requirements:"

*g) (2)(c), introductory sentence, is worded as follows:*

"c) Type B partitions are bulkheads, walls, decks, ceilings or facings which meet the following requirements:".

*h) (17), introductory sentence (concerns only the French and German version)*

37. *Article 19.12(1) (concerns only the French and English version)*

38. *Article 19.13(2)(d) (concerns only the French version)*

39. *Article 19.14(2), paragraph 2, is worded as follows:*

"The pipes shall be fitted with a connection for the discharge of waster water according to European Standard EN 1306 : 2018."

40. *Article 21.05(1)*

*a) (c) (concerns only the French version)*

*b) (d) (concerns only the Dutch version)*

41. *Article 21.06(1), paragraph 1, is worded as follows:*

"1. In order to authorise a pusher, a motor cargo vessel, a motor tanker or motorised floating equipment to propel a rigid convoy, and to enter this on the inland navigation vessel certificate, the inspection body shall decide which formations are to be presented and shall conduct the navigation tests referred to in Article 5.02 with the convoy in the formation(s) applied for, which the inspection body regards to be the least favourable one(s). The requirements set out in Articles 5.02 to 5.10 shall be met by this convoy."

42. *Article 22.09, paragraph, is worded as follows:*

"Draught marks in accordance with Article 4.03 and draught scales in accordance with Article 4.04 shall be affixed."

43. *Article 23.03(1)(d) is worded as follows:*

"d) the inspection body may grant exceptions to the other requirements concerning shipbuilding, fitting out and equipment provided that equivalent safety is proven in every case."

44. *Article 24.02(6)(b) is worded as follows:*

"b) operation of machines or mechanically-driven equipment on board which are easily accessible is permitted only if no one is on board, except the crew or persons who are on official business on board."

45. *Article 25.01(2), introductory sentence, is worded as follows:*

"2. Seagoing vessels shall comply with the following provisions of this Standard in addition to the requirements specified in (1):"

46. *Article 26.01(1)(h) is worded as follows:*

"h) from Chapter 13:

Article 13.01(2), (3) and (5) to (14), Article 13.02(1)(a) to (c), and (3)(a) and (e) to (h), Article 13.03(1)(a), (b) and (d): however, there shall be at least two fire extinguishers on board; Article 13.03(2) to (6), Articles 13.04, 13.05 and 13.08;"

47. *Article 28.04(2)(d), is worded as follows:*

"d) are built as double-hull vessels in accordance with the ADN, where for motor cargo vessels sections 9.1.0.91 to 9.1.0.95, and for motor tankers paragraph 9.3.2.11.7 and sections 9.3.2.13 to 9.3.2.15 of Part 9 of the ADN shall apply;".

48. *Article 29.04, paragraph, is worded as follows:*

"By way of derogation from Article 4.02, the freeboard shall be at least 500 mm."

49. *Article 29.08(2)(c) (concerns only the Dutch version)*

50. *Article 31.01 is worded as follows:*

"**Article 31.01**
***Vessels' equipment***

For craft for which a minimum crew is required compliance with, or failure to comply with, the requirements of Article 31.02 or Article 31.03 shall be entered in item 47 of the inland navigation vessel certificate by the inspection body."

51. *Article 31.03(1) to (3), is worded as follows:*

"Standard S1 and additionally equipped with:

1. For motor cargo vessels or motor tankers operating separately:

   a bow thruster which can be operated from the steering position;

2. For motor cargo vessels or motor tankers propelling in side-by-side formation:

   a bow thruster which can be operated from the steering position;

3. For motor cargo vessels or motor tankers propelling pushed convoys made up of the motor cargo vessel or motor tanker itself and a craft in front:

   hydraulic or electrically operated coupling winches. This equipment is, however, not required if the foremost vehicle in the pushed convoy is equipped with a bow thruster which can be operated from the steering position of the pushing motor cargo vessel or motor tanker;".

52. *The table in Article 32.02(2) is amended as follows:*

*a) The note relating to Article 7.06(2) is inserted after Article 7.06(1) as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 7.06 | (2) | Inland ECDIS equipment in navigation mode | Inland ECDIS equipment with a type approval according to previous editions of the Inland ECDIS Standard and installed before the 1st January 2022 may continue to be used. | |
| | | | Inland ECDIS equipment with a type approval according to previous editions of the Inland ECDIS Standard may continue to be installed and used, when the current edition of the presentation library and the feature catalogue as required by Inland ECDIS Standard has been implemented in the equipment. | |

“

*b) The note relating to Article 7.06(3) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 7.06 | (3) | Inland AIS equipment | Inland AIS equipment with a type approval according to edition 1.0 and 1.01 of the Test Standard for Inland AIS and installed before the 1st December 2015 may continue to be used. | |
| | | | Inland AIS equipment with a type approval according to edition 2.0 of the Test Standard for Inland AIS and installed before the 1st January 2024 may continue to be used. | |

”

*c) The note relating to Article 8.10(2) is inserted after Article 8.07 as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 8.10 | (2) | Noise generated by a vessel under way | The vessels must satisfy the following conditions:<br>the sound pressure level of the noise generated by a vessel under way does not exceed 75 dB(A) at a lateral distance of 25 m from the ship's side. | |

”

*d) The note relating to Article 8.10(3) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 8.10 | (3) | Noise generated by a vessel when stationary | The vessels must satisfy the following conditions:<br>the sound pressure level of the noise generated by a vessel when stationary does not exceed 65 dB(A) at a lateral distance of 25 m from the ship's side. | |

”

*e) The note relating to Article 13.05 is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 13.05 | | Permanently installed fire-fighting systems in engine rooms, boiler rooms and pump rooms | N.R.C.<br>a) Permanent $CO_2$ fire-fighting systems installed before 1 October 1980 may remain in use until the renewal of the inland navigation certificate after 1.1.2035, if they comply with the requirements of Article 7.03(5) of the Rhine vessel inspection regulations in force on 1 April 1976 (Protocol CCNR 1975-I-23).<br>b) Permanent $CO_2$ fire-fighting systems installed between 1 April 1992 and 31 December 1994 may remain in use until the renewal of the inland navigation certificate vessel after 1.1.2035, if they comply with the requirements of Article 7.03(5) of the Rhine vessel inspection regulations in force on 31 December 1994.<br>c) Recommendations of the CCNR issued between 1 April 1992 and 31 December 1994 with regard to Article 7.03(5) of the Rhine vessel inspection regulations in force on 31 December 1994 remain valid until renewal of the inland navigation vessel certificate after 1.1.2035.<br>d) Article 13.05(2)(a) is only applicable until the renewal of the inland navigation vessel certificate after 1.1.2035 if those installations have been installed in vessels laid down after 1 October 1992. | |

”

*f) The note relating to Article 15.02(11) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 15.02 | (11)(a) | Size of doors | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2035 |
| | (11)(c) | Doors which are located along escape routes | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 2052 |
| | (11)(d) | Doors which are locked from the inside | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 2027 |

“

*g) The note relating to Article 19.03(9) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 19.03 | (9) | Damage stability | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2045 |
| | | Vertical extent of damage to the bottom of the boat | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2045 |
| | | | N.R.C. applicable for vessels with watertight decks on a minimum distance of 0,50 m and less than 0,60 m of the bottom of vessels that obtained a first inland navigation vessel certificate before 31.12.2005 | |
| | | Two-compartment status | N.R.C. | |

”

*h) The note relating to Article 19.07(2) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 19.07 | (2) | Second independent propulsion system in a separate engine room | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2020 |
| | | | N.R.C. for passenger vessels that satisfy the following requirements:<br>a) The existing firefighting system referred to in Article 19.12(9) to protect the engine room can be triggered immediately without danger to people located in the engine room. The transitional provision to article 13.05(2)(a) cannot be invoked<br>If the existing firefighting system cannot be triggered immediately without danger to people located in the engine room as described above, the combustion engines in the engine room are protected with additional firefighting system for object protection, which can be triggered immediately without danger to people located in the engine room.<br>b) By derogation to Article 13.06, a firefighting system for object protection, which can be triggered immediately without danger to people located in the engine room, is required for:<br>- the enclosed combustion engines;<br>- the enclosed generators;<br>- the main switchboard.<br>c) The firefighting systems for object protection referred to in (a) and (b) must be designed by a specialised firm. Furthermore, the requirements of Article 13.05(9) apply *mutatis mutandis*. | |

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| | | | d) In addition to the bilge systems referred to in Article 8.08, the engine room is equipped with an additional bilge pump.<br>Its pumping capacity ($Q$) in l/min is calculated by $Q = {d_2}^2$. $d_2$ is to be calculated in accordance with section 8.08(3) and the maximum length of the engine room is to be used for "$I$".<br>The bilge pump must be located in the secure area.<br><br>It must be possible to switch on the pump and operate the pressure valves from above the main deck.<br>e) The total pump capacity of all pumps located in this engine room and capable of being used for pumping out must be at least 3000 l/min.<br>f) (d) and (e) are not required if the main engines are located above the damage waterline in the event of flooding in the engine room. | |

"

*i) The note relating to Article 19.08(3)(a) has been withdrawn.*

*j) The note relating to Article 19.11(1) (concerns only the French version)*

53. *Article 32.03(2) is amended as follows:*

*a) The note relating to Article 3.04(7) has been withdrawn.*

*b) The note relating to Article 4.03 has been withdrawn.*

*c) The note relating to Article 7.01(2) has been withdrawn.*

*d) The note relating to Article 8.10(2) has been withdrawn.*

*e) The note relating to Article 10.01(2)(a),(c) and (d) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 10.01 | (2)(a), (c) and (d) | - general plans,<br>- indications of power requirements for electrical service equipment,<br>- types of cables indicating conductor cross-sections | R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2020 |
| | | | R.C. for vessels the plans of which are drawn up in accordance with Article 32.04(3) second sentence. | |

”

*f) The note relating to Article 10.06 is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 10.06 | (1) table without footnote 4 | Maximum permissible voltages | R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2015 |

”

54. *Article 32.04 is worded as follows:*

*a) A new (3) is inserted as follows:*

"3. The draught marks featuring on vessels already in operation shall comply with the requirements of Article 4.03 in terms of their characteristics and orientation at the latest on renewal of the inland navigation vessel certificate after 30 December 2024."

*b) The current (3) to (6) become (4) to (7).*

*c) Article 32.04(4) paragraph 2, introductory sentence (concerns only the German version)*

*d) (6) is worded as follows:*

"6. Where this provision refers to a European or an International Standard, with regard to structural requirements:

a) pertaining to free-standing items of equipment, such items of equipment may, after any new publication or revision of the Standard, continue to be used for a further 20 years following the new publication or the revision of this Standard,

b) pertaining to permanently installed equipment parts, equipment parts may continue to be used until they are replaced or the areas in question have been converted."

55. *Article 32.05(4) is worded as follows:*

"4. Article 32.04(3), (5) and (6) apply mutatis mutandis."

56. *Article 32.05(5) is amended as follows:*

*a) The note relating to Article 7.06(2) is inserted after Article 7.06(1) as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | | *Date of entry into force* |
|---|---|---|---|---|---|
| 7.06 | (2) | Inland ECDIS equipment in navigation mode | Inland ECDIS equipment with a type approval according to previous editions of the Inland ECDIS Standard and installed before the 1st January 2022 may continue to be used. | | 1.1.2022 |
| | | | Inland ECDIS equipment with a type approval according to previous editions of the Inland ECDIS Standard may continue to be installed and used, when the current edition of the presentation library and the feature catalogue as required by Inland ECDIS Standard has been implemented in the equipment. | | 1.1.2022 |

“

*b) The note relating to Article 7.06(3) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | | *Date of entry into force* |
|---|---|---|---|---|---|
| 7.06 | (3) | Inland AIS equipment | Inland AIS equipment with a type approval according to edition 1.0 and 1.01 of the Test Standard for Inland AIS and installed before the 1st December 2015 may continue to be used. | | 1.12.2013 |
| | | | Inland AIS equipment with a type approval according to edition 2.0 of the Test Standard for Inland AIS and installed before the 1st January 2024 may continue to be used. | | 1.1.2022 |

“

*c) The note relating to Article 8.10(2) and (3) is inserted after Article 8.07 as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | | *Date of entry into force* |
|---|---|---|---|---|---|
| 8.10 | (2) | Noise generated by a vessel under way | The vessels must satisfy the following conditions:<br>the sound pressure level of the noise generated by a vessel under way does not exceed 75 dB(A) at a lateral distance of 25 m from the ship's side. | | 1.1.2022 |
| | (3) | Noise generated by a vessel when stationary | The vessels must satisfy the following conditions:<br>the sound pressure level of the noise generated by a vessel when stationary does not exceed 65 dB(A) at a lateral distance of 25 m from the ship's side. | | 1.1.2022 |

”

*d) The note relating to Article 13.05 is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | | *Date of entry into force* |
|---|---|---|---|---|---|
| 13.05 | | Permanently installed fire-fighting systems in engine rooms, boiler rooms and pump rooms | N.R.C., at the latest on renewal of the inland navigation vessel certificate<br>a) Permanently installed $CO_2$ fire-fighting systems installed between 1st January 1995 and 31st March 2003 shall continue to be accepted until renewal of the inland navigation vessel certificate after 1.1.2035 provided that they comply with Article 10.03(5) of the 31st March 2002 version of the Rhine vessel inspection regulations.<br>b) The Central Commission for the Navigation of the Rhine's recommendations regarding Article 10.03(5) in the 31st March 2002 version of the Rhine vessel inspection regulations, issued between 1st January 1995 and 31st March 2002 shall remain valid until renewal of the inland navigation vessel certificate after 1.1.2035. | | 1.4.2002 |

”

*e) The notes relating to Chapter 15 are inserted as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | | *Date of entry into force* |
|---|---|---|---|---|---|
| **CHAPTER 15** | | | | | |
| 15.02 | (11)(c) | Doors which are located along escape routes | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 2052 | 1.1.2022 |
| | (11)(d) | Doors which are locked from the inside | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 2027 | 1.1.2022 |

“

*f) The note relating to Article 19.03(9) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | | *Date of entry into force* |
|---|---|---|---|---|---|
| | (9) | Damage stability | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2045 | 1.1.2006 |
| | | Vertical extent of damage to the bottom of the boat | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2045 | 1.1.2006 |
| | | | N.R.C. applicable for vessels with watertight decks on a minimum distance of 0,50m and less than 0,60 m of the bottom of vessels that obtained a first inland navigation vessel certificate before 31.12.2005. | | 1.12.2011 |
| | | Two-compartment status | N.R.C. | | 1.1.2006 |

”

*g) The note relating to Article 19.07(2) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | | *Date of entry into force* |
|---|---|---|---|---|---|
| 19.07 | (2) | Second independent propulsion system in a separate engine room | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 1.1.2020 | 1.1.2020 |
| | | | N.R.C. for passenger vessels that satisfy the following requirements:<br>a) The existing firefighting system referred to in Article 19.12(9) to protect the engine room can be triggered immediately without danger to people located in the engine room. The transitional provision to article 13.05(2)(a) cannot be invoked<br><br>If the existing firefighting system cannot be triggered immediately without danger to people located in the engine room as described above, the combustion engines in the engine room are protected with additional firefighting system for object protection, which can be triggered immediately without danger to people located in the engine room.<br><br>b) By derogation to Article 13.06, a firefighting system for object protection, which can be triggered immediately without danger to people located in the engine room, is required for:<br>- the enclosed combustion engines;<br>- the enclosed generators;<br>- the main switchboard.<br><br>c) The firefighting systems for object protection referred to in (a) and (b) must be designed by a specialised firm. Furthermore, the requirements of Article 13.05(9) apply *mutatis mutandis*. | | 1.1.2020 |

| *Article and paragraph* | | *Content* | *Deadline and comments* | *Date of entry into force* |
|---|---|---|---|---|
| | | | d) In addition to the bilge systems referred to in Article 8.08, the engine room is equipped with an additional bilge pump.<br>Its pumping capacity ($Q$) in l/min is calculated by $Q = {d_2}^2 . d_2$ is to be calculated in accordance with section 8.08(3) and the maximum length of the engine room is to be used for "$I$".<br>The bilge pump must be located in the secure area.<br>It must be possible to switch on the pump and operate the pressure valves from above the main deck.<br>e) The total pump capacity of all pumps located in this engine room and capable of being used for pumping out must be at least 3000 l/min.<br>f) (d) and (e) are not required if the main engines are located above the damage waterline in the event of flooding in the engine room. | |

"

*h) The note relating to Article 19.08(3)(a) has been withdrawn.*

*i) The note relating to Article 19.11(1) (concerns only the French version)*

57. *The table in Article 33.02(2) is amended as follows:*

*a) The note relating to Article 4.03 is inserted as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 4.03 | | Draught marks | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 30.12.2024 |

“

*b) The note relating to Article 4.04 is deleted.*

*c) The note relating to Article 7.06(2) is inserted after 7.06(1) as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 7.06 | (2) | Inland ECDIS equipment in navigation mode | Inland ECDIS equipment with a type approval according to previous editions of the Inland ECDIS Standard and installed before the 1st January 2022 may continue to be used. | |
| | | | Inland ECDIS equipment with a type approval according to previous editions of the Inland ECDIS Standard may continue to be installed and used, when the current edition of the presentation library and the feature catalogue as required by Inland ECDIS Standard has been implemented in the equipment. | |

”

*d) The note relating to Article 7.06(3) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 7.06 | (3) | Inland AIS equipment | N.R.C. | |
| | | | Inland AIS equipment with a type approval according to edition 2.0 of the Test Standard for Inland AIS and installed before the 1st January 2024 may continue to be used. | |

”

*e) The note relating to Article 8.10(2) is inserted after 8.09(2) as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 8.10 | (2) | Noise generated by a vessel under way | The vessels must satisfy the following conditions:<br>the sound pressure level of the noise generated by a vessel under way does not exceed 75 dB(A) at a lateral distance of 25 m from the ship's side. | |

”

*f) The note relating to Article 8.10(3) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 8.10 | (3) | Noise generated by a vessel when stationary | At the latest on renewal of the inland navigation vessel certificate after 30.12.2029, the vessels must satisfy the following conditions:<br>the sound pressure level of the noise generated by a vessel when stationary does not exceed 65 dB(A) at a lateral distance of 25 m from the ship's side. | |

”

*g) The note relating to Article 13.05 is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 13.05 | | Permanently installed fire-fighting systems in engine rooms, boiler rooms and pump rooms | $CO_2$ fire-fighting systems permanently installed before 1 January 1985, if they comply with the requirements of Article 13.03 of Directive 82/714/EEC as amended on 30.12.2006, may remain in use until the renewal of the inland navigation vessel certificate after | 30.12.2049 |

”

*h) The note relating to Article 13.08(2) (concerns only the Dutch version)*

*i) The note relating to Article 15.02(11) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 15.02 | (11)(a) | Size of doors | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 30.12.2049 |
| | (11)(c) | Doors which are located along escape routes | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 2052 |
| | (11)(d) | Doors which are locked from the inside | N.R.C., at the latest on renewal of the inland navigation vessel certificate after | 2027 |

“

*j) The note relating to Article 19.11(1) (concerns only the French version)*

58. *The table in Article 33.03(2) is amended as follows:*

*a) The note relating to Article 8.10(2) is worded as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 8.10 | (2) | Noise generated by a vessel under way | N.R.C.<br>In case of replacement or conversion, the vessels must satisfy the following conditions:<br>the sound pressure level of the noise generated by a vessel when stationary does not exceed 75 dB(A) at a lateral distance of 25 m from the ship's side. | |

”

*b) The note relating to Article 8.10(3) is inserted after 8.10(2) as follows:*

“

| *Article and paragraph* | | *Content* | *Deadline and comments* | |
|---|---|---|---|---|
| 8.10 | (3) | Noise generated by a vessel when stationary | At the latest on renewal of the inland navigation vessel certificate after 30.12.2029, the vessels must satisfy the following conditions:<br>the sound pressure level of the noise generated by a vessel when stationary does not exceed 65 dB(A) at a lateral distance of 25 m from the ship's side. | |

”

*c) The note relating to Article 13.08(2) (concerns only the Dutch version)*

59. *Article 33.05 hereafter is added after Article 33.04:*

**“Article 33.05**
***Other transitional provisions***

The provisions of Article 32.04(5) also apply to craft operating exclusively on waterways outside the Rhine.”

60. *Annex 3 is amended as follows:*

*a) Section I(15) is worded as follows:*

“

15. Authorised formations

1. The craft is authorized to propel the following formations:

| For-mation figure | Restrictions resulting from Chapters 5 and 21 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Max dimensions m | | Navigation direction and load status UPSTREAM | | DOWNSTREAM | | Maximum wetted section in $m^2$ | | Remarks |
| No | length | breadth | loaded t | empty | loaded t | empty | up-stream | down-stream | |
| | | | | | | | | | |
| | | | | | | | | | |
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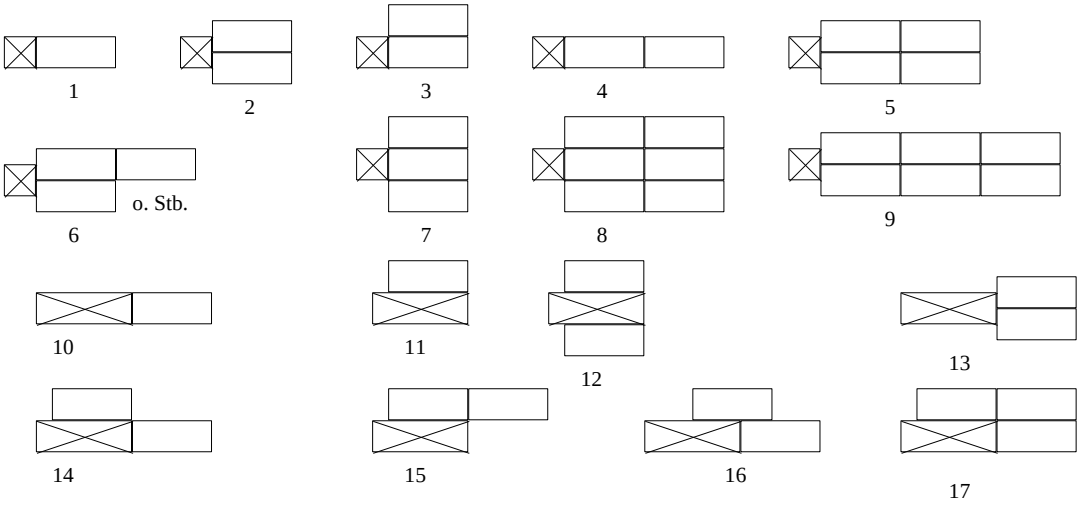


Other formations :

Key to symbols : pusher Self-propelled craft lighter

2. Couplings:

Type of couplings: ..... Number of couplings per side: .....

Number of coupling cables: ..... Length of each coupling cable: .....

Tensile strength per longitudinal coupling: ..... kN

Tensile strength per cable: ..... kN

Number of cable windings: .....

”

*b) Section I(34) is worded as follows:*

"

| | | | |
|---|---|---|---|
| 34. Steering gear<br>Number of rudder blades on main rudder | Main rudder drive | - manual *)<br>- electric*) | - electric/hydraulic*)<br>- hydraulic*) |
| Other installations: yes/no*) Type: | | | |
| Flanking rudder: yes/no *) | Flanking rudder drive: | | |
| | | - manual *)<br>- electric*) | - electric/hydraulic*)<br>- hydraulic*) |
| Bow rudder installation yes/no*) | - bow rudder*)<br>- bow thruster*)<br>- other installation*) | - Remote control yes/no*) | Remote activation Yes/no*) |

"

*c) Section I(42) is worded as follows:*

"

| | | |
|---|---|---|
| 42. Other equipment<br>Heaving line<br>Gangway in accordance with Article 13.02(3)(d)*)/ in accordance with Article 19.06(12)*), Length ..... m<br>Gaff hook<br>Number of first-aid kit.....<br>Pair of binoculars<br>Notice concerning rescue of persons overboard<br>Searchlight that can be operated from the wheelhouse<br>Fire-resistant receptacles.....<br>Embarkation stairway/ladder*) | Voice communication system | alternative two-way*)<br>simultaneous two-way/telephone *)<br>internal radio-telephone link *) |
| | Radio telephony systems | vessel-to-vessel service<br>nautical information service<br>vessel-port authority service |
| | Cranes | in accordance with Article 14.12(8)*)<br>other cranes with a working load not exceeding 2000 kg *) |

"

*d) Section I(44) (concerns only the German and Dutch version)*

*e) Section I(47), footnote 1, is worded as follows:*

"[1] The Rhine inspection certificate will refer to: boatman, boatman replaced by an able boatman; operating modes A1, A2 and B."

*f) Section I(48), footnote 2, is worded as follows:*

"[2] The Rhine inspection certificate will refer to: Boatmaster, helmsman, able boatman, boatman, apprentice, engineer: operating modes A1, A2 and B."

*g) Section II(6.2), footnote 1, is worded as follows:*

"[1] The Rhine inspection certificate will refer to: boatman, boatman replaced by an able boatman; operating modes A1, A2 and B."

*h) Section III(13) is worded as follows:*

"

| |
|---|
| 13. The entries concerning the number of crew members in the inland navigation vessel certificate do not apply.(1) |

"

(1) Delete as appropriate.

*i) Section IV, last paragraph is worded as follows:*

"This certificate is only valid on condition that the vessel is in possession of valid maritime or coastal navigation certificates and shall not be valid later than
.....

.....,

(Place) (Date)

Stamp (Inspection body)

(Signature)"

61. *Annex 4*

*a) Figure 3 (concerns only the French version)*

*b) Figure 10 (concerns only the Dutch version)*

62. *Annex 5 is amended as follows:*

*a) Section II, Chapter 1, title is worded as follows:*

**"Chapter 1**
**General"**

*b) Section II, Chapter 4, title is worded as follows:*

**"Chapter 4**
**Minimum technical requirements for rate-of-turn indicators"**

*c) Section II, Article 2.03(2), is worded as follows:*

"2. All controls and indicators shall be provided with symbols and/or markings in English. Symbols shall meet the requirements of International Standard IEC 60417 : 2002 DB (graphical symbols for use on electrical equipment).

All numerals and letters shall be at least 4 mm high. If it can be demonstrated that, for technical reasons, numerals and letters 4 mm high are not possible and if for the purposes of operation smaller numerals and letters are acceptable, a reduction to 3 mm shall be allowed."

*d) Section II, Article 4.03(2), is worded as follows:*

"2. A digital interface shall be designed pursuant to European Standards EN 61162-1 : 2016, EN 61162-2 : 1998 and EN 61162-3 : 2014."

*e) Section III, Article 3 is deleted.*

*f) Section III, the current Articles 4 to 9 become Articles 3 to 8.*

*g) Section III, Article 6 (concerns only the French version)*

*h) Section III, Article 7, the introductory sentence is worded as follows:*

„Before the equipment is switched on for the first time after installation, in case of periodical inspection in order to extend the validity of the inland navigation certificate, as well as after each modification of the vessel likely to affect the operating conditions of the equipment, an installation and performance test shall be carried out by the competent authority or by a specialist firm authorised in accordance with Article 2. The following conditions are to be complied with when installing navigational radar equipment and rate-of-turn indicators:"

*i) Section III, Article 7(a) is worded as follows:*

"a) The device is to be connected directly to a power supply system in accordance with Article 10.02. The device shall feature a power circuit with its own safety device having regard to Article 10.12(2)(a);"

*j) Section III, Article 7(e) (concerns only the Dutch version)*

*k) Section III, Article 8 is worded as follows:*

**Article 8**

*Installation and performance certificate*

After successful completion of a test in accordance with Article 7, the competent authority or the approved specialist firm shall issue a certificate based on the model according to Annex 5 Section V. This certificate shall be kept permanently on board.

If the test conditions have not been met, a list of defects shall be drawn up. Any existing certificate shall be withdrawn or sent to the competent authority or the approved firm."

*l) Section IV, Article 2(4), is worded as follows:*

"4. It must be possible to establish visually whether the equipment is operating. The equipment is to be connected directly to a power supply system in accordance with Article 10.02. The equipment shall feature a power circuit with its own safety device having regard to Article 10.12(2)(a) and be capable of being provided with power at all times."

*m) Section V, Article 2(10), is worded as follows:*

"10. Operating conditions

The devices or device components must operate faultlessly under the following conditions:

| | | |
|---|---|---|
| - | ambient temperature: | 0 °C to + 40 °C |
| - | humidity: | up to 85 % relative air humidity |
| - | type of electrical protection: | IP 54 in accordance with the European Standard EN 60529 : 2014 |
| - | oil resistance: | although intended to be installed in the engine room, the devices or device components must be oil resistant |
| - | permissible time recording tolerances: | ± 2 minutes per 24 hours." |

*n) Section V, Article 3(3), is worded as follows:*

"3. It must be possible to establish visually whether the equipment is operating. The equipment is to be connected directly to a power supply system in accordance with Article 10.02. The equipment shall feature a power circuit with its own safety device having regard to Article 10.12(2)(a) and be capable of being provided with power at all times. The tachograph is to be checked immediately after being switched on to ensure it is working properly."

63. *Annex 6, last (1.2) is worded as follows:*

"

1.2 ☐ Intermediate test ☐ Special test

Name and address of the technical service: .....
.....
.....

Name of the controller: .....

Place and date: .....

Signature: .....

Test recognised by competent authority: .....
.....
.....

Place and date: ..... Seal of the competent authority

Signature: .....

"

64. *Annex 7 is amended as follows:*

*a) Section I, the formula under the Table is worded as follows:*

"if n ≥ 20, $k = \frac{0{,}860}{\sqrt{n}}$

$S_t : \sqrt{\sum_{i=1}^{n} \frac{(x_i - \bar{x})}{n-1}}$

"

*b) Section IX, Appendix 2, paragraph 1, is worded as follows:*

"The International Standards ISO 5815 : 2019 and 5815-2 : 2003 stipulate that in order to carry out the analysis to determine biochemical oxygen demand after five days water samples should be stored immediately after sampling and up to the time of analysis in a brim-full, tightly sealed bottle at a temperature of 0–4 °C. The process of determining $BOD_5$ should be initiated as soon as possible or at least within twenty-four hours of completion of sampling."

65. *Annex 8, Section I, is amended as follows:*

*a) (1.3.2) is worded as follows:*

"1.3.2 The risks are to be determined and assessed using a risk analysis technique recognised by the inspection body, such as International Standards ISO 31000 : 2018 and ISO 31010 : 2019. Loss of function, component damage, fire, explosion, tank room flooding, vessel sinking and electric overvoltage shall as a minimum be considered. The analysis must help to ensure that risks are eliminated wherever possible. Risks which cannot be eliminated entirely are to be mitigated to an acceptable level. The major scenarios and measures for eliminating or mitigating risks shall be described."

*b) (1.4.10) (concerns only the German version)*

*c) (2.8.6) is worded as follows:*

"2.8.6 The bunkering manifold shall be designed to withstand normal mechanical loads during bunkering. The connections shall be of dry-disconnect type and equipped with appropriate additional safety dry break-away couplings."

*d) (2.8.9) is added as follows:*

"2.8.9 All the components of the bunkering system shall be in accordance with European Standard EN 20519 : 2017 (5.3 to 5.7)."

*e) (5.4.1) is worded as follows:*

"5.4.1 Gas warning equipment shall be designed, installed and tested in accordance with a recognized Standard, such as European Standard EN 60079-29-1 : 2016."

66. *ESI-I-1 is modified as follows:*

*a) (4)(10) is worded as follows:*

"10. In respect of vessels with Union inland navigation certificate allowed to navigate on the Rhine, i.e.

a) those which comply fully with requirements of this Standard including the transitional provisions of Chapter 32, and

b) those which make no use of the transitional provisions of Chapter 33 or the reductions provided for zone 4,

the following is to be added to the indent '- on EU waterways in Zone(s)(*)':

a) Rhine or

b) zone R.

As a reminder, based on Article 1.04 and Annex O of the Rhine vessel inspection regulations (RVIR), the Central Commission for the Navigation of the Rhine (CCNR) has recognised these Union certificates as being equivalent, thereby entitling the holder to travel on the Swiss section of the Rhine as far as the Mittlere Brücke."

*b) (44), paragraph 1 is worded as follows:*

"44. Row 3: in inland navigation vessel certificates to be renewed before 1.1.2025 (Chapter 33), the item 'according to Article 13.08(2)' shall be crossed if no lifejackets according to this Standard are onboard."

67. *ESI-I-2, table under "Testing", is amended as follows:*

*a) After the row relating to Article 8.01(2), the following row shall be inserted:*

"

| Requirement | Subject matter | Maximum test interval | Inspector |
|---|---|---|---|
| Article 10.11(17) | Lithium-ion accumulators and fire protection | | Expert |

"

*b) After the row relating to Article 10.11(17), the following row shall be inserted:*

"

| Requirement | Subject matter | Maximum test interval | Inspector |
|---|---|---|---|
| Article 11.08(2) | Electric vessel propulsion | On every periodical inspection | Expert |

"

*c) The row relating to Article 13.08(3) (concerns only the Dutch version)*

68. *ESI-II-3 is amended as follows:*

*a) Annex 2, introductory sentence of Table 1, is worded as follows:*

"**Table 1: k factors for:**

a) MOTOR CARGO VESSELS, MOTOR TANKERS and single file CONVOYS
b) Two-abreast CONVOYS,
c) Three-abreast CONVOYS."

*b) Appendix to Annex 2, example I, (1), is worded as follows:*

"**1. Data of vessels and convoy**

Formation: motor cargo vessel with a (Europa IIa) lighter coupled abreast

| | $L$ [m] | $B$ [m] | $T_{max}$ [m] | $Tgf^{*}{}_{max}$ [t] | $D_{max}$ [m$^3$] | $P_B$ [kW] |
|---|---|---|---|---|---|---|
| Motor cargo vessel | 110 | 11,4 | 3,5 | 2900 | 3731 | 1500 |
| Lighter | 76,5 | 11,4 | 3,7 | 2600 | 2743 | - |
| Convoy | 110 | 22,8 | 3,7 | 5500 | 6474 | 1500 |

Propulsion system of the motor cargo vessel: modern nozzles with rounded rear edge

* $Tgf$ = deadweight."

*c) Appendix to Annex 2, example II, (1), is worded as follows:*

"**1. Data of vessels and convoy**

Formation: motor cargo vessel propelling
2 lighters side-by-side in front and
1 lighter coupled side-by-side.

| | $L$ [m] | $B$ [m] | $T_{max}$ [m] | $Tgf^{*}{}_{max}$ [t] | $D_{max}$ [m$^3$] | $P_B$ [kW] |
|---|---|---|---|---|---|---|
| Motor cargo vessel propelling | 110 | 11,4 | 3,5 | 2900 | 3731 | 1500 |
| Each lighter | 76,5 | 11,4 | 3,7 | 2600 | 2743 | - |
| Convoy | 186,5 | 22,8 | 3,7 | 10700 | 11960 | 1500 |

Propulsion system of the self-propelled motor cargo vessel: modern nozzles with rounded rear edge.

* $Tgf$ = deadweight

*d) Appendix to Annex 2, example II(4.2)(f) is worded as follows:*

"f) Calculation of $F_{POR}$ according to formula (4.6) and table 2

$F_{POR} = 0{,}118 \cdot 1500 = \mathbf{177}\ [\boldsymbol{kN}]$"

69. *ESI-II-4(2.2), Table, is worded as follows:*

“

| | Dimensions of vessels or convoys $L$ x $B$ [m] | Required turning speed $r_1 = r_3$ [°/min] | | Limit values for the time $t_4$ (s) in shallow and deep water | | |
|---|---|---|---|---|---|---|
| | | $\delta$ = 20° | $\delta$ = 45° | 1,2 ≤ h/T ≤ 1,4 | 1,4 < h/T ≤ 2 | h/T > 2 |
| 1 | All motor cargo vessels, motor tankers, passenger vessels and motorised floating equipment; single-in-line convoys ≤ 110 × 11,45 | 20°/min | 28°/min | 150 s | 110 s | 110 s |
| 2 | Single-in-line convoys up to 193 × 11,45 or two-abreast convoys up to 110 × 22,90 | 12°/min | 18°/min | 180 s | 130 s | 110 s |
| 3 | Two-abreast convoys ≤ 193 × 22,90 | 8°/min | 12°/min | 180 s | 130 s | 110 s |
| 4 | Two-abreast convoys up to 270 × 22,90 or three-abreast convoys up to 193 × 34,35 | 6°/min | 8°/min | *) | *) | *) |
| | *) In accordance with the decision of the nautical expert. | | | | | |

“

70. *ESI-II-5 is amended as follows:*

*a) (2) is worded as follows:*

“**2. Measuring instruments**

The measuring instrument shall meet the requirements of class 1 according to European Standard EN 61672-1 : 2013.

Before and after each set of measurements, a class 1 calibrator according to European Standard EN 60942 : 2018 shall be placed on the microphone in order to calibrate the measurement system. The compliance of the calibrator with the requirements of European Standard EN 60942 : 2018 shall be checked once per year. The compliance of the measuring equipment with the requirements of EN 61672-1 : 2013 shall be checked every two years.”

*b) (3.1) is worded as follows:*

“3.1 On board craft

Measurements shall be carried out in accordance with International Standard ISO 2923 : 1996 Sections 5 to 8 measuring only A-weighted sound pressure levels.

*c) (3a.1) is worded as follows:*

“3a.1 On board craft

Measurements shall be carried out in accordance with the International Standard ISO 2923 : 1996, sections 5 to 8, measuring only A-weighted sound pressure levels.

*d) Appendix 1, title, is worded as follows:*

**"Appendix 1**
***Noise Measurement Report***
***- Craft which were laid down after 1 April 1976 -***
***- on board craft in accordance with International Standard ISO 2923 : 1996***
***- air noise emitted from craft in accordance with European Standard EN ISO 2922 : 2013*)"**

71. *ESI-II-6 is amended as follows:*

*a) (4.2.1)(3) is worded as follows:*

"3. Light sensitivity
0.6 Lux in colour mode, 0.1 Lux in black and white mode (in accordance with European Standard EN 61146-1 : 1996 with the corresponding lens without image integration).

*b) (4.3)(11), is worded as follows:*

"11. Monitor location/operation
The radar screen and its controls must be installed in accordance with the requirements for installation and performance tests for navigational radar installations and rate-of-turn indicators in inland navigation (ES-TRIN, Annex 5, Section III, Article 4)."

72. *ESI-II-9 is amended as follows:*

*a) Section 1 is worded as follows:*

**"Section 1**

**Authorised special anchors**

Special anchors with a reduced mass, authorised by competent authorities according to Article 13.01(5) are listed in the following table.

| Anchor nr. | Accepted reduction of the anchormass (%) | Competent Authority |
|---|---|---|
| 1. HA-DU | 30 % | Germany |
| 2. D'Hone Spezial | 30 % | Germany |
| 3. Pool 1 (hol) | 35 % | Germany |
| 4. Pool 2 (massief) | 40 % | Germany |
| 5. De Biesbosch-Danforth | 50 % | Germany |
| 6. Vicinay-Danforth | 50 % | France |
| 7. Vicinay AC 14 | 25 % | France |
| 8. Vicinay Typ 1 | 45 % | France |
| 9. Vicinay Typ 2 | 45 % | France |
| 10. Vicinay Typ 3 | 40 % | France |

| | | | |
|---|---|---|---|
| 11. | Stockes | 35 % | France |
| 12. | D'Hone-Danforth | 50 % | Germany |
| 13. | Schmitt high holding anchor | 40 % | Netherlands |
| 14. | SHI high holding anchor, type ST (standard) | 30 % | Netherlands |
| 15. | SHI high holding anchor, type FB (fully balanced) | 30 % | Netherlands |
| 16. | Klinsmann anchor | 30 % | Netherlands |
| 17. | HA-DU-POWER anchor | 50 % | Germany |
| 18. | HYT-12 HHP anchor | 40 % | Netherlands |

"

*b) Section II(2.6), title of the diagram, is worded as follows:*

"**Model breaking force diagram**
**(Determining the surface areas $AA$ and $AB$)**"

73. *ESI-II-12(1.2.2) is worded as follows:*

"1.2.2 There shall be at least two power sources for the electrical part of the fire alarm system, one of which shall be an emergency power system (i.e. emergency power source and emergency switchboard). There shall be two separate power-feeds solely for this purpose. These shall lead to an automatic switch in or near the control panel of the fire alarm system.

A separate emergency power supply is sufficient

- on day-trip vessels up to 25 m $L_{WL}$,
- on recreational craft,
- on motorised floating equipment,
- on motor cargo vessels and
- on motor tankers."

74. *ESI-III-1(1) heading and paragraph 1 (concerns only the German version)*

75. *ESI-III-2(1), paragraph 5, is worded as follows:*

"The definition of the term 'persons with reduced mobility' used in the Standard is largely identical to that of the Directive and most of the technical requirements are based on the above mentioned guide. In cases of doubt, therefore, both can be referred to when taking decisions. In general, the requirements of the Directive and the guide go beyond those of this Standard."

76. *ESI-III-6(2.2) is worded as follows:*

"2.2 Coupling points between pushing motor cargo vessel or pushing motor tanker and pushed craft:

$$F_{SF} = 80 \cdot P_B \cdot \frac{L_S}{h_K} \cdot 10^{-3}\ [kN]"$$

77. *ESI-III-8(2) is worded as follows:*

**"2. Requirements in Article 26.01 which are already covered under Directive 2013/53/UE**

For recreational craft subject to Directive 2013/53/UE the inspection body shall as regards to the issuance of the inland navigation vessel certificate (initial inspection) not require further inspection or certification of the following requirements of Article 26.01(2), provided that the craft presented for inspection has been placed on the market no more than 3 years before the date of presentation to the inspection body and no modifications to the craft have been carried out, and the Declaration of Conformity refers to the following harmonised Standards or their equivalence:

| | | |
|---|---|---|
| Article 7.02 : | EN ISO 11591 : 2019, | (Unobstructed view) |
| Article 8.05(5) : | EN ISO 10088 : 2013, | (Fuel tanks and pipes) |
| Article 8.08(2) : | EN ISO 15083 : 2018, | (Bilge pumping) |
| Article 8.10 : | EN ISO 14509-1 : 2018 and EN ISO 14509-3 : 2019, | (Noise emission)". |

78. *ESI-III-10 is amended as follows:*

*a) (3.1) is worded as follows:*

"**3.1 (1) – Motor cargo vessel or motor tanker operating separately**

Motor cargo vessels or motor tankers that can prove that they are capable of pushing on the basis of the inland navigation vessel certificate, but which

a) are not equipped with hydraulic or electric coupling winches, or

b) whose hydraulic or electric coupling winches do not comply with the requirements in (3.3) of this instruction

come under standard S2 as a motor cargo vessel or a motor tanker operating separately. The following statement shall be entered under item 47 on the inland navigation vessel certificate: 'Standard S2 does not apply to the motor cargo vessel or the motor tanker when pushing'."

*b) (3.2) is worded as follows:*

"**3.2 (3) – Pushed convoys**

Motor cargo vessels or motor tankers that can prove that they are capable of pushing on the basis of the inland navigation vessel certificate and are equipped with hydraulic or electric coupling winches that fulfil the requirements of (3.3) of this instruction but which do not have their own bow thruster shall be given the standard S2 as motor cargo vessel or a motor tanker pushing a convoy. The entry 'Standard S2 does not apply to the motor cargo vessel or a motor tanker when operating separately' shall be entered under item 47 of the inland navigation vessel certificate."

*c) (3.4) is worded as follows:*

**“3.4 (3), second sentence, and (4)(d), second sentence — Operating the bow thruster**

The control for operating the bow thruster shall be permanently installed in the wheelhouse. The requirements of Article 7.04(8) shall be complied with. The electric cabling to operate the bow thruster shall be permanently installed up to the fore section of the pushing motor cargo vessel, the pushing motor tanker or the pusher.”

79. *ESI-IV-1 (concerns only the Dutch version)*

*a) (2.1.2)*

*b) (3.1.1).*

***