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INLAND TRANSPORT COMMITTEE

Working Party on Inland Water Navigation

Working Party on the Standardization of Technical
and Safety Requirements in Inland Navigation
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**AMENDMENT OF THE RECOMMENDATIONS ON TECHNICAL
REQUIREMENTS FOR INLAND NAVIGATION VESSELS
(ANNEX TO RESOLUTION NO. 17, REVISED)**

Transmitted by the Group of Volunteers

Note: Reproduced below is the text of amended chapter 8 "Anchor equipment" of the annex to resolution No. 17, revised, prepared by the Group of Volunteers after its St. Petersburg and Geneva meetings. The text derived from the draft revised Directive 82/714/EC is shown in italics, while the new text proposed by the Group of Volunteers is shown in bold. To facilitate the finalization of the text of the whole of the amended annex, all the cross-references are put in square brackets.

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CHAPTER 8

~~ANCHORING MOORING AND TOWING~~ ANCHOR EQUIPMENT

8-1 GENERAL

8-1.1 ~~Every~~ Vessels shall be provided with ~~anchoring and mooring devices~~ **anchor equipment** ~~appropriate according to its~~ **their** type and size and to the waterways on which ~~its~~ **their** use is ~~allowed~~ **intended for**.

~~8-1.2~~ ~~Every vessel licensed to tow shall be provided with towing devices appropriate to its type and size and to the waterways on which its use in towing is allowed.~~

~~8-1.3~~ ~~The characteristics and construction of the anchoring mooring and towing devices shall conform to the requirements of the Administration or to the rules of a recognized Classification Society.~~

~~8-1.4~~ The ~~anchoring mooring and towing devices shall be secured sufficiently firmly to the vessel's hull.~~

~~8-1.5~~ ~~The devices shall be so arranged that anchoring, mooring and towing can be effected without difficulty and without danger to persons.~~

8-1.2 *Cast iron anchors shall not be permitted*^{1/}.

8-1.3 **For anchors with increased holding power the Administration may reduce the mass calculated according to [8-2 and 8-3]**^{2/}.

8-2 ~~ANCHORS AND CHAINS~~ BOW ANCHORS

8-2.1 ~~The bows of Vessels intended for the carriage of goods, apart from ship-borne lighters whose length L does not exceed 40 m, and tugs,~~ shall be equipped with **bow anchors** whose total mass P **in kg** is obtained from the following formula^{3/}:

^{1/} EC Directive, article 10.01(7).

^{2/} TRANS/SC.3/104/Add.3, para. 8-2.1.3, amended.

^{3/} EC Directive, article 10.01(1).

$$P = cT\sqrt{BL/8},$$

Where *c* is the ~~empirical~~ coefficient taken according to the table:

Tonnage (t)	Value of c
Up to 400 inclusive	45
From 400 to 650 inclusive	55
From 650 to 1000 inclusive	65
Over 1000	70

[*L* is the maximum length of the hull, in m;

B is the maximum breadth, in m;

T is the maximum permissible draught, in m]^{4/}.

For lighters $P = cBT$.

Passenger vessels and vessels not intended for the carriage of goods including pusher tugs shall be equipped with bow anchors whose total mass *P* is obtained from the following formula⁵-in kg is calculated according to the formula and the table stated above, using the displacement in cubic meters instead of the tonnage.

8-2.2 For basins where the current velocity does not exceed 6 km/h, the anchor equipment of vessels shall be assigned according to the equipment number *N* in m² calculated according to the formula:

$$N = L_{WL} (B_{[WL]} + H) + K \sum LH$$

[where: *L*_{WL}, *B*_[WL]⁶, *H* – moulded length, moulded breadth and height⁷ of a vessel in m]^{4/},

k is the coefficient taken equal to 1.0 for vessels for which the total length of superstructures and deckhouses on all decks exceeds half of the vessel's length, and equal to 0.5 for vessels for which the above-mentioned length is within 0.25 to 0.5 of the vessel's length. When the total length of superstructures and deckhouses is less than 0.25 of the vessel's length, superstructures and deckhouses may be dispensed with for the equipment number calculations;

l is the length of individual superstructures and deckhouses in m;

h is the average height of individual superstructures and deckhouses in m.

^{4/} Description of symbols to be deleted after the completion of amendment of chapter 1.

^{5/} EC Directive, article 10.01(2).

^{6/} To be checked.

^{7/} To check in the beginning of the annex the symbols for the dimensions (not to mix moulded, overall etc. dimensions).

For vessels intended to carry cargo on deck the value of the parameter ΣLH shall be calculated as the product of the lateral projection length of the cargo stowed on the deck together with cargo limiting structures and its average height, and coefficient K shall be taken as 0.5 for vessels intended to carry only loose cargoes in bulk, and 1.0 for vessels intended to carry other deck cargoes.

The mass of bow anchors P in kg shall be not less than:

- (i) for vessels having the equipment number N up to 1000 m²:

$$P = KN;$$

- (ii) for vessels having the equipment number $N = 1000$ m² and over:

$$P = KN(1000/N)^{0.2},$$

where K is the coefficient, generally taken equal to 1.0, however, the Basin administration may assign other value of this coefficient depending on the navigation conditions.

8-2.3 Where two bow anchors are provided, their masses shall be equal to each other or differ by not more than 10 per cent.^{8/}

8-3 STERN ANCHORS

8-3.1 ~~Vessels referred to in section 1~~ shall be equipped with stern anchors whose total mass is equal to 25 per cent of mass P calculated in accordance with ~~that figure~~ [8-2.1].

~~However,~~ Vessels with a maximum length over 86 meters shall be equipped with stern anchors of ~~the~~ total mass equal to 50 per cent of ~~the~~ mass P calculated in accordance with ~~according to~~ [8-2.1].

Stern anchors are not required for:

- (i) vessels for which the stern anchor mass will be less than 150 kg; ~~in the case of the vessels referred to in section 1, final paragraph, it is the reduced mass of the anchors which must be taken into account;~~
- (ii) ~~pushed~~ lighters.^{9/}

8-3.2 Vessels intended to ~~propel~~ push convoys not more than 86 m in length shall be equipped with stern anchors whose total mass is equal to 25 per cent of ~~maximum~~ mass P calculated in accordance with [8-2.1] ~~section 1~~ for the largest formation (considered to be a nautical unit) permitted and ~~mentioned~~ entered in the certificate.

^{8/} On the basis of EC Directive, article 10.01(6).

^{9/} EC Directive, article 10.01(3).

~~—————The Vessels intended to propel~~ **push** rigid convoys that are longer than 86 m downstream shall be equipped with stern anchors whose total mass ~~equals~~ **is equal to 50 % per cent of the greatest mass P** calculated in accordance with ~~[8-2.1] section 1~~ for the largest formation (considered to be a nautical unit) ~~p permitted and mentioned~~ **entered** in the certificate.^{10/}

8-3.3 For basins where the current velocity is below 6 km/h, the total mass of stern anchors shall be similarly calculated as in [8-3.1 and 8-3.2], in accordance with the mass P calculated in [8-2.2].

8-4 ANCHOR CHAINS AND ROPES CABLES

8-4.1 Each **bow** anchor chain shall have a minimum length of:

- ~~at least~~ 40 m for vessels not exceeding 30 m in length;
- ~~at least 10 m longer~~ **greater than the vessel' length** where ~~it~~ **the vessel' length** is between 30 and 50 m ~~in length~~;
- ~~at least 60 m where~~ **for** vessels ~~are~~ more than 50 m in length.^{11/}

8-4.2 Each of the stern anchor chains shall be at least 40 m long. However, where vessels need to stop facing downstream they shall have stern anchor chains that are each at least 60 m in length.^{12/}

8-4.3 The use of cables instead of anchor chains is permitted. **In this case the cable shall be connected to the anchor by means of a chain with a length sufficient for securing the anchor in its stowed position by means of a chain stopper.** The cables shall have the same tensile strength as that required for chains and shall be 20 % **per cent** longer.^{13/}

8-5 8-4 ANCHOR HANDLING EQUIPMENT ~~HAWSE PIPES, STOPPERS, WINDLASSES AND WINCHES AND CHAIN LOCKERS~~

8-5.1 ~~8-4.1~~ Every Vessels shall be provided with all necessary fittings **and equipment such as hawse pipes, stoppers and winches** and with all such other equipment as is needed for dropping and lifting the anchors and for riding at anchor. If the mass of ~~an the main~~ anchor is 50 kg or more, the vessel shall be provided with **a windlass or a winch** for lifting ~~it anchor~~.

8-5.2 ~~8-4.2~~ The fittings and their fastenings to the hull shall be strong enough to withstand a pulling load at least equal to the breaking load of the chains or ~~ropes~~ **cables** for which they are intended.

^{10/} EC Directive, article 10.01(4).

^{11/} EC Directive, article 10.01(10).

^{12/} EC Directive, article 10.01(10), second part.

^{13/} Directive Article 10.01.14

8-5.3 ~~8-4.3~~ The chain lockers shall be of sufficient capacity to contain the whole of the anchor chain without difficulty.

8-5.4 Each anchor chain or ~~rope~~ **cable** shall be securely ~~fixed~~ **attached** at its end to a reinforced part of ~~the chain locker or of a component of the hull.~~ **The attachment** shall if necessary incorporate a ~~slipping~~ **release** device.
