
LEGEND LÉGENDE УСЛОВНЫЕ ОБОЗНАЧЕНИЯ
Main waterways
Voies navigables principales
Основные водные пути
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Branches
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BERLIN REGION - RÉGION DE BERLIN - РАЙОН БЕРЛИНА
North Sea
Baltic Sea
White Sea
Atlantic Ocean
Mediterranean Sea
Black Sea
Caspian Sea
Aral Sea

Passenger transport data

- In the EU area there are at least 40 million pax/year transported by about 3000 small daily trip vessels, mainly built in fiberglass. In view of the 2016/1629 expansion at the pan-European level, we must consider even larger numbers (only in the Russian Federation there are 13 million pax/year and 1500 passenger ships).

Passenger transport data

- **Rhine – Danube basin**
  - Short line cruises (Passau–Vienna–Bratislava–Budapest): 370.000 passengers
  - Long line cruises (Passau – Danube Delta): 84.000 passengers
  - Long line cruises (Amsterdam-Budapest): 840.000 passengers
  - Daily trip:
  - Vienna, Budapest, Passau: 1.200.000 passengers
  - Other daily trip: no reliable data
  - The Rhine passenger fleet: no reliable data
  - The Danube passenger fleet consists of about 170 vessels with approximately 40.000 places for passengers.

Passenger transport data

- **Russian rivers and canals**
  - 12.7 million passengers transported in 2014
  - Passenger fleet: 1,505 ships
- **Waterways of The Netherlands, Belgium and France**
  - There is significant passenger traffic, overall being daily trips, but there's no availability of up to date information about fleet and number of passengers per year

Passenger transport data

- **Italian waterways**
  - Northern and central Lakes:
    - Passengers: 10 mil
    - Fleet:
      - 500 small ships (from 20 to 150 pax each)
      - 100 ships (from 150 to 1200 pax each)
  - Venetian lagoon:
    - Passengers: 18 mil
    - Fleet:
      - 800 ships (from 10 to 150 pax each)
      - 200 ships (from 150 to 1200 pax each)

Introduction

SC.3/WP.3 has started work on aligning resolution No. 61, harmonized with Directive 2006/87/EC, with the European Standard laying down technical requirements for inland navigation vessels (ES-TRIN) developed by the European Committee for drawing up Standards in the field of Inland Navigation (CESNI).

Directive 2006/87/EC

- Directive 2006/87/EC, since its entry into force, had a negative impact on the construction and operation of this vessel type which resulted in:
  - a significant drop in orders for vessels of this type in many European countries
  - purchasing second-hand boats by shipowners and a few number of newbuildings that were possible only on the basis of exemptions granted by the Classification Societies and administrations, therefore, with a restricted navigation area.

Directive 2006/87/EC

- The difficulties of application don't depend on the navigation area, nor on the country in which they operate, but only on technical reasons that then lead to the development of requirements suitable for this type of unit

Directive 2006/87/EC

- The entry into force of Directive (EU) 2016/1629 which repeals Directive 2006/87/EC, is not likely to improve the existing situation. However, some classification societies apply special requirements for passenger ships not exceeding 24 metres in length and allowed to carry up to a maximum of 150 passengers
- The proposed amendment is aimed to resolve this and, if adopted as a part of the annex to resolution No. 61, could make it an efficient tool addressing the needs of the sector.


0028VBT

Main technical issues of ES TRIN

- ES TRIN is a standard full copied from the Rhine regulation
- This regulation has been developed for large freight or cruise vessels (even over 100m in length), many years ago
- The requirements it contains are not technically applicable to small ships, especially to daily trip passenger craft

Main technical issues of ES TRIN

- Designers are unable to apply this standard except through national technical derogations
- These derogations differ from country to country and this involves:
  - a contradiction of the unifying principle for which the Directive was designed
  - a brake on the European market in the sector, which remains relegated to national areas
  - an enormous series of technical and administrative complications that discourage small owners and shipyards

Main technical issues of ES TRIN

- Most problems depend on the size, speed and service of these units:
  - requirements with respect to muster- and evacuation areas
  - stability requirements, including damaged stability
  - provisions for reduced mobility persons
  - strength and fire protection related to other materials than steel
  - live saving equipment

Main technical issues of ES TRIN

- most of the boats in question has a cruising speed > 12 knots, which does not allow it to meet the ES TRIN stability requirements
- the coefficient used in the ES TRIN for turning moment can be used for large displacement boats, with Froude numbers < 0.4.
- for boats of modest dimensions and planning, such as the ones in question, the Froude number is well above 0.4, which makes it impossible to satisfy the requirement set in the ES TRIN

Draft chapter 15B

15B-1 General

- 15B-1.1 For the purpose of the chapter, the term “passenger daily trip vessel” means commercial passenger vessels not exceeding 24 metres in length and authorized to carry up to a maximum of 150 passengers
- 15B-1.2 This chapter applies to passenger vessels with hulls made of steel, fibre reinforced plastic (FRP) or aluminium alloys
- 15B-1.3 The requirements of this chapter do not apply to recreational craft which have to comply with Directive 2013/53 / EU

Draft chapter 15B

15B-2 Strength and stability

- 15B-2.1 The hull strength shall comply with the requirements of a recognized Classification Society.
- 15B-2.2 When checking the intact stability by means of a calculation, provisions of chapter 15 are applied with due regard of the following:

  (a) the heeling angle resulting from moments due the sum of the two moments due to passengers and wind shall not exceed 12°

  (b) the heeling angle resulting from moments due to the turning of the vessel shall not exceed 10° and shall be calculated according to the following formula:

Draft chapter 15B

15B-2 Strength and stability

$$M_{\mathrm{r}} = C_{\mathrm{dr}} \times C_{\mathrm{B}} \times v^2 \times \frac{\Delta}{L_{\mathrm{WL}}} \times \left(KG - \frac{T}{2}\right),$$ where:

- C_{dr} = coefficient; C_{dr} = 0.20;
- C_B = block coefficient (if not known, taken as 1.0);
- v = maximum speed of the vessel, in [m/s];
- Δ = displacement of the vessel, in [t];
- L_{WL} = length of waterline at the maximum draught, in [m];
- KG = distance between the centre of gravity and the keel line, in [m];
- T = draught, in [m].

Draft chapter 15B

15B-2 Strength and stability

- 15B-2.3 For a heeling moment resulting from:

(a) the sum of the two moments due to passengers and wind;

(b) the moments due to turning;

the residual freeboard shall be not less than 0,20 m.

Draft chapter 15B

15B-2 Strength and stability

- 15B-2.4 For vessels with windows or other openings in the hull located below the bulkhead decks and not closed watertight, the residual safety clearance shall be at least 0.10 m on the application of:

  (a) a heeling moment resulting from the sum of the two moments due to passengers and wind;

  (b) a heeling moment resulting from the moments due to turning.


FLYING-DUTCHMAN

Draft chapter 15B

15B-2 Strength and stability

- 15B-2.5 Requirements to prove the damaged stability it's not necessary for passenger vessels, provided that shall be proven the following points:

  (a) Vessel that is not classified as "high speed vessel";

  (b) Vessel cruising within one hour from safe anchorage or harbor

Draft chapter 15B

15B-3 Safety clearance and freeboard

- 15B-3.1 The freeboard shall be at least equal to the sum of:

  (a) the additional lateral immersion, which, measured on the outside plating, is produced by the heeling angle due to passengers + wind, or to turning, and

  (b) the residual freeboard according to 15B-2.3.

For vessels without a bulkhead deck, the safety clearance shall be at least 500 mm.

Draft chapter 15B

15B-3 Safety clearance and freeboard

- 15B-3.2 The safety clearance shall be at least equal to the sum of:

  (a) the additional lateral immersion, which, measured on the outside plating, is produced by the heeling angle due to passengers + wind, or to turning, and

  (b) the residual safety clearance according to 15B-2.4.

  However, the remaining freeboard shall be not less than 300 mm.

Draft chapter 15B

15B-4 Passenger rooms and areas

- 15B-4.1 For passenger vessels engaged in voyages not longer than 30 minutes and/or at a distance less than 8 km from the shore, toilets for passengers may be dispensed with
- 15B-4.2 Uncovered bow and stern areas may be considered as muster areas, provided that they are equipped with handrails, exit lattice gates on both sides, and two exit doors in the passenger spaces
- 15B-4.3 Passenger daily trip vessels engaged in voyages not longer than 30 minutes and/or at a distance less than 8 km from the shore, may not be equipped with special areas and places intended for use by persons with reduced mobility

Draft chapter 15B

15B-5 Propulsion system

- 15B-5.1 For passenger vessels engaged in voyages not longer than 30 minutes from the shore and/or at a distance less than 8 km from a safe harbour, the second independent propulsion system is not required.
- 15B-5.2 In case of failure or malfunctioning of the drive unit, it shall be possible to bring the second independent drive unit or the manual drive, will comes into use in time to guarantee the safety navigation if the steering apparatus drive unit fails or malfunctions

Draft chapter 15B

15B-6 Ship's boat and life-saving appliances

- 15B-6.1 In case a passenger daily trip vessel, engaged in voyages not longer than 30 minutes and/or at a distance less than 8 km from the shore, provided they are equipped with a platform, accessible from each side of the vessel, directly above the line of flotation, so as to enable persons to be recovered from the water, ship's boats may be dispensed with.
- 15B-6.2 Passenger vessels engaged in voyages not longer than 30 minutes and/or at a distance less than 8 km from the shore, shall be equipped with the following individual life-saving appliances: individual life jackets for all persons on board, additional lifejackets for children in quantity equal to 10% of the total number of persons and at least 3 lifebuoys.

Draft chapter 15B

15B-7 Toilets available for passengers

- 15B-7 In accordance with the dimensions of the ship and considering that the navigation takes place within 30 minutes and/or at a distance less than 8 km from the shore from the coast, the toilets available for passengers are not required

Draft chapter 15B

15B-8 Provisions for reduced mobility persons

- 15B-8 These provisions are not required, as, in accordance with the size of the ship, the application is difficult in practice and incurs unreasonable costs.
  It should also be noted that there are no piers, adequate / equipped for PMR


Thank you for your attention
Skadar lake and Bojana river