COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 08.12.1997
COM(97) 644 final

97/0335 (SYN)

Proposal for a

COUNCIL DIRECTIVE

amending Directive 82/714/EEC of 4 October 1982 laying down technical requirements for inland waterway vessels

(presented by the Commission)

EXPLANATORY MEMORANDUM

A. FOREWORD

1. Directive 82/714/EEC of 4 October 1982 laid down harmonised technical requirements for inland navigation vessels. The central purpose of the proposal presented here is to update Directive 82/714/EEC in line with technical progress in order to improve safety and in order to promote inland navigation transport, which is a very environmentally-friendly mode of transport.

B. GENERAL REMARKS

2. Inland navigation vessels in Europe are currently subject to different regimes as regards technical requirements. These are laid down by the following instruments:

- The revised Regulation on Inspection of Shipping on the Rhine of 1 January 1995, referred to hereafter as "the Rhine Rules", as adopted by the Central Commission for Navigation on the Rhine (CCNR). This applies to vessels operating on the waterways covered by the Revised Convention for Rhine Navigation (Mannheim Convention) of 1868;

- Council Directive 82/714/EEC of 4 October 1982. The technical requirements in Annex II to this Directive apply on Community waterways outside the Rhine, but the Directive incorporates the Rhine Rules in so far as the Rhine is concerned;

- the UN Economic Commission for Europe (ECE) Recommendations on (uniform) technical requirements for inland waterway vessels (Annex to Resolution No 17, rev., 14 October 1981).

3. Apart from the differences in the geographical scope of these provisions, they also have different legal force. The Regulation on Inspection of Shipping on the Rhine is applicable within the area covered by the Mannheim Convention and binding for its signatories (Belgium, France, Germany, the Netherlands and Switzerland). The Council Directive is, of course, binding on EU Member States and must be transposed into national law. However, those Member States which have inland waterways which are not linked to the international network can, on the basis of Article 7.1(a), exempt vessels on these waterways from the application of the Directive. The international waterway network only extends to six Member States - Austria, Belgium, France, Luxembourg, Germany and the Netherlands. In contrast, the UN Economic Commission for Europe's (ECE) Recommendations on (uniform) technical requirements for inland waterway vessels, as specified in the Annex to Resolution No 17 of the Principal Working Party on Inland Water Transport, are not binding

4. There are also differences in the technical level required by the three instruments and their scope of application. The 1995 Rhine Rules represent the most up to date technical requirements, and cover a wider range of vessels than Directive 82/714/EEC. The great majority of new vessels brought into service in the Community today are in fact constructed and fitted out according to the Rhine Rules. The technical requirements set out in the Annexes to Directive 82/714/EEC, however, are based on the Rhine Rules which were in force in 1982. As for the ECE Recommendations on technical requirements (Annex to Resolution No 17, rev., 14 October 1981), these are also based on the old Rhine Rules and are now out of date as well. In view of this fact, discussions are currently being held within the ECE on adapting the Annex to Resolution No 17 to bring it in line with the 1995 Rhine Rules.

5. To sum up the current situation, then, there is a core area formed by the Rhine where the most up-to-date safety and technical requirements are in force, there is a secondary area around this formed by the other waterways of the six EU Member States concerned where the requirements of Annex II of the 1982 Directive are in force, and there is a third area outside the EU where the ECE Recommendations may be adopted by non-EU European states. The result of this is that, whilst there is an international waterway network which includes six EU Member States and which, since the construction of the Rhine-Main-Danube Canal in 1992, links the Black Sea to the North Sea, there is no common standard for vessels operating on this network. Even within the EU itself, two different sets of technical requirements apply.

6. There is therefore an urgent need to update the technical requirements laid down by Directive 82/714/EEC, and not simply because they are becoming out of date. It is logical that this process should take the form of a revision of the technical requirements in line with the latest Rhine Rules, not only because these represent the most up to date safety standards which have also proved their worth in practice but, in addition, because this is also the approach being taken by the UNECE. However, a simple revision of the Annexes alone would not be sufficient as can be seen from the explanations given in part E. of this explanatory memorandum.

C. JUSTIFICATION FOR ACTION AT COMMUNITY LEVEL (SUBSIDIARITY)

(a) What are the objectives of the proposed action in relation to the Community's objectives?

7. The objectives are to guarantee the highest level of safety in inland navigation and to establish a single market in waterway transport services through the adoption of common technical standards.

[redacted]

(b) Does competence for the planned activity lie solely with the Community or is it shared with the Member States?

8. This proposal is presented on the basis of Article 75 (1) of the Treaty and competence is shared with the Member States.

(c) What is the Community dimension of the problem (for example, how many Member States are involved and what solution has been used up to now)?

9. Directive 82/714/EEC is addressed to all Member States but, as noted above, Member States may exempt vessels on waterways not connected to the European international waterway network from its provisions. The proposed revision of the Directive will not affect this.

(d) What means of action are available to the Community?

10. Not applicable - this proposal concerns the revision of an existing Directive.

(e) What real added value will the activity proposed by the Commission provide and what would be the cost of inaction?

11. The action will improve safety in inland waterway transport, ensure a single set of technical requirements for inland waterway vessels within the EU, and also contribute to harmonisation on a pan-European level. This will facilitate transport by inland waterway and thereby contribute to a modal shift in favour of waterways and a reduction in the overall level of environmental damage brought about by transport activities. The cost of inaction would be an increasing divide between the regimes in force on the Community's waterways and a consequent fracturing of the market.

12. In addition, shipbuilders will be able to construct vessels according to harmonised specifications for a larger, single market.

(f) What forms of action are available to the Community (recommendation, financial support, regulation, mutual recognition, etc. ...?)

Not applicable - action concerns revision of existing legislation.

(g) Is it necessary to have a uniform Regulation or is a Directive setting out the general objectives sufficient, leaving implementation at the level of the Member States?

Not applicable - action concerns revision of existing legislation.

D. COHERENCE WITH OTHER COMMUNITY POLICIES

13. The Community has adopted a series of legislative acts to establish a single market in the waterway sector. In particular,

> Council Directive 76/135/EEC on reciprocal recognition of navigability licenses for inland waterway vessels:
>
> Directive 87/540/EEC on access to the occupation of carrier by inland waterway in national and international transport and on the mutual recognition of diplomas, certificates and other evidence of formal qualifications for this occupation:
>
> Council Regulation (EEC) No 3921/91 laying down the conditions under which non-resident carriers may transport goods or passengers by inland waterway within a Member State:
>
> Council Directive 96/50/EC) on the harmonisation of the conditions for obtaining national boatmasters' certificates for the carriage of goods and passengers by inland waterway in the Community.
>
> Council Regulation (EC) N° 1356/96 on common rules applicable to the transport of goods or passengers by inland waterway between Member States with a view to establishing freedom to provide such transport services.
>
> Council Directive 96/75./EC on the systems of chartering and pricing in national and international inland waterway transport in the Community.

This legislation has largely established a single market in inland waterway transport on the Community's waterway network.

14. Finally, the Commission's proposal is in conformity with the Community's policy in external relations. Under the terms of the Europe Agreements, associated countries are obliged to approximate their laws to those of the Community. Those associated countries which are linked to the Community's waterways (Bulgaria, Czech Republic, Hungary, Poland, Rumania and Slovakia) are therefore obliged to comply with the requirements of Directive 82/714. However, many of these countries base their legislation on the ECE Recommendations, which are in the process of being revised in line with the 1995 Rhine Rules. Unless the EC Directive is also updated, there is a danger that associated countries might be obliged to approximate their laws to legislation which in some areas is outdated in comparison with their own. Updating the Directive in line with the Rhine Rules will therefore facilitate the approximation of laws in the associated countries as well as contribute to the harmonisation of technical requirements on a pan-European scale.

E. CONTENTS OF THE PROPOSAL

Article 1

15. The third indent of Article 1 is re-worded. The existing wording classes all other Community waterways not listed in Annex 1 as Zone 4 waterways. This is misleading, because there are certain waterways where Member states have chosen to exempt vessels from the application of the Directive and which are therefore not listed in Annex 1, but which may not in fact correspond to the navigation criteria for Zone 4. The new wording therefore refers only to Zone 4 waterways specifically included in Annex 1.

16. Article 2 is replaced in order to bring the scope of application of the Directive closer into line with that of the Rhine Rules, in the interests of harmonisation and safety. Thus, vessels over 20 meters in length or with a displacement of 100 cubic meters or more now come within the scope of the Directive. Passenger vessels built to carry more than 12 passengers now also fall under the scope of the Directive, as do floating equipment and floating establishments. Sea-going vessels, however, remain exempt from the scope of the Directive as long as they are in possession of the relevant maritime certificates concerning sea-worthiness and protection of the sea.

17. The text of Article 3, first indent is replaced. According to the existing text of the Directive, vessels in possession of a Community inland navigation certificate are not permitted to navigate on Zone R waterways, in other words, on those Community waterways where the Rhine Rules apply. This is reasonable, since Community certificates are currently issued according to standards which are not equivalent to those on the Rhine. However, once the Annexes to the Directive have been updated in line with the 1995 Rhine Rules, new vessels issued with a Community certificate stating full compliance with the technical requirements laid down in the Annexes will meet exactly the standards in force on the Rhine. The revised text therefore allows for vessels holding a Community certificate to navigate on the Rhine. Vessels holding Rhine certificates will continue to be allowed to navigate on other Community waterways.

18. Article 5 is replaced. The first indent of paragraph 1. remains unaltered, but the second is reworded so as to make reference to a new Annex Va. This new Annex lists those areas of a vessel where Member States may impose additional requirements for vessels operating in Zone 1 and 2 waterways (estuaries and waterways of a maritime character). The purpose of this Annex is to facilitate mutual recognition either of the Community supplementary certificate (which is issued to vessels having a Rhine certificate) or of additional specifications in the Community certificate itself. Thus, for example, a Community certificate specifying that a vessel meets certain additional requirements for a Zone 2 waterway in one Member State shall be recognised as proof of compliance with the corresponding additional requirements on a Zone 2 waterway in another Member State.

19. A new paragraph 3 is added to Article 5. Its purpose is self-explanatory. The reductions in technical requirements are, for safety reasons, restricted to the subjects listed in Annex Vb.

20. Title II of the Directive is concerned with the first issue of a Community certificate. Article 8 paragraph 2 of the existing Directive refers to vessels in service and lays down a time limit for the first inspection of such vessels by 1.7.98, which is when the provisions of this proposal will enter into force. Vessels in service on Community waterways on 1.7.98 will, therefore, already have been subjected to their first technical inspection. However, Article 8 paragraph 2, second indent of the Directive allows for a derogation for vessels laid down before 1970 and operating exclusively on national networks, whereby Member States may allow an extra seven years (until 1.7.2005) before such vessels must be submitted for a technical inspection. Certain Member States have indeed made use of this derogation. Under these circumstances, it would be unfair for such vessels, constructed before 1970, to be submitted for their first Community technical inspection after 1.7.98, according to standards drawn up in the 1990's. The proposed addition to Article 8 paragraph 2 therefore allows for such vessels to be granted Community certificates, but where they fail to meet the updated technical requirements given in Annex II, this must be specified in the certificate. When components or parts of the vessel are replaced or altered, then the relevant requirements of the new Annex II for these parts of the vessel must be complied with. However, when parts are replaced during the course of normal repairs and maintenance, it is not necessary that 1995 specification replacement parts be used. For example, if a bearing in the steering gear of a vessel in service needs to be replaced, then it should not be required that the whole steering gear should be replaced with a new system constructed according to the requirements of the new Annex II. The replacement of the bearing with another one of the same type is acceptable.

21. A new Article 8, paragraph 4 is proposed to deal with a similar case to the above. Certain vessels, such as vessels intended for passenger transport which carry more than 12 people, are brought within the scope of the Directive for the first time. These vessels may have been constructed according to national legislation rather than the specific requirements laid down in Annex II. It is therefore unreasonable to require such vessels to be submitted to a first technical inspection according to Community standards which they were not designed to meet. The same rule as for the vessels referred to in paragraph 20 above therefore applies.

22. Article 11 is amended to include a reference to passenger vessels. The five year renewal requirement for these vessels is based on the Rhine Rules. A new paragraph 2 is added to allow Member States to issue temporary certificates under certain conditions, for example when an existing certificate is lost or damaged.

23. Title III of the Directive is concerned with the rules for renewing Community certificates. Clearly, vessels in service which have been issued with a Community navigation certificate according to the existing Directive and its Annexes cannot be expected to meet exactly the technical requirements for new vessels. A sentence is therefore added to Article 13 which requires these vessels to be subject instead to the special transitional provisions in Annex II, Chapter 24. These are based on the transitional provisions contained in the Rhine Rules, which apply to those vessels issued with a Rhine certificate before the new Rhine technical requirements were adopted on 1.1.95. In most cases, these provisions follow the same principle

as for vessels in service which are subjected to their first technical inspection after 1.7.98, (described above in paragraphs 21 and 22) whereby those components or parts of the vessel which do not meet the new technical requirements may remain in service until such time as they are replaced or altered, in which case they must meet the new standards. However, certain key items must be replaced on the occasion of the technical inspection itself.

24. Article 15 is amended slightly. No further comment.

25. A new Article 19 is proposed in order to inaugurate a technical adaptation Committee. For reasons of economy, the existing Committee established by Article 7 of Directive 91/672/EEC on the reciprocal recognition of national boatmasters' certificates for the carriage of goods and passengers by inland waterway[1] will be used. As with similar Committees in other fields, the task of the Committee in this case will be to advise on amendments to the Annexes to this Directive in line with technical progress and with corresponding developments in this area undertaken by other international organisations. This is an essential measure if the Directive is to remain up to date and meaningful. (According to the existing Directive, each amendment to the Annexes must be approved by the Council: this is neither practicable nor efficient.) The Central Commission for the Rhine is specifically mentioned since this is the leading body in the development of technical requirements for inland navigation vessels and also because the Committee should ensure that the Community certificate and the Rhine certificate continue to indicate an equivalent level of safety.

26. Article 20 is replaced. The original purpose of Article 20 was to ensure that Directive 76/135 on the mutual recognition of certificates would continue to apply to vessels outside the scope of Directive 82/714 as well as to those vessels coming within its scope but not yet issued with a Community certificate. As a result of the change in the scope of Directive 82/714 brought about by this proposal, fewer vessels will be subject to the provisions of Directive 76/135. Nevertheless, there will remain a small number of vessels which are not covered by the revised Directive 82/714, (vessels used for goods transport having a total dead weight between 20 and 100 tonnes,) and therefore which will not be issued with a Community certificate, but which will continue to navigate on Community waterways. Directive 76/135 must remain in force to cover the case of these vessels.

[1] O.J. L 373, 31.12.91

Article 2

27. The national legislation transposing the revised Directive is to enter into force on the date by which inspections according to the provisions of the existing Directive must have been completed - that is, 1.7.98.

Article 3

28. No Comment.

Annex

29. The Annex contains new versions of Annexes I, II and III to the existing Directive as well as new annexes Va, Vb and VI which are to be added to it.

30. The new version of Annex I lists the waterways in the different zones in the Community, taking into account the enlargement of the Community and new waterways constructed since 1982. Zones 1 and 2 are estuaries and waterways of a maritime nature. Zone 3 includes those waterways which are equivalent to the Rhine and Zone 4 includes regulated waterways and canals. Navigation conditions are most severe in Zone 1 and least severe in Zone 4.

31. The new version of Annex II contains the technical requirements based on the 1995 Rhine Rules. Certain articles of the 1995 Rhine Rules have not been included because they are not relevant for the purposes of issuing Community certificates or because their provisions are contained in the text of the Directive itself. However, for ease of comparison between Community rules and certificates and Rhine rules and certificates, the numbering of the Rhine Rules has been retained. Chapters 1 and 2 of Annex II are concerned with definitions and the procedural aspects of technical vessel inspections and the issue of certificates. Chapters 3 to 23 lay down the technical requirements for inland waterway vessels (identical to those currently in force on the Rhine). Chapter 24 lays down transitional requirements for vessels in possession of a Community certificate on 1.7.98, when the revised requirements will enter into force. In most cases, these transitional provisions only require vessel parts and components to be upgraded to meet the new requirements when these parts are replaced or re-built. For safety reasons however, a small number of components must be upgraded when the existing certificate expires.

32. The new version of Annex III gives a completely new model for the Community Certificate, which is based on the current Rhine certificate. This is only logical, since the certificate relates to the fulfilment of technical requirements which are themselves based on the Rhine Rules. It should be noted that Annex IV of the existing Directive, giving the model of the Supplementary Community Certificate, remains unchanged.

33. Annex Va specifies those aspects of the vessel where additional requirements are permissible on Zones 1 and 2 .

34. The new Annex Vb specifies those aspects of the vessel where reductions in technical requirements are permissible on Zone 4.

35. The new Annex VI provides the model for the new Temporary Community Certificate

36. The effects of the proposal regarding the various vessel categories may be summarised in the table overleaf:

TABLE 1

Technical Requirements for Inland Waterway Vessels following the Proposed Revision of Directive 82/714

Vessel Category	**Time Period**	**Nature of Inspection**
New Vessels	From 1.7.98	Full compliance with the technical requirements of the new Annex II, equivalent to the Rhine Rules
Vessels in service having a Community certificate	from 1.7.98	Compliance with the transitional provisions of Chapter 24, new Annex II
Vessels in service but laid down before 1.1.70, operating only on national networks, not issued with a Community certificate (as referred to in Article 8, para. 2, second indent)	from 1.7.98 to 1.1.2005	To be issued with certificates specifying areas where vessel does not meet requirements of (new) Annex II. These areas to conform to Annex II if replaced or altered.
Vessels in service brought within the scope of the Directive for the first time, that is: passenger vessels for more than 12 people; floating equipment; floating establishments and installations.	from 1.7.98 - 31.7.2003 for passenger vessels and: from 1.7.98 - 31.7.2008 for other vessels.	as above

COUNCIL DIRECTIVE.....

amending Directive 82/714/EEC of 4 October 1982
laying down technical requirements for inland waterway vessels

The Council of the European Union,

Having regard to the Treaty establishing the European Community, and in particular Article 75.1 thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the Economic and Social Committee,

Acting in accordance with the procedure laid down in Article 189c of the Treaty, in co-operation with the European Parliament;

Whereas Council Directive 82/714/EEC of 4 October 1982 laying down technical requirements for inland waterway vessels introduced harmonised conditions for issuing technical certificates for inland waterway vessels in all Member States; whereas in the interest of safety these conditions have to be adapted to technical progress also taking into account changes in the Community's waterway network;

Whereas the conditions and technical requirements for issuing inland navigation certificates under Article 22 of the Revised Convention for Navigation on the Rhine have been revised as from 1 January 1995; whereas it is desirable for competition and safety reasons to adopt the scope and content of such technical requirements for the whole of the Community network;

Whereas it is appropriate that Community inland navigation certificates attesting the full compliance of vessels with the aforementioned revised technical requirements shall be valid on all Community waterways;

Whereas it is desirable to ensure a greater degree of harmonisation between the conditions for issuing supplementary Community certificates by Member States for operations on Zone 1 and 2 waterways (estuaries), as well as for operations on Zone 4 waterways;

Whereas it is appropriate to provide for a transitional regime for vessels in service not yet carrying a Community inland navigation certificate when subjected to a first technical inspection under the revised technical requirements established by this Directive;

Whereas it is appropriate, within certain limits and according to the category of vessel concerned, to determine the period of validity of Community certificates in each specific case;

Whereas it is necessary, in order to allow for a more rapid adaptation of the annexes to the Directive to technical progress, to introduce procedures foreseen for this purpose based on Council Decision 87/373/EEC[1];

Whereas it is necessary that the measures provided for in Directive 76/135/EEC of 20 January 1976 on reciprocal recognition of navigability licenses for inland waterway vessels remain in force for those vessels covered by it which are not covered by this Directive;

HAS ADOPTED THIS DIRECTIVE :

Article 1

Directive 82/714/EEC is hereby amended as follows :

1. The third indent of Article 1 is amended to read as follows :

   - Zone 4: the other Community waterways listed in Chapter III of Annex I.

2. Article 2 is replaced by the following :

   1. "This Directive shall apply to :
      -vessels having a length of 20 metres or more ;
      -vessels for which the product of L x B x T as defined in Annex II Article 1.01 is 100 m^3 or more ;
      -tugs and pusher craft, including those with a length of less than 20 metres or those for which the product of L x B x T as defined in Annex II Article 1.01 is less than 100 m^3, provided that they have been built to tow or to push or to move alongside vessels as referred to in the first indent.

   2. The following are excluded from this Directive :
      -vessels intended for passenger transport which carry no more than 12 people in addition to the crew,
      -ferries,
      -pleasure craft with a length of less than 24 metres,
      -service craft belonging to supervisory authorities and fire-service vessels,
      -naval vessels,
      -sea going vessels, including sea going tugs and pusher craft operating or based on tidal waters or temporarily on inland waterways, provided that they carry the following valid navigation or safety certificates:
         a certificate proving conformity with the 1974 International Convention for the Safety of Life at Sea (SOLAS), as amended, or equivalent a certificate proving conformity

[1] O.J. L197 of 18 July 1987

with the 1966 International Convention on Load Lines, as amended, or equivalent and
an IOPP certificate proving conformity with the 1973 International Convention for the Prevention of Pollution from Ships (MARPOL), as amended,
or,
for passenger vessels not covered by all of these Conventions, a certificate issued in conformity with Council Directive 97/...../EEC on safety rules and standards for passenger ships.

3. The first and second indents of Article 3 are replaced by the following

"-a certificate issued pursuant to Article 22 of the Revised Convention for the Navigation of the Rhine or a Community inland-navigation certificate issued after 1 July 1998 pursuant to Article 8 attesting the full compliance of the vessel with the technical requirements of Annex II, when operating on a Zone R waterway

- a Community inland navigation certificate issued to vessels in accordance with the provisions of this Directive and the technical requirements of Annex II when operating on waterways of other zones."

4. Article 5 is replaced by the following :

"1. Each Member State may, subject to the requirements of the Revised Convention for the Navigation of the Rhine and subject to approval by the Commission acting in accordance with the procedure laid down in Article 19.3, adopt technical requirements additional to those in Annex II for vessels operating on Zone 1 and 2 waterways within its territory.

Such additional requirements shall be restricted to the subjects listed in Annex Va and shall be drawn up in conformity with the provisions thereof.

2. Compliance with these additional requirements shall be specified in the Community certificate referred to in Article 3 or, where Article 4 (2) applies, in the supplementary Community certificate. Such proof of compliance shall be recognised on Community waterways of the corresponding Zone.

3. Each Member State may, subject to approval by the Commission acting in accordance with the procedure laid down in Article 19.3, allow a reduction of the technical requirements of Annex II for vessels operating exclusively on Zone 4 waterways within its territory. Such a reduction shall be restricted to the subjects listed in Annex Vb. Where the technical characteristics of a vessel correspond to these reduced technical requirements it shall be specified in the Community certificate or, where Article 4 (2) applies, in the supplementary Community certificate, that its validity is restricted to the Zone 4 waterways concerned."

5. The following is added to Article 8 paragraph 2 :

"In cases where the first such technical inspection is carried out after 1 July 1998, any failure to meet the requirements laid down in Annex II shall be specified in the Community certificate. Provided that the competent authorities consider that these shortcomings do not constitute a manifest danger, the vessels concerned may continue to operate until such time as those components or areas of the vessel which have been certified as not meeting the requirements are replaced or altered, whereafter these components or areas shall meet the requirements of Annex II.

The replacement of existing parts with identical parts or parts of an equivalent technology and design during routine repairs and maintenance shall not be considered as a replacement within the meaning of this paragraph."

6. The following paragraph is added to Article 8 :

"4. The Community certificate shall be issued to vessels initially excluded from the scope of this Directive which become subject to it as a result of the modifications of Article 2 paragraphs 1 and 2 introduced by Directive 97/....., following a technical inspection which shall be carried out upon expiry of the vessel's current certificate, but in any case no later than 31 June 2008, to check that the vessel complies with the technical requirements laid down in Annex II. Any failure to meet these requirements shall be specified in the Community certificate. Provided that the competent authorities consider that these shortcomings do not constitute a manifest danger, these vessels may continue to operate until such time as those components or areas of the vessel which have been certified as not meeting the requirements are replaced or altered, whereafter these components or areas shall meet the requirements of Annex II.

The replacement of existing parts with identical parts or parts of an equivalent technology and design during routine repairs and maintenance shall not be considered as a replacement within the meaning of this paragraph."

7. Article 11 is replaced by the following :

"1. The period of validity of the Community certificate shall be determined in each specific case by the authority competent for issuing such certificates. However, this period shall not exceed 5 years for passenger vessels or 10 years for other vessels.

2. Each Member State may, in the cases specified in Articles 12 and 16 of this Directive and in chapter 2.05 of Annex II, issue temporary Community certificates, the period of validity of which shall not exceed 6 months".

8. The following sentence is added to Article 13:

"However, for the renewal of Community certificates issued before 1 July 1998 the transitional provisions of chapter 24 of Annex II shall apply."

9. The first sentence of the second alinea of Article 15 shall read as follows

"Following this inspection, a new certificate stating the technical characteristics of the vessel shall be issued or the existing certificate amended accordingly."

10. Article 19 is replaced by the following

"1. Any amendments which are necessary to adapt the annexes of the Directive to technical progress, to developments in this area arising out of the work of other international organisations, in particular that of the Central Commission for Navigation on the Rhine, to ensure that the two certificates referred to in Article 3, first indent are issued on the basis of technical requirements which guarantee an equivalent level of safety, or to take account of the cases referred to in Article 5, shall be adopted by the Commission in accordance with the procedure laid down in the present Article, paragraphs 2 and 3:

2. The Commission shall be assisted by the Committee established under Article 7 of Council Directive 91/672/EEC,[1] hereinafter referred to as "the Committee".

3. The representative of the Commission shall submit to the Committee a draft of the measures to be taken. The Committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter, if necessary by taking a vote. The opinion shall be recorded in the minutes ; in addition, each Member State shall have the right to ask to have its position recorded in the minutes. The Commission shall take the utmost account of the opinion delivered by the Committee. It shall inform the Committee of the manner in which its opinion has been taken into account."

11. Article 20 is replaced by the following :

"For those vessels outside the scope of Article 2, paragraph 1, but falling within the scope of Article 1a. of Directive 76/135/EEC, the provisions of the latter shall apply."

12. Annexes I, II and III shall be replaced by the new versions set out in the Annex attached to this Directive. Annexes Va, Vb and VI as set out in the Annex hereto are added to the Directive.

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[1] O.J. L 373 of 31.December 1991

Article 2

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive at the same time not later than 1 July 1998 and forthwith inform the Commission thereof. They shall apply such laws, regulations and administrative provisions from 1 July 1998.

2. When Member States adopt these measures, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication The methods of making such a reference shall be laid down by Member States.

3. Member States shall lay down the system of penalties for breaching the national provisions adopted pursuant to this Directive and shall take all the measures necessary to ensure that these penalties are applied. The penalties thus provided for shall be effective, proportionate and dissuasive.

4. The Member States shall immediately notify to the Commission all provisions of domestic law which they adopt in the field governed by this Directive. The Commission shall inform the Member States thereof.

Article 3

This Directive is addressed to the Member States.

Done at Brussels, ...

For the Council

The President

ANNEX 1

List of Community Inland Waterways divided geographically into Zones 1, 2, 3 and 4

CHAPTER I

Zone 1

Federal Republic of Germany

Ems : from a line linking the Delfzijl church tower and the Knock lighthouse towards the open sea as far as latitude 53° 30' N and longitude 6° 45' E (i.e. somewhat outside the trans-shipment zone for dry-cargo carriers in the Alte Ems, taking account of the Ems-Dollars cooperation treaty).

Zone 2

Federal Republic of Germany

Ems : from a line going from the entrance of the port towards Papenburg crossing the Ems, which links the Diemen pumping station (Diemer Schöpfwerk) and the opening of the dyke at Halte as far as a line linking the Delfzijl and Knock lighthouses, taking account of the Ems-Dollars cooperation treaty.

Jade : inside a line linking the Schillighörn upper light and Langwarden church tower.

Weser : from the Bremen railway bridge to a line linking the Langwarden and Kappel church towers with the Schwerburg secondary arm including the Kleine Weser, Rekumder-Loch, and Rechter Nebenarm secondary arms.

Elbe : from the lower limit of the port of Hamburg to a line linking the Döse beacon and the north-west point of the Hohe Ufer (Dieksand) with the Este, Lühe, Schwinge, Oste, Pinnau, Krückau and Stör tributaries (in each case from the barrage to the mouth) including the Nebenelbe.

Meldorfer Bucht : inside a line linking the north-west point of the Hohe Ufer (Dieksand) and the Büsum west pier head.

Flensburger förde : inside a line linking the Kekenis lighthouse and Birknack.

Eckernförder Bucht : inside a line linking Bocknis-Eck to the north-west tip of the mainland at Dänisch Nienhof.

Kieler Förde : inside a line linking the Bülk lighthouse and the Laboc naval memorial.

Leda : from the entrance to the outer harbour of Leer sea lock to the mouth.

Hunte : from the port of Oldenburg and from 140 m downstream of the Amalienbrücke in Oldenburg to the mouth.

Lesum : from the Bremen-Burg railway bridge to the mouth.

Este : from the Buxtchude barrage gate to the Este barrage.

Lühe : from the mill 250 m upstream of the Marschdamm-Horneburg road bridge to the Lühe barrage.

Schwinge : from the footbridge downstream of the Güldenstern bastion at Stade to the Schwinge barrage.

Freiburger-Hafenpriel : from the Freiburg/Elbe sluices to the mouth.

Oste : from the Bremervorde mill dam to the Oste barrage.

Pinnau : from the Pinneburg railway bridge to the Pinnau barrage.

Kruckau : from the Elmshorn watermill to the Kruckau barrage.

Stör : from Pegel Rensing to the Stör barrage.

Eider : from the Gieselau Canal to the Eider barrage.

Nord-Ostsee-Kanal (Kiel Canal) : from a line linking the Brunsbüttel pier heads to a line linking the Kiel-Holtenau entry lights and the Schirnauer See, Bergstedter See, Audorfer See, Obereidersee with Enge, the Achterwehrer canal and the Flemhuder See.

Trave : from the railway bridge and the Holsten bridge (Stadttrave) in Lübeck to a line linking the two outer pier heads of Travemünde and the Pötenitzer Wick and the Dassower See.

Schlei : inside a line linking the Schleimünde pier heads.

Wismarbucht, Kirchsee.

Breitling, Salzhaff and Wismar harbour : seawards from the lines linking Hohen Wieschendorf Huk and the Timmendorf lights and the lights of Gollwitz on the isle of Poel and the southern tip of the Wustrow peninsula.

Unterwarnow and Breitling : seawards from the line linking the most northern points of the western, middle and eastern mole of Warnemünde.

Waters, encircled by the mainland and the Darß and Zingst peninsulas and the islands of Hiddensee and Rügen (including the Stralsund harbour) : towards the open sea as far as :

- the latitude 54° 27' N between the Zingst peninsula and the island of Bock
- the line linking the northern tip of the island of Bock with the southern tip of the island of Hiddensee
- on the islands of Hiddensee and Rügen (Bug), the line linking the southeastern tip of Neubessin with the Buger Haken.

Greifswald Bodden and Greifswald harbour (with Ryck) : towards the open sea as far as the line linking the eastern tip of Thiessower Haken (Süd perd) with the eastern tip of the island or Ruden and ending at the northern tip of the island of Usedom (54° 10' 37" N, 13° 47' 51" E).

Waters, encircled by the mainland and the island of Usedom (river Peene including the Wolgast harbour, backwaters, Stettin lagoon) : towards the east as far as the German-Polish border line crossing the Stettin lagoon.

French Republic

Seine : downstream of the Jeanne d'Arc bridge in Rouen.

Garonne and Gironde : downstream of the Bordeaux stone bridge.

Rhône : downstream of the Trinquetaille bridge in Arles and beyond towards Marseille.

Dordogne : downstream from the stone bridge at Libourne.

Loire : downstream from the haudaudine bridge of the Madeleine arm and downstream from the Pirmil bridge on the Pirmil arm.

Kingdom of the Netherlands

Dollard.

Eems.

Waddenzee : inclunding the links with the North Sea.

Ijsselmeer : including the Markermeer and the Ijmeer but excluding the Gouwzee.

Rotterdam Waterweg and the Scheur.

[illegible]land Kanaal west from the Benelux harbour.

Hollands Diep.

Breeddiep, Beerkanaal and its connected harbours.

Haringvliet and Vuile Gat : including the waterways between Goeree-Overflakkee on the one hand and Voorne-Putten and Hoekse Waard on the other.

Hellegat.

Volkerak.

Krammer.

Grevelingenmeer and Brouwerschavense Gat : including all the waterways between Schouwen-Duiveland and Goeree-Overflakkee.

Keten, Mastgat, Zijpe, Krabbenkreek, Eastern Scheldt and Roompot : including the waterways between Walcheren, Noord-Beveland and Zuid-Beveland on the one hand and Schouwen-Duiveland and Tholen on the other hand, excluding the Scheldt-Rhine Canal.

Scheldt and Western Scheldt and its mouth on the sea : including the waterways between Zeeland Flanders on the one hand and Walcheren and Zuid-Beveland on the other, excluding the Scheldt-Rhine Canal.

CHAPTER II

Zone 3

Republic of Austria

Danube : from the border with Germany to the border with Slovakia.

Inn : from the mouth to the Passau-Ingling Power Station.

Traun : from the mouth to Km 1.80.

Enns : from the mouth to Km 2.70

March : to Km 6.00

Kingdom of Belgium

Maritime Schelde (downstream of Antwerp open anchorage).

Federal Republic of Germany

Danube : from Kelheim (Km 2414.72) to the German-Austrian border.

Rhine : from the German-Swiss border to the German-Netherlands border.

Elbe : from the mouth of the Elbe-Seiten-Canal to the lower limit of the port of Hamburg.

Müritz.

French Republic

Rhine.

Kingdom of the Netherlands

Rhine.

Sneekermeer, Koevordermeer, Heegermeer, Fluessen, Slotermeer, Tjeukemeer, Beulakkerwijde, Belterwijde, Ramsdiep, Ketelmeer, Zwartemeer, Veluwemeer, Eemmeer, Alkmaardermeer, Gouwzee, Buiten Ij, afesloten Ij, Noordzeekanaal, port of Ijmuiden, Rotterdam port area, Nieuwe Maas, Noord, Oude Maas, Beneden Merwede, Nieuwe Merwede, Dordische Kil, Boven Merwede, Waal, Bijlandsch Canal, Boven Rijn, Pannersdensch Canal, Geldersche Ijssel, Neder Rijn, Lek, Amsterdam-Rhine Canal, Veerse Meer, Schelde-Rhine Canal as far as the mouth in the Volkerak, Amer, Bergsche Maas, the Meuse below Venlo, Gooimeer, Europort, Calandkanaal (east from the Benelux harbour), Hartelkanaal.

CHAPTER III

Zone 4

Republic of Austria

Thaya : up to Bernhardsthal.

March : above Km 6.00.

Kingdom of Belgium

The entire Belgian network except the waterways in Zone 3.

Federal Republic of Germany

All Federal waterways except those in Zones 1, 2 and 3.

French Republic

The entire French network except the waterways in Zones 1, 2 and 3.

Kingdom of the Netherlands

All other rivers, canals and inland seas not listed in Zones 1, 2 and 3.

Italian Republic

River Po : from Piacenza to the mouth.

Milan-Cremona Canal, River Po : final stretch of 15 km to the Po.

River Mincio : from Mantua, Governolo to the Po.

Ferrara Waterway : from the Po (Pontelagoscuro), Ferrara to Porto Garibaldi.

Brondolo and Valle Canals : from the eastern Po to the Venice lagoon.

Fissero Canal - Tartaro - Canalbianco : from Adria to the eastern Po.

Venetian coastline : from the Venice lagoon to Grado.

Grand Duchy of Luxembourg

Moselle.

ANNEX II

Minimum Technical Requirements applicable to Vessels navigating on Waterways in Zones 1, 2, 3 and 4

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Chapter 1

GENERAL

Article 1.01

Definitions

The following definitions are contained in this Directive:

Types of craft

1. "craft": a vessel or item of floating equipment

2. "vessel": an inland waterway vessel or sea-going ship

3. "inland waterway vessel": a vessel intended solely or mainly for navigation on inland waterways

4. "sea-going ship": a vessel admitted and intended mainly for maritime or coastal navigation

5. "self-propelled craft": an ordinary self-propelled craft or a self-propelled tanker

6. "self-propelled tanker": a vessel intended for the carriage of goods in fixed tanks and built to navigate independently under its own motive power

7. "ordinary self-propelled vessel": a vessel, other than a powered tanker, intended for the carriage of goods and built to navigate independently under its own motive power

8. "canal barge": an inland waterway vessel not exceeding 38.5 m in length and 5.05 m in breadth

9. "tug": a vessel specially built to perform towing

10. "pusher": a vessel specially built to propel a pushed train of craft

11. "barge": a dumb barge or tank barge

12. "tank barge": a vessel intended for the carriage of goods in fixed tanks and built to be towed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres

13. "dumb barge": a vessel, other than a tank barge, intended for the carriage of goods and built to be towed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres

14. "lighter": a tank lighter, ordinary lighter or ship-borne lighter

15. "tank lighter": a vessel intended for the carriage of goods in fixed tanks, built or specially modified to be pushed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres when not part of a pushed train of craft

16. "ordinary lighter": a vessel, other than a tank lighter, intended for the carriage of goods and built or specially modified to be pushed, either having no motive power of its own or having only sufficient motive power to perform restricted manoeuvres when not part of a pushed train of craft

17. "ship-borne lighter": a pushed lighter built to be carried aboard sea-going ships and to navigate on inland waterways

18. "passenger vessel": a vessel built and fitted out to carry more than 12 passengers

19. "day-excursion vessel": a passenger vessel without overnight passenger cabins

20. "passenger-cabin vessel": a passenger vessel with overnight passenger cabins

21. "floating equipment": a floating installation carrying working gear such as cranes, dredgers, pile drivers or elevators

22. "worksite craft": an appropriate vessel, built and equipped for use at worksites, such as a reclamation dredger, hopper or pontoon barge, pontoon or block-layer

23. "recreational craft": a vessel other than a passenger vessel, intended for sport or pleasure

24. "floating establishment": any floating installation not normally intended to be moved, such as a swimming bath, dock, jetty or boathouse

25. "floating installation": a raft or other structure, object or assembly capable of navigation, not being a vessel or floating equipment or establishment

Assemblies of craft

26. "train of craft": a rigid or towed train of craft

27. "formation": the manner in which a train of craft is assembled

28. "rigid train": a pushed train or breasted-up formation

29. "pushed train": a rigid assembly of craft of which at least one is positioned in front of the craft providing the power for propelling the train, known as the "pusher(s)"; a train composed of a pusher craft and a pushed craft coupled so as to permit guided articulation is also considered as rigid

30. "breasted-up formation": an assembly of craft coupled rigidly side by side, none of which is positioned in front of the craft propelling the assembly

31. "towed train": an assembly of one or more craft, floating establishments or floating installations towed by one or more self-propelled craft forming part of the train

Particular areas on board

32. "main engine room": space where the propulsion engines are installed

33. "engine room": space where combustion engines are installed

34. "boiler room": a space housing a fuel-operated installation designed to produce steam or a thermal fluid

35. "enclosed superstructure": a watertight, rigid, continuous structure with rigid walls joined to the deck in a permanent and watertight manner

36. "wheelhouse": the area which houses all the control and monitoring instruments necessary for manoeuvring the vessel

37. "accommodation": a space intended for the use of persons normally living on board, including galleys, storage space for provisions, toilets and washing facilities, laundry facilities, landings and gangways, but not the wheelhouse

38. "hold": part of the vessel, delimited fore and aft by bulkheads, opened or closed by means of hatch covers, intended for the carriage of goods, whether packaged or in bulk, or for housing tanks not forming part of the hull

39. "fixed tank": a tank joined to the vessel, the walls of the tank consisting either of the hull itself or of a casing separate from the hull

40. "working station": an area where members of the crew carry out their duties, including gangway, derrick and ship's boat

41. "passageway": an area intended for the normal movement of persons and goods

Marine engineering terms

42. "plane of maximum draught": the water plane corresponding to the maximum draught at which the craft is authorised to navigate

43. "safety clearance": the distance between the plane of maximum draught and the parallel plane passing through the lowest point above which the craft is no longer deemed to be watertight

44. "freeboard (F)": the distance between the plane of maximum draught and a parallel plane passing through the lowest point of the gunwale or, in the absence of a gunwale, the lowest point of the upper edge of the hull planking or plating

45. "margin line": An imaginary line drawn on the side plating not less than 10 cm below the bulkhead deck and not less than 10 cm below the lowest non-watertight point of the side plating. If there is no bulkhead deck, a line drawn not less than 10 cm below the lowest line up to which the outer plating is watertight shall be used.

46. "water displacement (V)": the immersed volume of the vessel in m^3

47. "displacement (D)": the total weight of the vessel, inclusive of cargo, in t

48. "block coefficient (d)": the ratio between the water displacement and the product of length, breadth and draught T

49. "sheer plan above water (S)": sheer plan of the vessel above the waterline in m^2

50. "bulkhead deck": the deck to which the required watertight bulkheads are taken and from which the freeboard is measured

51. "bulkhead": a wall of a given height, usually vertical, partitioning the vessel and delimited by the bottom of the vessel, the plating or other bulkheads

52. "transverse bulkhead": a bulkhead extending from one side of the vessel to the other

53. "wall": a dividing surface, usually vertical

54. "partition wall": a non-watertight wall

55. "length (L)": the maximum length of the hull, excluding rudder and bowsprit

56. "length overall": the greatest length of the craft in m, including all fixed installations such as parts of the steering system or power plant , mechanical or similar devices

57. "length (L_F)": the length of the hull in m, measured at maximum draught

58. "breadth (B)": the maximum breadth of the hull in m, measured to the outer edge of the shell plating (excluding paddle wheels, rubbing strakes, etc.)

59. "overall breadth": the maximum breadth of the craft in m, including all fixed equipment such as paddle wheels, plinths, mechanical devices and the like

60. "breadth (B_F": breadth of the hull in m, measured from the outside of the side plating at the maximum draught line

61. "side height (H)": the shortest vertical distance between the top of the keel and the lowest point of the deck on the side of the vessel

62. "draught (T)": the vertical distance between the lowest moulded point of the hull or the keel and the maximum draught line

63. "forward perpendicular": the vertical line at the forward point of the intersection of the hull with the maximum draught line

64. "clear width of gunwale": the distance between the vertical line passing through the most prominent part of the gunwale on the coaming side and the vertical line passing through the inside edge of the slip guard (guard-rail, foot rail) on the outer side of the gunwale

Steering system

65. "steering system" all the equipment required for steering the vessel, such as to ensure the manoeuvrability laid down in Chapter 5 of this Regulation

66. "rudder": the rudder or rudders, with shaft, including the rudder quadrant and the components connecting with the steering apparatus

67. "steering apparatus": the part of the steering system which produces the movement of the rudder

68. "steering control": the steering-apparatus control, between the power source and the steering apparatus

69. "power source": the power supply to the steering control and the steering apparatus produced by an on-board network, batteries or an internal combustion engine

70. "drive unit": the component parts of and circuitry for the operation of a power-driven steering control

71. "steering apparatus control unit": the control for the steering apparatus, its drive unit and its power source

72. "manual drive": a system whereby manual operation of the hand wheel, moves the rudder by means of a mechanical or hydraulic transmission, without any additional power source

73. "manually-operated hydraulic drive": a manual control actuating a hydraulic transmission

74. "rate-of-turn regulator": equipment which automatically produces and maintains a given rate of turn of the vessel in accordance with preselected values

75. "wheelhouse arranged for steering on radar by one person": a wheelhouse arranged in such a way that, during navigation on radar, the vessel can be manoeuvred by one person

Properties of structural components and materials

76. "watertight": a structural component or device fitted out in such a manner as to prevent any ingress of water

77. "spray-proof and weathertight": a structural component or device so fitted that in normal conditions it allows only a negligible quantity of water to penetrate

78. "gastight": a structural component or device so fitted as to prevent the ingress of gas and vapours

79. "non-combustible": material which does not burn or give off inflammable vapours in a sufficient quantity to ignite when it reaches a temperature of approximately 750°C

80. "fire-resistant": material which does not readily catch fire, or the surface of which does not readily catch fire, and which impedes the spread of fire in an appropriate manner

81. "fire-retardant": a structural component or device which meets certain fire-resistance requirements

Other concepts

82. "approved classification society": the following are considered to be "approved classification societies": Germanischer Lloyd, Bureau Veritas and Lloyds Register of Shipping

83a. "Community certificate": a certificate which, in accordance with Article 3 of the Directive, is issued by the competent authorities of a Member State for vessels complying with the technical requirements laid down in this Annex

83b. "supplementary Community certificate": according to Article 4(2) of the Directive, all vessels require a supplementary Community certificate, in addition to the Rhine certificate, for zones 1 and 2 and for zones 3 and 4, if they wish to take advantage of the reduction in technical requirements on these waterways

84. "inspection bodies": competent authorities appointed by the Member States, which inspect vessels on the basis of the provisions in this Annex and issue the certificate(s)

Article 1.02

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Article 1.03

(Left void)

Article 1.04

(Left void)

Article 1.05

(Left void)

Article 1.06

Temporary requirements

After invoking the procedure provided for in Article 9 of the Directive the competent authority may issue temporary requirements where this would seem essential, in order to enable tests to be carried out without disrupting the safety or orderly functioning of navigation. Those requirements shall be valid for a maximum period of three years.

Article 1.07

Administrative instructions to the inspection bodies

In order to make the implementation of this Directive easier and uniform administrative instructions to the inspection bodies may be adopted if the procedure provided for in Article 19 of the Directive is applied.

Those administrative instructions shall be brought to the attention of the inspection bodies by the competent authorities.

The inspection bodies shall follow those administrative instructions.

Chapter 2

PROCEDURE

Article 2.01

Inspection bodies

1. Inspection bodies shall be set up by the Member States in certain appropriate ports.

2. Inspection bodies shall consist of a chairman and experts.

At least the following will form part of each Body as experts:

a) an official from the administration that is responsible for inland waterways;

b) an expert on the design of inland waterway vessels and their engines;

c) a nautical expert in possession of a navigation certification.

3. The Chairman and the experts within each Body shall be designated by the authorities in the state from which they come.

4. Inspection bodies may be assisted by specialist experts in accordance with the national provisions applying.

Article 2.02

Request for an inspection

1. The procedure for making a request for an inspection and establishing the place and time of that inspection fall within the powers of the authorities issuing the certificate. The inspection body shall determine which documents are to be submitted to it. The procedure shall take place in such a way as to ensure that the inspection may be conducted within a reasonable period following the lodging of the request.

2. The owner of a craft that is not subject to this Directive, or his representative, may request an inspection certificate. His request will be met if the vessel fulfils the requirements of this Directive.

Article 2.03

Presentation of the craft for inspection

1. The owner, or his representative, shall present the craft in an unladen, cleaned and rigged state. He shall provide any assistance needed for the inspection, such as providing an appropriate dinghy and staff, and uncovering any parts of the hull or fittings that are not directly accessible or visible.

2. The inspection body shall demand a dry inspection on the first occasion. That dry inspection may be dispensed with if a classification certificate or a certificate from an approved classification society to the effect that the construction meets its requirements can be produced. Where there is a supplementary or special inspection the inspection body may require an inspection out of the water.

The inspection body shall conduct running tests during an initial inspection of powered barges or trains of barges or where major changes are made to the propulsion or steering equipment.

3. The inspection body may require further operational tests and other supporting documents. That provision shall also apply during the building of the craft.

Article 2.04

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Article 2.05

Provisional inspection certificate

1. The inspection body may issue a provisional inspection certificate:

a) to craft intended to travel to a selected inspection body in order to obtain an inspection certificate;

b) to craft whose inspection certificate has been temporarily withdrawn in one of the instances referred to in Article 2.07 or Articles 12 and 16 of this directive;

c) to craft whose inspection certificate is in preparation following a successful inspection;

d) to craft where not all of the conditions required for obtaining an inspection certificate as referred to in Annex III (Community certificate) or Annex IV (additional Community certificate) have been met:

e) to craft having been so damaged that their state no longer complies with the certificate;

f) to floating installations or equipment where the authorities responsible for special transport operations make the authorisation to carry out a special transport operation subject to obtaining such an inspection certificate. Special transport operations may only be carried out under a special authorisation by the authorities overseeing the journeys to be made They shall in each instance be subject to the requirements imposed by those authorities. For each special transport operation a skipper shall be appointed who holds a navigation certificate for the type of vessel and journey to be made.

2. The temporary inspection certificate shall be drawn up using the model set out in Annex VI where the navigability of the craft, floating installation or floating equipment seems to have been adequately ensured.

This will include the conditions considered necessary by the inspection body and shall be valid:

a) in the cases referred to in Section 1(a), (d-f) for a single specific trip to be made within a suitable period that shall not exceed one month;

b) in the cases referred to in Section 1, (b) and (c), for an appropriate duration.

Article 2.06

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Article 2.07

Particulars in and amendments to the inspection certificate

1. The owner of a craft, or his representative, shall bring to the notice of an inspection body any change in the name or ownership of a craft, any remeasurement, and any change in the official number, registration number or home port, and shall send the inspection certificate to that body for amendment.

2. Any inspection body may add any information or change to the inspection certificate.

3. Where an inspection body adds any alteration or information to a certificate it shall inform the inspection body having delivered the certificate thereof.

Article 2.08

(Left void)

Article 2.09

Additional inspection

1. Craft shall be subjected to an additional inspection before expiry of their inspection certificate.

2. Following a justified request by the owner or his representative, the inspection body may, by way of an exception, and without any further inspections, grant an extension of the validity of the certificate for not more than one year. That extension will be granted in writing and shall be kept on board the craft.

3. The inspection body conducting the additional inspection shall again lay down the period of validity of the inspection certificate in accordance with the results of that inspection.

The period of validity shall be entered on the inspection certificate and brought to the attention to the body having issued that certificate.

4. If, rather than have its period of validity extended, as in Section 3, an inspection certificate is replaced by a new version, the earlier certificate shall be returned to the inspection body having issued it.

Article 2.10

Voluntary inspection

The owner of a craft, or his representative, may voluntarily request an inspection of this in addition to either the special inspections referred to in Article 15 of this Directive or the additional inspections referred to in Article 2.09.

That request for an inspection shall be acted upon.

Article 2.11

(Left void)

Article 2.12

(Left void)

Article 2.13

(Left void)

Article 2.14

(Left void)

Article 2.15

Expenses

The owner of a craft, or his representative, shall bear all of the costs arising from the inspection of the vessel and the issue of the certificate in accordance with a special set of charges drawn up by each of the Member States.

Article 2.16

Information

Any persons expressing a well-founded interest may be informed of the contents of a certificate by the inspection body having issued this, and may, at their own expense receive extracts or copies of the certificates designated as such that have been certified as true.

Article 2.17

Register of inspection certificates

1. Inspection bodies shall assign an order number to the certificates they issue. They shall keep a register of all of the certificates they issue.

2. Inspection bodies shall keep a collection of the minutes, or a copy of all of the certificates they have issued, and shall enter on these any information and alterations, together with any certificate cancellations and replacements.

Article 2.18

Official number

1. The inspection body having issued an inspection certificate for a craft registered in a Member State or whose home port is located in one of those States shall enter on that certificate the official number assigned to that craft by the competent department of the State in which the craft has been registered or has its home port.

As far as craft from non-member states are concerned the official number to be affixed to the inspection certificate shall be assigned by the competent department of the State in which the inspection body having issued that certificate is located.

These requirements shall not apply to sea-going vessels or recreational craft.

2. The official number shall remain invariable throughout the existence of the craft. However, if that craft is registered in another State or if its home port is transferred there, the official number will no longer be valid. The inspection certificate must then be submitted to an inspection body which shall delete the official number that has ceased to be valid and, if necessary, shall enter the new official number assigned by the competent department.

Article 2.19

Equivalences and exemptions

1. Where the provisions of Part II require the use, or presence, on board a craft of certain materials, installations or items of equipment, or the adoption of certain design aspects or certain arrangements, the inspection body, after invoking the procedure provided for in Article 19 of the directive, may permit the use, or presence, on board the said craft of other materials, installations or items of equipment, or the adoption of other design features or other arrangements where these are recognised to be equivalent.

2. The inspection body may issue an inspection certificate on a trial basis and for a limited period to a specific craft incorporating new technical requirements that depart from those of Part II, provided those requirements offer adequate safety.

3. The equivalences and exemptions referred to in Sections 1 and 2 shall be referred to in the inspection certificate. The Commission shall be informed of the equivalences and departments referred to in Sections 1 and 2.

PART II

Chapter 3

SHIPBUILDING REQUIREMENTS

Article 3.01

Basic requirement

Vessels shall be built in accordance with the state of the art.

Article 3.02

Strength and stability

1. The hull shall be sufficiently strong to withstand all of the stresses to which it is normally subjected;

(a) in the case of new structures or major conversions affecting vessel strength, adequate strength shall be demonstrated by presenting design calculation proof. That proof is not required where a classification certificate or a certificate from an approved classification society is submitted;

(b) where there is an inspection as referred to in Article 2.09 the minimum thicknesses of the bottom, outer bilge and vertical side plates shall be checked in accordance with the following conditions:

Minimum thickness t_{min} is given by the highest of the values resulting from the following formulae:

1. t_{min} = for vessels that are longer than 40 m: $f \cdot b \cdot c\ (2.3 + 0.04\ L)$ [mm];

for vessels not more than 40 m in length: $t_{min} = f \cdot b \cdot c\ (1{,}5 + 0{,}06\ L)$ [mm], however, not less than 3.00 mm

2. $t_{min} = 0.0005 \cdot a\sqrt{T}$ [mm]

where:

a = outer-hull plate clearance [mm];
f = outer hull plate clearance factor:
f = 1 for a ≥500 mm,
f = 1 + 0.0013 (a - 500) for a > 500 mm

b = factor for bottom, skin or bilge plates
b = 1.0 for bottom plates and vertical side plates
b = 1.25 for outer bilge plates.

f = 1 may be taken for the outer-hull plate clearances when calculating the minimum thickness of the vertical side plates.. However, the minimum thickness of the bilge plates may in no case be less than that of the bottom plates and vertical side plates.

c = factor for the type of structure

c = 0.95 for vessels with double bottom and side plating where the wall surrounding the hold is vertical below the coaming

c = 1.0 for all other types of structure.

The minimum values calculated in accordance with the method are limit values taking account of normal, uniform wear, and provided that shipbuilding steel is used and that the internal structural components such as floor plates, ribs, longitudinal and transverse bearers are in a good state and that no alteration to the hull assumes any longitudinal-rigidity overload.

As soon as these values are no longer achieved the plates in question must be repaired or replaced. However, lesser thicknesses, of 10% maximum, are acceptable at certain points.

2. The stability of vessels shall correspond to their intended use.

Article 3.03

Hull

1. Bulkheads rising up to the deck or, where there is no deck, up to the freeboard, shall be installed at the following points:

(a) A collision bulkhead at a suitable distance from the front in such a way that the buoyancy of the laden vessel is ensured, with a residual safety clearance of 100 mm if water enters the watertight compartment ahead of the collision bulkhead.

As a general rule, the requirement referred to in section 1 shall be considered to have been met if the collision bulkhead has been installed at a distance of between 0.04 L and 0.04 L + 2 m measured from the front perpendicular line in the plane of maximum draft.

If this distance exceeds 0.04 L + 2 m the requirement set out in section 2 shall be proved via calculation.

The distance may be reduced to 0.03 L. In that case the requirement referred to in section 1 shall be proved by calculation on the assumption that the compartment ahead of the collision bulkhead and those adjacent have all been filled with water.

(b) A rear-beak bulkhead at a suitable distance from the stern where the vessels length exceeds 25 m.

2. No accommodation or equipment needed for vessel safety or operation may be located ahead of the plane of the collision bulkhead. This requirement shall not apply to anchor lines.

3. The accommodation, engine rooms and boilers, and the workspaces forming part of these, shall be separated from the holds by watertight transverse bulkheads that extend up to the deck.

4. The accommodation shall be separated from the engine rooms and boilers, and from the holds, by gastight bulkheads and shall be directly accessible from the deck. If no such access has been provided an emergency exit must also lead directly to the deck.

5. The bulkheads specified in sections 1 and 3 and the separation of areas specified in section 4 shall not contain any apertures.

However, doors in the stern bulkhead and penetrations, in particular for shafts and pipework, shall be permitted where they are so designed that the effectiveness of those bulkheads and of the separation of areas is not impaired. The doors in the stern bulkhead shall on both sides bear the following easily legible instruction:

"Door to be closed immediately after use".

6. The water inlets and discharges, and the pipework connected to these, shall be such that no unintentional ingress of water into the vessel is possible.

Article 3.04

Engine and boiler rooms, bunkers

1. Engine or boiler rooms shall be arranged in such a way that the equipment therein can be operated, serviced and maintained easily and safely.

2. The liquid-fuel or lubricant bunkers, and accommodation, may not have any common services which are under the static pressure of the liquid when in normal service.

3. Engine room, boiler room and bunker bulkheads, ceilings and doors shall be made of steel or equivalent non-flammable material.

4. Engine and boiler rooms and other premises in which inflammable or toxic gases are likely to escape shall be capable of being adequately ventilated.

5. Companionways and ladders providing access to engine and boiler rooms and bunkers shall be firmly attached and be made of steel or an equivalent material in terms of mechanical strength and fireproofing.

6. Engine and boiler rooms shall have two exits of which one may be an emergency exit.

The second exit may be dispensed with if:

a) the total floor area (average length x average width) of the engine or boiler room does not exceed 35 m^2 and

b) the path between each point where servicing or maintenance operations are to be carried out and the exit, or foot of the companionway near the exit providing access to the outside, is not longer than 5 m and that

c) a fire extinguisher is located at the servicing point that is furthest removed from the exit door and also, by way of a departure from Article 10.03, section 1(e), where the installed power of the engines does not exceed 100 kW.

7. The maximum permissible sound pressure level in the engine rooms shall be 110 dB (A). The measuring points shall be selected as a function of the maintenance work needed during normal operation of the plant located therein.

Chapter 4

SAFETY CLEARANCE, FREEBOARD AND DRAUGHT MARKS

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 apertures cannot be closed by spray- and storm-proof devices, and for vessels sailing with their holds uncovered, shall be increased in such a way that each of those apertures shall be at least 500 mm from the plane of maximum draught.

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 via the following formula:

$$F = 150\,(1 - \alpha) - \frac{\beta_V \cdot Se_V + \beta_a \cdot Se_a}{15} \quad [mm]$$

where:
α is a correction coefficient that takes account of all of the superstructures involved;

β_v is a coefficient for correcting the effect of the front sheer resulting from the presence of superstructures in the front quarter of length L of the vessel;

β_a is a coefficient correcting the effect of, respectively, the rear sheer resulting from the presence of superstructures in the rear quarter of length L of the vessel;

Se_v is the effective front sheer in mm;

Se_a is the effective rear sheer in mm.

3. The coefficient α is calculated via the following formula:

$$\alpha = \frac{\Sigma le_a + \Sigma le_m + \Sigma le_V}{L}$$

where:
le_m is the effective length in m of the superstructures 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 front quarter of vessel length L;

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

The effective length of a superstructure is calculated via the following formula:

$$le_m = l\,(2{,}5 \cdot \frac{b}{B} - 1{,}5) \cdot \frac{h}{0.36} \quad [m]$$

$$le_V \text{ resp. } le_a = l\,(2{,}5 \cdot \frac{b}{B_1} - 1{,}5) \cdot \frac{h}{0.36} \quad [m].$$

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 safety semi-distance referred to in Article 4.01 by the height of the coamings. In no case will a value exceeding 0.36 m be taken for h.

If $\frac{b}{B}$ resp. $\frac{b}{B_1}$ is less than 0.6 the bracket value shall be taken to be zero, i.e. that the effective length le of the superstructure will be zero.

4. Coefficients βv and βa are calculated via the following formulae:

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

$$\beta_v = 1 - \frac{3 \bullet le_a}{L}$$

5. The effective rear/front sheers Se_v/Se_a are calculated via the following formulae:

$Se_v = S_v \bullet p$

$Se_a = S_a \bullet p$

where:

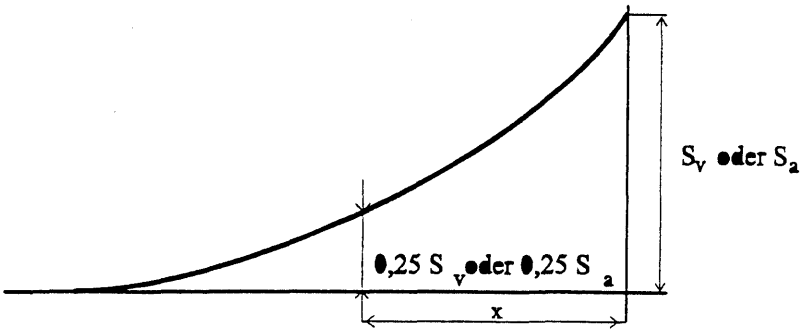
S_v is the actual sheer at the front, in mm; however S_v must not be taken to be more than 1 000mm;

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

p is a coefficient calculated by 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/S_a respectively (see drawing).



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 $\beta_a \cdot Se_a$.

Article 4.03

Minimum freeboard

In view of the reductions referred to in Article 4.02 the minimum freeboard shall not be less than 0 mm.

Article 4.04

Draught marks

1. The plane of maximum draught shall be determined in such a way that the specifications concerning minimum freeboard and minimum safety clearance are both met at the same time. However, for safety reasons, the inspection body may lay down a greater value for the safety clearance or freeboard.

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

3. The draught marks consist of a rectangle 300 mm long and 40 mm deep, the base of which is horizontal and coincides with the plane of the maximum authorised draught. Any differing draught marks shall include such a rectangle.

4. Vessels shall have at least three pairs of draught marks of which one pair shall be centrally located and the two others located, respectively, at a distance from the bow and stern that is equal to roughly one-sixth of the length.

However,

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

b) where boats are not intended for the carriage of goods, a pair of marks located roughly half way along the vessel will suffice.

5. 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. If a draught mark should disappear it may only be replaced under the supervision of an inspection body.

6. Where a vessel has been measured in implementation of the Convention on the gauging of inland waterway vessels and the plane of the measurement marks meets the requirements of this regulation those measurement marks shall take the place of the draught marks; this shall be mentioned in the certificate.

Article 4.05

Maximum loaded draught of craft
whose hulls are not always closed
so as to be sprayproof and weathertight

If the plane of maximum draught of a vessel is determined by assuming that the holds may be closed in such a way as to make them spray and weatherproof and if the distance between the plane of maximum draught and the upper edge of the coamings is less than 500 mm the maximum draught for sailing with uncovered holds must be determined.

The following statement shall be entered on the certificate:

"Where the hold hatches are totally or partly covered the vessel may only be loaded up to ... mm below the draught marks".

Article 4.06

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 at least five figures in five decimetres marked next to the scale and at the top of this.

3. The two stern measurement scales affixed in pursuance of the Convention referred to in Article 4.04, section 6, may replace the draught scales, provided that they include a graduation that meets the requirements plus, where appropriate, figures indicating the draught.

Chapter 5

MANOEUVRABILITY

Article 5.01

General

Vessels and trains of vessels shall display adequate navigability and manoeuvrability.

Unpowered vessels intended to be towed shall meet the specific requirements laid down by the inspection body.

Powered vessels and trains of vessels shall meet the requirements set out in Articles 5.02-5.10.

Article 5.02

Navigation tests

1. Navigability and manoeuvrability shall be checked by means of navigation tests. The following, in particular, shall be examined:

maximum specified (forward) speed	(Article 5.06);
stopping capacity	(Article 5.07);
capacity for travelling in reverse	(Article 5.08);
capacity for evasive action	(Article 5.09);
turning capacity	(Article 5.10).

2. The inspection body may dispense with all or part of the tests where compliance with the navigability and manoeuvrability requirements is proven in another manner.

Article 5.03

Test area

1. The navigation tests referred to in Article 5.02 shall be carried out on areas of inland waterways that have been designated by the competent authorities.

2. Those test areas shall be situated on a stretch of running or stagnant water that is if possible straight, at least 2 km long and sufficiently wide and is equipped with highly-distinctive marks for determining the position of the vessel.

3. It must be possible for the inspection body to plot the hydrological data such as depth of water, width of navigable channel and average speed of the current in the navigation area as a function of the various water levels.

Article 5.04

Degree of loading of vessels and trains of vessels during navigation tests

During navigation tests vessels and trains of vessels intended to carry goods shall be loaded to at least 70% of their tonnage and loading, distributed in such a way as to ensure a horizontal attitude as far as possible. If the tests are carried out with a lesser load the approval for downstream navigation shall be restricted to that loading.

Article 5.05

Use of on-board facilities for navigation test

1. During the navigation test all of the equipment referred to in items 34 and 52 of the certificate which may be actuated from the wheelhouse may be used, apart from any anchor.

2. However, during the test involving turning into the current referred to in Article 5.10, the anchors may be used.

Article 5.06

Prescribed maximum (forward) speed

1. Vessels and trains of vessels shall achieve a speed in relation to the water of at least 13 km/h. That condition is not mandatory where pusher tugs are operating solo.

2. The inspection body may grant exemptions to vessels and trains of vessels operating solely in estuaries and ports.

Article 5.07

Stopping capacity

1. Vessels and trains of vessels shall be able to stop facing downstream in good time while remaining adequately manoeuvrable.

2. Where vessels and trains of vessels are not longer than 86 m and not wider than 22.90 m the stopping capacity mentioned above may be replaced by turning capacity.

3. The stopping capacity shall be proved by means of stopping manoeuvres carried out within a test area as referred to in Article 5.03 and the turning capacity by turning manoeuvres in accordance with Article 5.10.

Article 5.08

Navigability while going astern

Where the stopping manoeuvre required by Article 5.07 is carried out in stagnant water it shall be followed by a navigation test while going astern.

Article 5.09

Capacity for taking evasive action

Vessels and trains of vessels shall be able to take evasive action in good time. That capacity shall be proven by means of evasive manoeuvres carried out within a test area as referred to in Article 5.03.

Article 5.10

Turning capacity

Vessels and trains of vessels not exceeding 86 m in length or 22.90 m in width shall be able to turn in good time.

That turning capacity may be replaced by the stopping capacity referred to in Article 5.07.

The turning capacity shall be proven by means of turning manoeuvres against the current.

Chapter 6

STEERING SYSTEM

Article 6.01
General requirements

1. Vessels shall be fitted with steering system provides at least the manoeuvrability required by Chapter 5 of this annex.

2. Powered steering system be designed in such a way that the rudder cannot change position unexpectedly.

3. The steering system as a whole shall be designed for permanent lists of up to 15° and ambient temperatures from -20°C to +50°C.

4. The component parts of the steering system shall be rugged enough always to be able to withstand the stresses to which they may be subjected during normal operation. No external forces applied to the rudder shall impair the operating capacity of the steering equipment and its controls.

5. The steering system shall incorporate a powered steering control if so required by the forces needed to actuate the rudder.

6. The power-actuated steering devices shall be protected against overloads by means of a system that restricts the torque applied by the control.

7. The penetrations for the rudder stocks shall be so designed as to prevent the spread of water-polluting lubricants.

Article 6.02
Steering-gear control system

1. If the steering system is power actuated, it must be possible to bring a second control system, or manual control, into use within five seconds if the steering-control system fails or malfunctions.

2. If the second control system or manual control is not placed in service automatically it must be possible to do so immediately by means of a single operation by the helmsman that is both simple and quick.

3. The second control system or manual control shall enable the manoeuvrability required by Chapter 5 of this regulation to be ensured.

Article 6.03

Steering-system hydraulic drive

1. No consumer device may be connected to the hydraulic actuating system for the steering system. Where there are two independent steering controls such a connection to one of the two systems is however acceptable if the consumers are connected to the return line and may be disconnected from the steering control by means of an isolating device.

2. Where there are two hydraulic systems a separate hydraulic reservoir is needed for each of the two systems. However, double reservoirs are acceptable. Hydraulic reservoirs shall be fitted with a warning system that monitors any drop in the oil level below the lowest content level needed for reliable operation.

3. The manoeuvring system does not have to be duplicated if this can be actuated manually or by manually-controlled hydraulic actuation from the wheelhouse.

4. The dimensions, design and arrangement of the pipework shall as far as possible exclude damage to them as a result of mechanical factors or fire.

5. As far as hydraulically-actuated systems are concerned no separate pipework system is required for the second steering system actuation system if independent operation of the two control systems is guaranteed and if the pipework system is able to withstand a pressure at least 1.5 times that of the maximum service pressure.

6. Flexible piping is only permitted where its use is essential in order to damp vibrations or to allow freedom of movement of components. It shall be designed for a pressure that is at least equal to the maximum service pressure.

Article 6.04

Power source

1. Steering systems fitted with two powered actuators shall have at least two power sources.

2. If the second power source for the power-actuated steering system is not constantly available while the vessel is under way the buffer device carrying adequate capacity shall provide back up during the period needed for start up.

3. In the case of electrical power sources no other consumer unit may be supplied by the main power supply for the steering system.

Article 6.05

Manual actuation

1. The hand-operated wheel shall not be driven by the power-actuation system.

2. Regardless of rudder position hand wheel kick-back must be prevented when that manually-operated wheel is engaged automatically.

Article 6.06

Rudder-propeller, water-jet, cycloidal-propeller, and bow-thruster systems

1. Where the thrust vectoring of rudder-propeller, water-jet, cycloidal-propeller or bow-thruster systems is remotely actuated by electric, hydraulic or pneumatic power, there must be two actuation systems, each independent of the other, between the wheelhouse and the system which, by analogy, meet the requirements of Articles 6.01 to 6.06.

Such systems are not subject to this section if they are not needed in order to achieve the manoeuvrability required by Chapter 5 of this regulation or if they are only needed for the stopping test.

2. Where there are several rudder-propeller, water-jet, cycloidal-propeller or bow-thruster systems that are independent of each other the second actuation system is not necessary if the vessel retains the manoeuvrability required by Chapter 5 of this regulation if one of the systems fails.

Article 6.07

Readouts and monitoring

1. The rudder position must be clearly displayed at the steering position. If the rudder-position readout is electric it must have its own power supply.

2. There must be at least the following readouts and monitoring devices at the steering position:

a) oil level in the hydraulic reservoirs in accordance with Article 6.03, section 2, and service pressure of the hydraulic system;
b) failure of the electricity supply for the actuation system;
c) failure of the electricity supply for the drive system;
d) failure of the rate-of-turn regulator;
e) failure of the required buffer devices.

Article 6.08

Rate-of-turn regulators

1. The rate-of-turn regulators and their components shall meet the requirements laid down in Article 9.20.

2. The proper functioning of the rate-of-turn regulator must be displayed at the steering position by means of a green warning light.

Any lack of or unacceptable variations in the supply voltage and an unacceptable fall in the speed of rotation of the gyroscope must be monitored.

3. Where, in addition to the rate-of-turn regulator, there are other steering systems, it must be possible clearly to distinguish at the steering position which of these systems has been activated. It must be possible to shift from one system to another immediately. The rate-of-turn regulator must not cause any kick-back in the steering systems.

4. The electricity supply to the rate-of-turn regulator must be independent of that for the other power consumers.

5. The gyroscopes, detectors and turn displays used in the rate-of-turn regulators must meet the minimum requirements of the minimum Specifications and test conditions concerning rate-of-turn displays for inland waterways.

Article 6.09

Acceptance

1. The compliance of the installed steering system must be checked by an inspection body. It may, for this purpose, request the following documents:

a) description of the steering system;
b) drawings and information on the steering system actuation systems and of the operating controls;
c) information concerning the steering system;
d) electrical wiring diagram;
e) description of the rate-of-turn regulator;
f) system-use instructions.

2. Operation of the entire steering system must be checked by means of a navigation test. It must be checked that a predetermined course can be reliably maintained by the rate-of-turn regulators and that bends can be negotiated safely.

Chapter 7

WHEELHOUSE

Article 7.01

General

1. Wheelhouses shall be arranged in such a way that the helmsman may at all times perform his task while the vessel is under way.

2. Under normal operating conditions sound pressure generated by the vessel itself and perceived by the helmsman at the steering position shall not exceed 70 dB(A).

3. Where a wheelhouse has been configured for radar navigation by a single person the helmsman shall be able to accomplish his task while seated and all of the display or monitoring instruments and all of the controls needed for operation of the vessel shall be arranged in such a way that the helmsman may use them comfortably while the vessel is under way without leaving his position or losing sight of the radar screen.

Article 7.02

Unobstructed view

1. There must be an adequately unobstructed view in all directions from the steering position.

2. The area of obstructed vision for the helmsman ahead of the vessel in an unladen state with half of its supplies but without ballast shall not exceed 250 m.

The optical means of reducing the area of restricted vision may not be taken into account during the inspection.

3. The helmsman's field of vision at his normal position shall be at least 240° from the horizon and at least 140° within the semicircle pointing towards the front of the vessel.

No column, post or superstructure shall lie within the normal line of sight of the helmsman.

If no sufficiently unobstructed view is provided towards the rear the inspection body may require other forms of action and in particular the installation of auxiliary optical devices.

4. There must in all weathers be suitable means of providing a clear view through the windscreen.

5. The glazing used in wheelhouses shall display a light transmission of at least 75%.

Article 7.03

General requirements concerning control, display and monitoring equipment

1. It must be possible easily to place in their position of use those controls that are needed to operate the vessel. That position must be unambiguously clear.

2. The monitoring instruments must be easily legible. It must be possible to adjust their lighting steplessly down to their extinction. Light sources shall be neither intrusive nor impair the legibility of the monitoring instruments.

3. There must be a system for testing the warning lights.

4. It must be possible clearly to establish whether a system is in operation. If its functioning is indicated by means of a warning light this shall be green.

5. Any malfunctioning or failure of systems that require monitoring shall be indicated by means of red warning lights.

6. An audible warning shall sound at the same time that the red warning lights light up. The audible warnings may consist of a single, common signal. The sound pressure level of that signal shall exceed the maximum sound pressure level of the ambient noise at the steering position by at least 3 dB(A).

7. The audible warning system may be switched off after the malfunction or failure has been confirmed. That shutdown shall not prevent the alarm signal from being triggered by other malfunctions. The red warning lights shall only go out when the malfunction has been corrected.

8. The monitoring and display devices shall be automatically connected to an alternative power supply if their own power supply fails.

Article 7.04

Equipment for controlling, displaying and monitoring the operation of the power plants and steering system

1. It must be possible to control and monitor the power plants and steering systems from the steering position. Power plants fitted with a clutch which may be actuated from the steering position, or which drive a rudder propeller which may be controlled from the steering position, may only be started up and shut down from inside the engine room.

2. The control for each drive engine shall take the form of a single lever which prescribes an arc within a vertical plane that is perceptibly parallel to the longitudinal axis of the vessel. Movement of that lever towards the bow of the vessel shall cause forward motion, whereas movement of the lever towards the stern shall cause the vessel to go astern. Clutch engagement and reversal of the direction of travel shall take place about the neutral position of that lever. A clearly audible click shall indicate that neutral position. The lever travel between neutral and the "full speed ahead" position and between neutral and the "full astern" position shall not exceed 90°.

3. The direction of the power-plant thrust imparted to the vessel and the rotational speed of the propeller or drive engines must be displayed inside wheelhouses that have been designed for radar navigation by one person.

4. The displays and control devices required by Article 6.07, section 2, Article 8.03, section 2, and Article 8.05, section 11, shall be located at this steering position.

5. The steering system for the vessel shall be controlled by means of a lever in wheelhouses that have been designed for radar navigation by one person. It must be possible to move that lever easily by hand. The angular displacement of the lever in relation to the axis of the vessel shall correspond precisely to the displacement of the rudder blades. It must be possible to leave the lever in any given position without that of the rudder blades changing. A clearly perceptible click must indicate the neutral position.

6. Where, in wheelhouses arranged for radar navigation by one person the vessel is fitted with bow rudders or special rudders, particularly for going astern, these shall be actuated by special levers which, by analogy, meet the requirements set out in section 5. That requirement shall also apply where, in trains of craft, the steering system fitted to craft other than those powering the train is used.

7. Where rate of turn regulators are used it must be possible for the rate of turn control to be released in any given position without altering the speed selected.
The control must turn through a wide enough arc to guarantee adequately precise positioning. The neutral position must be clearly distinguished from the other position. It must be possible to set the scale illumination so as to be infinitely variable.

8. The remote-control equipment for all of the steering system must be installed in a permanent manner and be arranged in such a way that the course selected is clearly visible. If the remote control equipment can be disengaged it must be equipped with a read-out displaying the situation "in service" or "not in service". The disposition and manipulation of the controls must be functional.
Impermanent remote-control equipment for systems that are subsidiary to the steering system, such as active bow thruster, shall be acceptable provided that such a subsidiary installation can be activated by means of an override at any time within the wheelhouse.

In the case of propeller-rudder, water-jet, cycloidal-propeller and bow-rudder systems, equivalent devices shall be acceptable as control, display and monitoring devices.
The requirements set out in sections 1-8 shall apply, by analogy, in view of the specific characteristics and arrangements selected for the steering and drive controls referred to above. The direction of the thrust acting on the vessel or the direction of the jet must be clearly indicated for each installation, account being taken of its position.

Article 7.05

Control and monitoring of signal lights, light signals and sound signals

1. In this Article the term

(a) "signal lights" means the mast, side and stern lights, and the lights visible from all sides, the blue flashing lights and the blue lights for the carriage of dangerous substances;

(b) "light signals" means the lights accompanying the audible signals and the light assigned to the blue panel.

2. Warning lights or any other equivalent device for monitoring the signal lights shall be installed in the wheelhouse unless that monitoring can be performed direct from the wheelhouse.

3. In wheelhouses designed for radar navigation one person warning lights must be installed on the control panel in order to monitor the signal lights and the light signals. Signal-light switches must be included in the warning lights or be adjacent to these.

The layout and colour of the warning lights for the signal lights and light signals must correspond to the actual position and colour of those lights and signals. The failure of a signal light or light signal to function must cause the corresponding warning light to go out or to be signalled in another manner by the corresponding warning light.

4. The audible warning devices shall be foot actuated in wheelhouses that have been designed for radar navigation by one person. That requirement shall not apply to the "do not approach" signal in line with the police instructions in force in the Member States.

Article 7.06

Radar installations and rate-of-turn indicators

1. The radar equipment and rate of turn indicators must be of a type that has been approved by the competent authorities. The requirements concerning installation and operational monitoring must be met.

The rate of turn indicator must be located ahead of the helmsman and within his field of vision.

2. In wheelhouses designed for radar navigation by one person:

a) the radar screen shall not be significantly to one side of the line of sight of the helmsman in its normal position;

b) the radar image shall continue to be perfectly visible, without a mask or screen, whatever the lighting conditions applying outside the wheelhouse;

c) the rate of turn indicator shall be installed directly above or below the radar image or be incorporated into this.

Article 7.07

Radio telephony systems for vessels with wheelhouses designed for radar navigation by one person

1. Where vessel wheelhouses have been designed for radar navigation by one person reception from the vessel-vessel networks and that of nautical information shall be via a loudspeaker, and outgoing communications via a fixed microphone. Send/receive shall be selected by means of a push-button.

It shall not be possible to use the microphones in those networks for the public correspondence network.

2. It must be possible for reception to take place from the helmsman's seat on vessels whose wheelhouse has been designed for radar navigation by one person and which have been equipped with a radio telephone system for the public telephone network.

Article 7.08

Sound links on board

There must be a sound link for internal communications on board vessels whose wheelhouse has been designed for radar navigation by one person.

It must be possible to establish sound links from the steering position:

a) with the front of the vessel or train of vessels;

b) with the rear of the vessel or train of vessels if no other communication is possible from the steering position;

c) with the crew accommodation;

d) with the skipper's cabin.

Reception at all of these sound-link positions shall be via high speaker, and transmission shall be via a fixed microphone. The link with the front and rear of the vessel or train of vessels may be of the radio-telephone type.

Article 7.09

Alarm system

1. There must be an independent alarm system enabling the accommodation, engine rooms and, where appropriate, the separate pump rooms to be reached.

2. The helmsman must have within reach an on/off switch controlling the alarm signal; switches which automatically return to the off position when released are not acceptable.

3. The sound pressure level for the alarm signal shall be at least 75 dB(A) within the accommodation area.

In the engine rooms and pump rooms the alarm signal shall take the form of a flashing light that is visible on all sides and clearly perceptible at all points.

Article 7.10

Heating and ventilation

Wheelhouses shall be equipped with a heating and ventilation system that can be regulated.

Article 7.11

Stern-anchor operating equipment

It must be possible for the helmsman to drop the stern anchor from his position on board vessels and trains of vessels whose wheelhouse has been designed for radar navigation by one person and whose length exceeds 86 m and whose width exceeds 22.90 m.

Article 7.12

Retractable wheelhouses

It must be possible for variable-height wheelhouses to be fitted with an emergency lowering system.

All lowering operations shall automatically trigger a clearly audible warning signal. That requirement shall not apply if the risk of corporal injury which may result from the lowering is prevented by appropriate design features.

It must be possible safely to leave the wheelhouse whatever its position.

Article 7.13

Entry in the inspection certificate that vessels have special wheelhouse arrangements for radar navigation by one person

Where a vessel complies with Article 7.01, 7.04-7.08, and 7.11 in respect of wheelhouses that have been designed for radar navigation by one person, the following statement shall be entered in the certificate:

"The vessel has special wheelhouse arrangements for steering on radar by one person".

Chapter 8

ENGINE DESIGN

Article 8.01

General

1. Engines and their ancillaries shall be designed, built and installed in accordance with the state of the art.

2. Installations requiring close inspection such as steam boilers, other pressure vessels and their accessories, together with lifts, shall meet the regulations applying in one of the Member States of the Community.

3. Only internal-combustion engines burning fuels having a flashpoint of more than 55°C may be installed.

Article 8.02

Safety equipment

1. Engines shall be installed and fitted in such a way as to be adequately accessible for operation and maintenance and shall not endanger the persons assigned to those tasks. It must be possible to make them secure against inadvertent starting.

2. Power plants, ancillaries, boilers and pressure vessels, together with their accessories, must be fitted with safety devices.

3. It must be possible, where so needed, also to shut down the motors driving the blower and suction fans from outside the premises in which they are located, and from outside the engine room.

Article 8.03

Power plant

1. It shall be possible to start, stop or reverse the power plant safety and quickly.

2. The following shall be monitored by suitable devices which trigger an alarm once a critical level has been reached:

(a) the temperature of the main-engine cooling water;

(b) the lubricating-oil pressure for the main engines and transmissions;

(c) the oil and air pressure of the main engine reversing units, reversible transmissions or propellers.

3. Where vessels have only one drive engine that engine shall not be shut down automatically except in order to protect against over-revving.

4. Shaft bushings shall be designed in such a way as to prevent the spread of water-polluting lubricants.

Article 8.04

Engine exhaust system

1. The exhaust gases shall be ducted out of the vessel in their entirety.

2. All suitable steps shall be taken to avoid ingress of the exhaust gases into the various compartments. Exhaust pipes passing through accommodation or the wheelhouse shall, within these, be covered by protective gas-tight sheathing. The gap between the exhaust pipe and this sheathing shall be open to the outside air.

3. The exhaust pipes shall be arranged and protected in such a way that they cannot cause a fire.

4. The exhaust pipes shall be suitably insulated or cooled in the engine rooms. Protection against physical contact may suffice outside the engine rooms.

Article 8.05

Fuel tanks, pipes and accessories

1. Liquid fuels shall be stored in steel tanks or, if so required by the design of the vessel, in an equivalent material in terms of fireproofing, this forming part of the hull or being firmly attached to this. That requirement shall not apply to tanks having a capacity of no more than 12 litres that have been incorporated in ancillaries at the factory. Fuel tanks shall not have common surfaces with drinking-water tanks.

2. Tanks and their pipework and other accessories shall be laid out and arranged in such a way that neither fuel nor gas may accidentally reach the inside of the vessel. Tank valves intended for fuel sampling or water drainage shall close automatically.

3. No fuel tanks may be located ahead of the transverse watertight bulkhead.

4. Daily-supply tanks and their fittings shall not be located above engines or exhaust pipes.

5. The filler orifices for fuel tanks shall be marked distinctly.

6. The orifice for the liquid-fuel tank filler necks shall be on the deck, except for the daily-supply tanks. The filler neck shall be fitted with a cap. Such tanks shall be fitted with a breather pipe terminating in the open air above the deck and arranged in such a way that no water ingress is possible.

Its section shall be at least 1.25 times the cross section of the filler neck.

7. At tank outlets the pipework for the distribution of liquid fuels shall be fitted with a shutoff device that can be operated from the deck.
That requirement shall not apply to tanks mounted directly on the engine.

8. Fuel pipes, their connections, seals and fittings shall be made of materials that are able to withstand the mechanical, chemical and thermal stresses to which they are likely to be subjected. The fuel pipes shall not be subjected to any damaging effects of heat and it must be possible to monitor them throughout their length.

9. Fuel tanks shall be provided with a capacity-gauging device that is legible right up to the maximum filling level. The checking tubes shall be effectively protected against impacts, shall be fitted with automatically closing taps at their base and shall be attached at their upper part to the tanks above their maximum filling level. The material used for the checking tubes shall not deform under normal ambient temperatures.

10. Liquid-fuel tanks shall be provided with openings having leak-proof closures that are intended to permit cleaning and inspection.

11. Fuel tanks directly supplying the power plants and the engines needed for navigation purposes shall be fitted with a device emitting both visual and audible signals in the engine room if their level of filling is not sufficient to ensure continued reliable operation.

Article 8.06

Bilge pumping and drainage systems

1. It shall be possible to pump each sealed compartment dry separately. However, that requirement shall not apply to compartments that are normally sealed hermetically during operation.

2. Vessels requiring a crew shall be equipped with two separate bilge pumps which shall not be installed within the same space. At least one of these shall be motor driven. However, if the power units for such vessels develop less than 225 kW or weigh less than 350 t gross respectively, or where vessels not intended for the carriage of goods have a displacement of less than 250 m^3, either a manually-operated or motor-driven pump will suffice.
Each of the required pumps shall be capable of use on each sealed compartment.

3. The pumping capacity of the first bilge pump shall be calculated via the formula:

$Q_1 = 0.1 \cdot d_1^2$ [l/min]

d_1 is calculated via the formula

$d_1 = 1.5 \sqrt{L} (B + H) + 25$ [mm].

The pumping capacity of the second bilge pump shall be calculated, in l/min via the following formula:

$Q_2 = 0.1 \cdot d_2^2$ [l/min]

d_2 is calculated by the formula:

$d_2 = 2 \sqrt{1} (B + H) + 25$ [mm].
However, the value d_2 may be taken no to exceed value d_1. The length of the longest sealed compartment shall be taken to be l in order to determine Q_2.

In these formulae:

l = the length of the corresponding sealed compartment, in m;
d_1 = the calculated internal diameter of the drainage pipe, in mm;
d_2 = the calculated internal diameter of the drainage spur, in mm.

4. Where the drainage pumps are connected to a drainage system the drainage pipes shall have an internal diameter of at least d_1, in mm, and the drainage spurs an internal diameter of at least d_2, in mm.

Where vessels are less than 25 m in length these values may be reduced to 35 mm.

5. Only self-priming drainage pumps are acceptable.

6. There must be at least one strainer on both the starboard and port sides of all flat-bottomed, drainable compartments that are wider than 5 m.

7. It may be possible to drain the rear beak via the main engine room by means of an easily accessible, automatically closable set of pipes.

8. The drainage spurs for the various compartments shall be linked to the main drain by means of a lockable non-return valve.

The compartments or other spaces fitted out for ballast may only be linked to the drainage system by means of a single closing device. That requirement shall not apply to holds fitted out for ballast. Such holds shall be filled with ballast water by means of ballast piping that is permanently installed and independent of the drainage pipes, or by means of spurs consisting of flexible pipes or intermediate pipes that can be connected to the main drain. Water intake valves located in the base of the hold shall not be permitted for this purpose.

9. The hold bottoms shall be fitted with depth gauges.

10. Where a drainage system incorporates permanently fixed pipework the bilge-bottom drainage pipes intended to extract oily water shall be equipped with closures that have been sealed in position by an inspection body. The number and position of those closures shall be entered on the certificate.

Article 8.07

Oily-water and drained-oil stores

1. It shall be possible to store water made oily by operation on board. The engine-room hold bottom is considered to be a store for this purpose.

2. In order to store spent oils there shall, in the engine room, be one or several specific recipients whose capacity corresponds to at least 1.5 times the quantity of the waste oils from the sumps of all of the internal combustion engines and all of the equipment installed, together with the hydraulic fluids from the hydraulic-fluid reservoirs.

The connections used in order to empty the recipients referred to above shall comply with European standard EN 1305.

3. Where vessels are only used on short-haul work the inspection body may grant exemptions from the requirements of section 2.

Article 8.08

Noise emitted by vessels

1. The noise produced by a vessel under way, and in particular the engine induction and exhaust noises, shall be damped by using appropriate means.

2. The noise generated by a vessel shall not exceed 75 dB(A) at lateral distance of 25 m from the outer hull.

3. Apart from transhipment operations the noise generated by a stationary vessel shall not exceed 65 dB(A) at a lateral distance of 25 m.

Chapter 9

ELECTRICAL EQUIPMENT

Article 9.01

General

1. Where there are no specific requirements concerning certain parts of an installation the safety level shall be considered satisfactory where those parts have been produced in accordance with an approved European standard or in accordance with the requirements of an approved classification society.
The relevant documents shall be submitted to the inspection body.

2. Documents containing the following, and duly stamped by the inspection body, shall be kept on board:

a) general drawings concerning all of the electrical equipment;

b) switching diagrams for the main control panel, the emergency-installation panel and the distribution panels, together with the most important technical data such as the amperage and rated current of the protection and control devices;

c) power data concerning the electrical service equipment;

d) types of cable and statement of conductor cross sections.

It is not necessary to keep such documents on board uncrewed craft, but they must be available at all times from the owner.

3. The equipment shall be designed for permanent lists of up to 15° and ambient inside temperatures of between 0 and +40°C, and on the deck between -20°C and +40°C. It shall function perfectly at those limits.

4. The electrical and electronic equipment and appliances shall be fully accessible and easy to maintain.

Article 9.02

Electricity supply systems

1. Where craft are fitted with an electrical system that system shall in principle have at least two power sources in such a way that where one power source fails the remaining source is able to supply the equipment needed for navigational safety for at least 30 minutes.

2. Adequate sizing of the power supply shall be demonstrated by means of a power budget. An appropriate simultaneity factor may be taken into account.

3. Independently of Section 1 above, Article 6.04 shall apply to the power supplies for the steering system (rudder installations).

4. The power supplies referred to in Section 1 shall be independent of each other on board passenger vessels.

5. Article 9.18 shall apply to emergency power supplies on board day-excursion vessels whose length L_F is not less than 25 m, and on vessels with cabins.

Article 9.03

Protection against physical contact, the insertion of solid objects and the infiltration of water

The type of minimum protection for parts of permanent fixtures shall be as set out in the table.

Location	Type of minimum protection in accordance with IEC publ. 529)					
	Generators	Motors	Transformers	Panels Distributors Switches	Installation equipment	Lighting devices
Service premises, engine rooms, steering-gear compartments	IP 22	IP 22	2) IP 22	1) 2) IP 22	IP 44	IP 22
Holds					IP 55	IP 55
Battery and paint lockers						IP 44 u. (EX)[3)]
Unroofed decks and steering positions		IP 55		IP 55	IP 55	IP 55
Enclosed wheelhouse		IP 22	IP 22	IP 22	IP 22	IP 22
Accommodation apart from health facilities and wash rooms				IP 22	IP 20	IP 20
Health facilities and wash rooms		IP 44	IP 44	IP 44	IP 55	IP 44

Remarks

1 **Where appliances release large amounts of heat: IP 12**

2. **Where appliances or panels do not have this type of protection their location shall meet the conditions applying to that type of protection. .**

3. **Electrical equipment of the certified safety type as in accordance with the European standards EN 50014-50020 or in accordance with IEC Publication 79.**

Article 9.04

Explosion proofing

Only electrical equipment that has been explosion proofed, (safety-certified) may be installed in premises where potentially explosive gases or mixtures of gases are likely to accumulate, such as compartments set aside for accumulators or the storage of highly inflammable products. No light switches or other electrical appliances shall be installed on those premises. The explosion proofing shall take account of the characteristics of the potentially explosive gases or mixtures of gases that are likely to arise (explosion-potential group, temperature class).

Article 9.05

Earthing

1. Systems under a voltage of more than 50 V need to be earthed.

2. Metal parts that are open to physical contact and which, during normal operation, are not electrically live, such as engine frames and casings, appliances and lighting equipment, shall be earthed separately where these are not in electrical contact with the hull as a result of their installation.

3. The housings of electrical receivers of the mobile and portable type shall, during normal use, be earthed by means of an additional neutral conductor that is incorporated into the power cable.

That prescription does not apply where a circuit-separation transformer is used, nor to appliances fitted with protective insulation (double insulation).

4. The cross section of the earthing conductors shall be not less than as set out in the table:

Cross section of outside conductors (mm^2)	Minimum cross section of earthing conductors	
	in insulated cables (mm^2)	fitted separately (mm^2)
from 0.5 to 4	same cross section as that of the outside conductor	4
more than 4 to 16	same cross section as that of the outside conductor	same cross section as that of the outside conductor
more than 16 to 35	16	16
more than 35 to 120	half of the cross section of the outside conductor	half of the cross section of the outside conductor
more than 120	70	70

Article 9.06

Maximum permissible voltages

1. The following voltages shall not be exceeded:

Type of installation		Maximum permissible voltage		
		Direct current	Single-phase alternating current	Three-phase alternating current
a.	Power and heating installations including the relevant sockets	250 V	250 V	500 V
b.	Lighting, communications, command and information installations including the relevant sockets	250V	250V	–
c.	Sockets intended to supply portable devices used on open decks or within narrow or damp metal lockers, apart from boilers and tanks:			
	1. In general ...	50V[1)]	50V[1)]	-
	2. Where a circuit-separation transformer only supplies one appliance ...	-	250V[2)]	-
	3. Where protective-insulation (double insulation) appliances are used ...	250V	250V	-
	4. Where ≤30 mA default current circuit breakers are used.	-	250V	500V
d.	Mobile components such as electrical equipment for containers, motors, blowers and mobile pumps which are not normally handled during service and use conducting parts which are open to physical contact are earthed by means of a protective conductor that is incorporated into the connecting cable and which, in addition to that effective conductor, are connected to the hull by their location or another conductor ...	250V	250V	500V
e.	Sockets intended to supply portable appliances used inside boilers and tanks	50V[1)]	50V[1)]	

Comments:

1) Where that voltage comes from higher-voltage networks galvanic separation must be used (safety transformer).

2) All of the poles of the secondary circuit shall be insulated from the earth.

2. If the required protective measures are applied higher voltages are acceptable:

(a) for power installations where their power so requires;

(b) for special on-board installations such as radio and ignition systems.

Article 9.07

Distribution systems

1. The following distribution systems are allowed for direct and single-phase alternating current:

(a) two-conductor systems of which one is earthed (L1/N/PE);

(b) single-conductor systems using the hull-return principle, only for local installations (for example, starting gear for combustion engines, cathodic protection) (L1/PEN);

(c) two-conductor systems that are insulated from the hull (L1/L2/PE).

2. The following distribution systems are allowed for three-phase alternating current:

(a) four-conductor systems with earthing of the neutral point, not using the hull return principle (L1/L2/L3/N/PE) = network tTN-S) or network tIT);

(b) three-conductor systems insulated from the hull tLl/L2/L3/PEN);

(c) three-conductor systems with earthing of the neutral point using the hull return principle except for terminal circuits tL1/L2/L3/PEN).

3. The inspection body may allow the use of other systems.

Article 9.08

Connection to the shore or other external networks

1. Incoming supply lines from landbased networks or other external networks to the installations of the onboard network shall have a permanent connection on board in the form of fixed terminals or fixed plug sockets. The cable connections shall not be subjected to any pulling toad.

2. The hull shall be capable of being earthed effectively when the connection voltage exceeds 50 V. The earthing connection shall be specially marked.

3 The switching devices for the connection shall be capable of being locked so as to prevent the concurrent operation of the onboard network generators and the shore network or another external network. A brief period of concurrent operation shall be permitted when changing from one system to another without a break in voltage.

4. The connection shall be protected against short circuits and overloads.

5. The main switchboard shall indicate whether the connection is live.

6. Indicator devices shall be installed to enable polarity to be compared, in the case of direct current, and phase sequence in the case of alternating current, between the connection and the onboard network.

7. A panel on the connection shall indicate:
(a) the measures required to make the connection;
(b) the types of current and the nominal voltage and, for alternating current, the frequency.

Article 9.09

Power supply to other craft

1. When power is supplied to other craft, a separate connection shall be used. If power sockets rated at more than 16 A are used to supply current to other craft, steps shall be taken to ensure (for example, by the use of switches or interlocks) that connection and disconnection can take place only when the line is dead.

2. Cables and their connections shall not be subjected to any pulling load.

3. Article 9.08, (3) to (7), shall apply by analogy.

Article 9.10

Generators and motors

1. Generators, motors and their terminal boxes shall be accessible for checks, measurements and repairs. The type of protection shall correspond to their location (see Article 9.03).

2. Generators driven by the main power plant, the propeller shaft or by an ancillary set intended for another function shall be designed as a function of the range of rotational speeds which can occur during operation.

Article 9.11

Accumulators

1. Accumulators shall be accessible and so arranged as not to shift with movements of the craft. They shall not be placed where they will be exposed to excessive heat, extreme cold, spray, steam or vapour.

They shall not be installed in the wheelhouse, accommodation or holds. This requirement shall not apply to accumulators for portable appliances, or to accumulators requiring a charging power of less than 0.2 kW.

2. Accumulators requiring a charging power of more than 2.0 kW (calculated on the basis of the maximum charging current and the nominal voltage of the accumulator and taking into account the characteristic charging curve of the charging appliance) shall be installed in a special room. If placed on deck they may also be enclosed in a cabinet.

Accumulators requiring a charging power not exceeding 2.0 kW may also be installed below decks in a cabinet or chest. They may also be installed in an engine room or any other well-ventilated space provided that they are protected against falling objects and dripping water.

3. The interior surfaces of all rooms, cabinets or boxes, shelving or other built-in features intended for accumulators shall be protected against the harmful effects of the electrolyte.

4. Provision shall be made for effective ventilation when accumulators are installed in a closed compartment, cabinet or chest. Forced-draught ventilation shall be provided for nickel-cadmium accumulators requiring a charging power of more than 2 kW and for lead-acid accumulators requiring more than 3 kW.

The air shall enter at the bottom and be discharged at the top so as to ensure total gas extraction.

Ventilation ducts shall not include any devices which obstruct the air flow, such as stop valves.

5. The required air throughput (Q) shall be calculated by the following formula:

$$Q = 0.11 \cdot I \cdot n \qquad [m^3/h]$$

where

I represents one quarter of the maximum current, in A, permitted by the charging device

n represents the number of cells.

In the case of buffer accumulators within the onboard network other methods of calculation taking into account the characteristic charging curve of the charging device may be accepted by the inspection body, provided that these methods are based on the provisions of approved classification societies or on relevant standards.

6. Where natural ventilation is used the cross-section of the ducts shall be sufficient for the required air throughput on the basis of an air-flow velocity of 0.5 m/sec. The cross-section shall be at least 80 cm^2 for lead-acid accumulators and 120 cm^2 for nickel-cadmium accumulators.

7. Where forced-draught ventilation is used a fan shall be provided - preferably of the suction type - whose motor shall be clear of the gas or air stream.

Fans shall be so designed as to preclude the generation of sparks through contact between a blade and the fan casing and to avoid any electrostatic charges.

8. "No smoking" signs having a minimum diameter of 10 cm shall be affixed to the doors or covers of compartments, cabinets and chests containing accumulators.

Article 9.12

Connecting installations

1. Electrical switchboards

(a) Appliances, switches, protective devices and switchboard instruments shall be arranged so as to be clearly visible and shall be accessible for maintenance and repair.

Terminals for voltages up to 50 V, and those for voltages higher than 50 V, shall be kept separate and marked appropriately.

(b) For all switches and appliances marker plates identifying the circuit shall be affixed to the switchboards.

The nominal amperage and the circuit for protective devices shall be identified.

(c) When appliances with an operating voltage greater than 50 V are installed behind doors the live components of those appliances shall be protected against accidental contact while the doors are open.

(d) The materials of switchboards shall have suitable mechanical strength and be durable, non-flammable and self-extinguishing; nor shall they be hygroscopic.

(e) If fuses with a high breaking capacity are installed in electrical switchboards accessories and equipment for bodily protection shall be available for installing and removing such fuses.

2. Switches, protective devices

(a) Generator circuits and consumer circuits shall be protected against short circuits and overcurrent on all non-earthed conductors. Overload circuit-breakers or-fuses may be used for this purpose.

Circuits supplying the steering-gear motors (steering installations) and their control circuits shall only be protected against short circuits. Where circuits include thermal circuit-breakers these shall be neutralised or set at not less than twice the nominal amperage.

(b) Outputs from the main switchboard to appliances operating at more than 16 A shall include a load or power switch.

(c) Prime movers for the craft, the steering system, the rudder position indicator, navigation or safety systems, and appliances with a nominal amperage greater than 16 A shall be supplied by separate circuits.

(d) The circuits of appliances required for propelling and manoeuvring the vessel shall be supplied directly by the main switchboard.

(e) Circuit-breaking equipment shall be selected on the basis of nominal amperage, thermal or dynamic strength, and their breaking capacity. Switches shall simultaneously cut off all live conductors. The switching position shall be identifiable.

(f) Fuses shall be of the enclosed-melt type and be made of porcelain or an equivalent material. It shall be possible to change them without any danger of operator contact.

3. Measuring and monitoring devices

(a) Generator, battery and distribution circuits shall be equipped with measuring and monitoring devices where the safe operation of the installation so requires.

(b) Non-earthed networks where the voltage is higher than 50 V, must include an earth-insulation checking device equipped with a visual and audible alarm. In secondary installations such as control circuits, this device may be dispensed with.

4. Location of electrical switchboards

(a) Switchboards shall be located in accessible and well-ventilated spaces and be protected against water and mechanical damage.

Piping and air ducts shall be so arranged that in the event of leakage the switchboards cannot be damaged. If their installation near electrical switchboards is inevitable, pipes shall not have detachable connections nearby.

(b) Cabinets and wall recesses in which unprotected circuit-breaking equipment is installed shall be of a non-flammable material or be protected by a metal or other non-flammable sheathing.

(c) When the voltage is greater than 50 V, insulating gratings or mats shall be placed at the operator's position in front of the main switchboard.

Article 9.13

Emergency circuit breakers

Emergency circuit breakers for oil burners, fuel pumps, fuel separators and engine-room ventilators shall be installed outside the premises containing the equipment.

Article 9.14

Fixed installations

1. Equipment seals shall be sized as a function of the cables to be connected and be appropriate to the types of cable used.

2. Sockets for distribution circuits at different voltages or frequencies shall be impossible to confuse.

3. Switches shall simultaneously switch off all unearthed conductors within a circuit. However, single-pole switches within unearthed circuitry shall be permitted in accommodation-lighting circuits apart from in laundries, bathrooms and washrooms.

4. Where amperage exceeds 16 A it shall be possible to lock the sockets by means of a switch in such a way that the plug can only be inserted and withdrawn with the power switched off.

Article 9.15

Cables

1. Cables shall be flame-retardant, self-extinguishing and resistant to water and oil.

In accommodation, other types of cable may be used, provided that they are effectively protected, have flame-retardant characteristics and are self-extinguishing.

2. Cables with conducting wires with a minimum cross-section of 1.5 mm^2 shall be used for power and lighting circuits.

3. The armouring and metal sheathing of power and lighting circuits shall not, under normal operating conditions, be used as conductor wires or earth wires.

4. The armouring and metal sheathing of power and lighting circuits shall be earthed at least at one end.

5. The cross-section of conductor wires shall take account of the final permissible maximum temperature of conductor wires (maximum permissible amperage) and permissible voltage drop. Such a drop between the main switchboard and the least favourable point on the circuit shall not be more than 5% of nominal voltage for lighting or more then 7% for power or heating circuits.

6. Cables shall be protected against mechanical damage.

7. The means of fixing the cables shall ensure that any pulling load remains within the permissible limits.

8. When cables pass through partitions or decks, the mechanical strength, watertightness and fire resistance of these partitions and decks shall not be affected by the seals.

9. Cables linking mobile wheelhouses shall be sufficiently flexible and be fitted with insulation with sufficient flexibility down to -20 °C and resistance to steam and vapour, ultraviolet rays, ozone, etc.

Article 9.16

Lighting installations

1. Lighting appliances shall be so installed that the heat they emit cannot set fire to nearby inflammable objects or components.

2. Lighting appliances on open decks shall be so installed as not to impede the recognition of signal lights.

3. When two or more lighting appliances are installed in an engine room or boiler room, they shall be supplied by at least two different circuits. This requirement shall also apply to spaces where cooling or hydraulic machinery, or electric motors, are installed.

Article 9.17

Signal lights

1. The switchboards for the signal lights shall be installed in the wheelhouse. They shall be supplied by a separate feeder from the main switchboard or by two separate secondary networks.

2. Lights shall be individually supplied from the lighting panel and be individually protected and controlled.

3. Tell-tale lamps or other equivalent devices monitoring the signal lights shall be placed on the switchboard in the wheelhouse unless direct monitoring from the wheelhouse is possible. No fault in the monitoring installation shall affect the operation of the light which it monitors.

4. Several lights forming a functional unit and installed together at the same point may be jointly supplied, controlled and monitored. The monitoring installation shall be capable of identifying the failure of any of these lights. However, it shall not be possible to use both light sources in a double light (two lights mounted one above the other or in the same housing) simultaneously.

Article 9.18

Emergency installations

1. Day-excursion craft having a length L_F of at least 25 m, and cabin craft, shall be equipped with emergency installations which can be used to supply power to the electrical installations listed in section 3 below if the main power supply is interrupted.

2. The emergency installation (emergency source and its switchboard) shall be installed outside the main engine room and the space where the main switchboard is located and shall be separated from those spaces by fire-resistant and watertight bulkheads.

3. Auxiliary power sources shall be capable of supplying simultaneously at least the following electrical installations where these are specified and if they have no independent power supply:
(a) Signal lights;
(b) Audible warning devices;
(c) Emergency lighting of the premises and stations referred to in article 15.10, (7);
(d) Radio telephone equipment;
(e) Alarm and loudspeaker systems;
(f) Emergency floodlight;
(g) Fire alarm system;
(h) Other safety installations such as sprinkler fire extinguishers or a second fire pump.

4. The emergency source of power may be:
(a) An auxiliary set whose fuel supply system and cooling system are independent of the main power plant and which, in the event of a network failure, is started automatically, or can be started manually if it is installed in the immediate vicinity of the wheelhouse or other station that is manned continuously by qualified crew members, and can provide the entire power supply within 30 seconds, or

(b) An accumulator battery which, in the event of a network failure, is automatically phased to the line or can be started manually if it is installed in the immediate vicinity of the wheelhouse or other station that is manned continuously by qualified crew members and can provide the consumers listed with power for the required amount of time without being recharged and without any unacceptable fall in voltage.

The operating time for emergency equipment shall be determined in accordance with the intended use of the craft, but shall in any event not be less than 30 minutes.

5. A failure of the main or emergency power equipment shall not adversely affect the operational safety of the installations.

Article 9.19

Alarm and safety systems for mechanical equipment

The alarm and safety systems for monitoring and protecting mechanical equipment shall meet the following requirements:

(a) Alarm systems

The alarm systems shall be so designed that no failure in the alarm system can result in failure of the apparatus or equipment being monitored.

Binary transmitters shall be designed on the quiescent-current principle or on the monitored load-current principle.

Visual alarms shall remain visible until the fault has been remedied; an alarm with acknowledgement shall be distinguishable from an alarm without acknowledgement. Each alarm shall also comprise an audible warning. It shall be possible to switch off acoustic alarms. Switching off one acoustic alarm shall not prevent another signal from being set off by another cause.

Exceptions shall be permitted in the case of alarm systems comprising less than 5 measurement points.

(b) Safety systems

Safety systems shall be designed to halt or slow down the operation of the affected equipment, or to warn a permanently-manned station to do so before a critical state is reached.
Binary transmitters shall be designed according to the load-current principle.
If safety systems are not designed to be self-monitoring their operation must be checkable.
Safety systems must be independent of other systems.

Article 9.20

Electronic equipment

1. General

The test conditions in 2 below shall apply only to electronic devices and their ancillaries on the steering system and the craft's power plants.

2. Test conditions

(a) The stresses arising from the test shall not cause electronic devices to be damaged or to malfunction. The tests in accordance with the international standards, such as publication IEC 92-504 concerning these, shall be carried out with the device in operation, apart from the cold-proofing test, the test consisting of checking operation.

(b) Variations in voltage and frequency

	Value for	Variations	
	service	continuous	short-duration
General	frequency	± 5%	± 10% 5 s
	voltage	± 10%	± 20% 1.5 s
Battery operation	voltage	+ 30% / - 25%	-

(c) Heating test

The sample is brought up to a temperature of 55°C within a half-hour period. After that temperature has been achieved it is maintained for 16 hours. An operating test is then conducted.

(d) Cold-condition test

The sample is shut down and cooled to -25°C and held at that temperature for two hours. The temperature is then raised to 0°C and an operating test is conducted.

(e) Vibration test

The vibration test shall be carried out along the three axes at the resonance frequency of the appliances or parts for the period of 90 minutes in each case. If no clear resonance emerges the vibration test takes place at 30 Hz.

The vibration test takes place via sinusoidal oscillation within the following limits:

General:

f = 2.0 at 13.2 Hz; a = ± 1mm
(amplitude a = ½ the vibration width)

f = 13.2 Hz at 100 Hz; acceleration ± 0.7g.

Equipment intended to be fitted to diesel engines or steering system shall be tested as follows:

f = 2.0 to 25 Hz; a = ± 1.6mm
(amplitude a = ½ the vibration width)

f = 25 Hz at 100 Hz; acceleration ± 4g.

The sensors intended to be installed in diesel-engine exhaust pipes may be exposed to considerably higher stresses. Account shall be taken of this during the tests.

(f) The electromagnetic compatibility test shall be carried out on the basis of IEC publications 801-2, 801-3, 801-4, 801-5 at test degree number 3.

(g) Proof that the electronic equipment is adequate for these test conditions shall be provided by their manufacturer. A certificate by a classification society is likewise considered to be proof.

Article 9.21

Electromagnetic compatibility

The operation of the electric and electromagnetic systems shall not be impaired by electromagnetic interference. General accompanying measures shall concentrate on:

(a) disconnection of the transmission paths between the source of interference and the user appliances;

(b) reducing the causes of disturbance at their source;

(c) reducing the sensitivity of the consumer appliances to interference.

Chapter 10

RIGGING

Article 10.01

Anchors, chains and anchor hawsers

1. The bows of vessels intended for the carriage of goods, apart from ship-mounted lighters whose length L does not exceed 40m, and tugs, shall be equipped, with anchors whose total mass P is obtained from the following formula:

$$P = k \bullet B \bullet T \text{ [kg]}$$

where

k is a coefficient that takes account of the relationship between length L and beam B, and of the type of vessel

$$k = c \sqrt{\frac{L}{8 \bullet B}}$$

for pushed lighters however, k = c will be taken;

c is an empirical coefficient given in the following table

Dead weight tonnage	Coefficient (c)
up to 400 t inclusive	45
from 400 to 650 t inclusive	55
from 650 to 1 000 t inclusive	65
more than 1 000 t	70

Vessels whose dead weight tonnage is not greater than 400 T and which, owing to their design and intended purpose, are only used on predetermined short-haul sections, the inspection body may accept that only two-thirds of total mass P are required for the bow anchors.

2. Passenger vessels shall be fitted with bow anchors whose total mass P is obtained from the following formula:

$$P = k \bullet B \bullet T \text{ [kg]}$$

where

k is the coefficient corresponding to section 1, but where in order to obtain the value of the empirical coefficient (c) the displacement in m^3 mentioned in the certificate shall be taken instead of the dead weight tonnage.

3. The vessels referred to in section 1 shall be fitted with stern anchors whose total mass is equal to 25% of mass P calculated in accordance with that figure.

Vessels whose maximum length exceeds 86 m shall, however, be fitted with stern anchors whose total mass is equal to 50% of mass P calculated in accordance with section 1 or section 2.

The following vessels are exempted from the stern anchor requirement:

(a) 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;

(b) pushed lighters.

4. Vessels intended to propel trains of vessels not more than 86 m in length shall be fitted with stern anchors whose total mass is equal to 25% of maximum mass P calculated in accordance with section 1 for the largest formation (considered to be a nautical unit) permitted and mentioned on the certificate.

The vessels intended to propel downstream rigid trains that are longer than 86 m shall be fitted with stern anchors whose total mass equals 50% of the greatest mass P calculated in accordance with section 1 for the largest formation (considered to be a nautical unit) p permitted and mentioned on the certificate.

5. The anchor masses established in accordance with Sections 1-4 may be reduced for certain special anchors.

6. Total mass P specified for bow anchors may be distributed among one or two anchors. It may be reduced by 15% where the vessel is only equipped with a single bow anchor and the mooring pipe is located amidships.

The total mass laid down in this Article for stern anchors for pusher boats and vessels whose maximum length exceeds 86 m may be distributed between one or two anchors.

The mass if the lightest anchor should not be less than 45% of that total mass.

7. Cast iron anchors shall not be permitted.

8. The mass of the anchors shall stand out in relief in a durable manner.

9. Anchors having a mass in excess of 50 kg shall be equipped with windlasses.

10. Each anchor chain shall have a length of:

(a) at least 40 m for vessels not exceeding 30 m in length;

(b) at least 10 m longer than the vessel where this is between 30 and 50 m in length;

(c) at least 60 m where vessels are more than 50 m in length.

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.

11. The minimum tensile strength of the anchor chains shall be calculated by means of the following formulae:

(a) anchors having a mass of 0-500 kg: $R = 0.35 \cdot P'$ [kN]

(b) anchors having a mass of more than 500 kg and not exceeding 2000 kg:

$$R = \left(0.35 - \frac{P' - 500}{15000} \right) P' \text{ [kN]};$$

(c) anchors having a mass of more than 2000 kg $R = 250 \cdot P'$ [kN].

In these formulae P' is the theoretical mass of each anchor determined in accordance with sections 1-4 and 6.

The tensile strength of anchor chains shall be that stated by one of the standards in force in one of the Member States.

Where the anchors have a mass greater than that required by sections 1-6, the tensile strength of the anchor chain shall be determined as a function of that highest anchor mass.

12. If the rigging of a vessel includes heavier anchors with correspondingly stronger anchor chains, the information to be entered in the certificate shall however not mention the masses and theoretical tensile strengths arising from meeting the requirements of sections 1-6 and 11.

13. The attachments between anchor and chain shall withstand a tensile load 20% higher than the tensile strength of the corresponding chain.

14. The use of cables instead of anchor chains shall be authorised. The cables shall have the same tensile strength as that required for chains, but must be 20% longer.

Article 10.02

Other forms of rigging

1. According to the police requirements in force in the Member States, the following forms of rigging shall be on board:

(a) radio-telephone system;

(b) appliances and devices needed to provide visual and audible signals, or to provide vessel identification;

(c) stand-alone emergency lights for the prescribed mooring lights;

(d) a fire-proof, marked receptacle, with cover, to receive special solid wastes, and a fire-resistant, marked receptacle, with cover, for special liquid wastes;

(e) a fire-proof, marked receptacle, with cover, to receive other liquid/solid wastes, and a fire-proof, marked receptacle, with cover, to receive other special liquid wastes defined in accordance with the police requirements in force in the Member States.

(f) a fire-proof, marked receptacle, with cover, to receive residues (slops).

2. In addition, the rigging shall include at least:

(a) mooring cables:

Vessels shall be fitted with three mooring cables. Their minimum lengths shall be at least the following:

first cable: L + 20 m, but not more than 100 m,
second cable: two thirds of the first cable,
third cable: one third of the first cable.

The shortest cable is not required on board vessels whose L is less than 20 m. Those cables shall have a tensile strength R_s that is calculated in accordance with the following formulae;

For L • B • T up to 1000 m^3 $R_s = 60 \frac{L \cdot B \cdot T}{10}$ in [kN]

For L • B • T exceeding 1000 m^3: $R_s = 150 \frac{L \cdot B \cdot T}{100}$ in [kN]

These cables may be replaced by synthetic-fibre rope having the same length and tensile strength.

(b) Towing cables:

Tugs shall be equipped with a number of cables that are suitable for their operation.

However, the most important cable shall be at least 100 m long and have a tensile strength, in N, not less than one third of the total power, in kW, of the power plant(s).

Self-propelled barges and pusher boats that are also able to tow shall be equipped with an at least 100-m long towing cable whose tensile strength, in N, is not less than one quarter of the total power, in kW, of the power plant(s).

(c) A heaving line;

(d) a boarding gangway at least 0.4 m wide and 4 m long whose side edges are defined by a brightly-coloured strip; that gangway shall be equipped with a handrail. The inspection body may permit shorter gangways for small vessels;

(e) a gaff hook;

(f) a bandaging kit;

(g) a pair of binoculars, minimum 7 x 50;

(h) a notice concerning the rescue of men overboard.

3. There shall be an embarkation stairway or ladder on vessels whose flank height above the unladen waterline exceeds 1.50 m.

Article 10.03

Fire-fighting equipment

1. There shall be on board at least:

(a)	in the wheelhouse:	1 portable fire extinguisher;
(b)	close to each means of access to the deck and accommodation:	1 portable fire extinguisher;
(c)	close to each means of access to service premises that are not accessible from the accommodation, and which contain heating, cooking or refrigeration equipment using solid or liquid fuels	1 portable fire extinguisher;
(d)	at each entrance to the engine room and boiler rooms:	1 portable fire extinguisher;
(e)	at an appropriate point in the engine rooms that is beneath the deck, where the total power output is more than 100 kW:	1 portable fire extinguisher.

2. Portable fire extinguishers shall meet the following conditions:

(a) The capacity of the fluid-type portable fire extinguishers required by section 1 shall be 9-13.5 litres; Powder-type extinguishers shall contain at least 6 kg.

(b) The extinguishing substance used in the portable fire extinguishers required by section 1 shall be suitable for at least the fire category that is to be most feared within those confines for which the extinguishers has mainly been intended. The extinguishing substance on board vessels whose electrical systems have a service voltage of more than 50 V shall also be suitable for fighting electrical fires. The instructions for use shall be clearly set out on each portable extinguisher.

(c) The extinguishing substance may be neither halon nor contain a product which is likely to release toxic gases during use, such as carbon tetracholoride. Portable fire extinguishers using CO_2 may only be used to fight fires at specific locations such as control panels, kitchens; the quantity of CO_2 may not constitute a health hazard.

(d) Extinguishers that are sensitive to freezing or to heat shall be installed or protected in such a way that their proper functioning is always guaranteed.

3. Fire extinguishers shall be checked at least every two years. A certificate to that effect signed by the person having carried out the check shall be kept on board.

4. If extinguishers are installed in such a way that they are out of sight the panel covering them shall be identified by a red F at least 10 cm in height.

5. The use of halon is not authorised in permanently-installed extinguishing systems; CO_2 is authorised as an extinguishing substance where:

(a) the CO_2 extinguishing systems can only be actuated in the engine rooms, boiler rooms and pump rooms. Devices should be installed which enable all of the orifices that are likely to allow air to enter, or CO_2 to exit, the premises to be

protected. The triggering devices shall be installed in such a way that their actuation is possible even in the event of a fire; The automatic release of CO_2 shall not be permitted.

(b) The combustion air needed for the internal combustion engines intended for vessel propulsion shall not be drawn from the engine rooms, boiler rooms or pump rooms.

(c) All permanently-installed CO_2 extinguishing systems shall be fitted with a warning device whose signals are clearly audible even under the noisiest possible operating conditions on all of the premises that can be flooded with CO_2 gas and which can be clearly distinguished from all of the other audible warning devices on board. These CO_2 alarms shall also be clearly audible in the adjoining rooms with the communicating doors closed, and under operating conditions corresponding to the greatest amount of inherent noise possible, where removal is possible via the premises which are to be flooded with CO_2 gas. The CO_2 alarm shall operate for a suitable period before the release of the CO_2.

A panel containing the following message in red letters on a white background in the Dutch, French and German languages shall be affixed at a suitable point at the exit and entrance of all of the premises likely to be affected by CO_2:

"Bei Ertönen des CO_2 -Warnsignals ..... (Beschreibung des Signals) den Raum sofort verlassen! Erstickungsgefahr!"

"Quitter immédiatement ce local au signal CO_2 ... (description du signal)! Danger d'asphyxie!"

""Bij het in werking treden van het CO_2 -Alarmsignaal- ... (omschrijving van het signaal) deze ruimte onmiddelijk verlaten! Verstikkingsgevaar!"

(d) The instructions for use in the Dutch, French and German languages shall be affixed in a clearly legible and durable manner close to all CO_2 extinguisher actuators. The pipework reaching the various premises that are likely to be affected by CO_2 shall be fitted with a shut-off device. Before the extinguishing system is triggered the alarm required under (c) shall previously be activated automatically.

(e) The CO_2 containers shall be placed in a room or cabinet that is separate from the other premises and is proof against gas leaks. The doors of those rooms or cabinets shall open outwards, be lockable and bear the message "CO_2" in red on a white background.

Premises located below the deck shall only be accessible directly from outside. No direct links with other premises shall be permitted.

Premises located beneath the deck shall have adequate stand-alone ventilation that is completely separate from the other on-board ventilation systems. The ventilation apertures shall be arranged in such a way that if there is a leak from the CO_2 container the gas cannot reach the inner parts of the vessel.

The temperature within those premises shall not exceed 50°C.

Cabinets or lockers shall only be permitted on the deck if they are firmly attached and outside the accommodation area. If there is a leak from the CO_2 container it shall not be possible for the gas to reach the inner parts of the vessel.

The cabinets or lockers shall protect the containers against heat, cold and humidity. The temperature within these shall not exceed 50°C.

Premises protected against CO_2 shall be equipped with suitable extinguishing substance extractors. It shall not be possible to actuate the extractors during the extinguishing process.

(f) The piping system installed in the engine rooms shall enable 85% of the gas, whose quantity is determined in accordance with the second paragraph, to be fed into the premises within a two-minute period.

The minimum quantity of CO_2 needed for the premises to be protected shall be at least 40% of the gross volume of those premises. 0.56m³/kg shall be taken as the volume of CO_2 released. If the quantity of CO_2 is intended to protect more than one enclosed space the total quantity of CO_2 available which is needed to protect one single such space shall be sufficient.

The filling rate of the CO_2 containers shall not exceed 0.75 kg/l.

The containers shall be placed upright and protected against falling.

Pressurised containers, CO_2 fittings and pipework shall meet the Member States' requirements.

(g) The alarms referred to under (c) and the extinguishing equipment shall be checked at least every two years by an approved expert.

The dated inspection certificates, signed by the inspector involved, shall be kept on board.

(h) If there are one or more permanently installed CO_2 extinguisher systems this shall be mentioned in the certificate.

Other extinguishing substances shall only be authorised on the basis of recommendations by the competent authorities.

Article 10.04

Dinghies

1. The following craft shall carry a dinghy:

(a) self-propelled barges and barges exceeding 150 tonnes dwt;

(b) tugs and pusher boats with a displacement of more than 150 m³;

(c) floating equipment;

(d) passenger vessels authorised to carry more than 250 passengers or fitted with more than 50 beds.

2. It shall be possible for one person to launch such dinghies safely. If a powered launching device is used this shall be such that safe, quick launching shall not be impaired if its power supply fails.

3. Dinghies shall meet the following requirements:

(a) they shall be easy to steer and manoeuvre, they shall maintain their course and not drift significantly under the effect of the wind, the current or the waves;

(b) they shall be able to seat at least three passengers;

(c) they shall be adequately strong;

(d) their volume shali be at least 1.5 m^3, or the product of $L_D \cdot B_D \cdot H_D$ shall represent at least 2.7 m^3;

(e) their freeboard shall be at least 25 cm with three passengers weighing roughly 75 kg on board;

(f) they shall be adequately stable. This shall be considered adequate if there is a residual freeboard of at least 10 cm if two roughly 75 kg persons are on one side as close as possible to the gunwale;

(g) their buoyancy in N with no passengers on board, but completely filled with water shall be at least 300 x $L_D \cdot B_D \cdot H_D$;

(h) the following gear shall be on board:
one set of oars;
one mooring rope;
one bailer.

Inflatable dinghies shall be permitted if the conditions set out in Sections 2 and 3 are met, they are permanently ready for service and they are multiple-compartment inflatable dinghies.

4. If a dinghy is considered to be an item of collective survival equipment for a passenger vessel (Article 15.08, Section 5) it shall at least meet the conditions set out in Section 3. However:

(a) the seating width on the benches shall be at least 0.45 m per person, while the maximum permissible number of persons shall not exceed the product of 3 x $L_D \cdot B_D \cdot H_D$;

(b) their stability shall be considered adequate if there is a freeboard of at least 10 cm when half of the maximum number of passengers permitted are in position on one side of the dinghy.

5. In Sections 3 and 4:

L_D means the length L of the dinghy, in m, μ
B_D means the beam of the dinghy, in m,
H_D means the height of the dinghy's sides, in m.

Article 10.05

Buoys and life jackets

1. There shall be at least three life buoys on board craft. They shall be ready for use and attached to the deck at appropriate points without being attached to their mounting. At least one life buoy shall be in the immediate vicinity of the wheelhouse.

Life buoys shall:

(a) provide a buoyancy of at least 100 N in fresh water;

(b) be made of a suitable material and be resistant to oil and oil-derived products, and to temperatures of not more than 50°C;

(c) be so coloured as to be clearly visible in water;

(d) to have an inherent mass of at least 2.5 kg;

(e) have an internal diameter of 45 cm ± 10%;

(f) be surrounded by grab ropes.

2. A life jacket shall be within reach of every person who is regularly on board a craft.

Life jackets shall meet the requirements of Section 1(a) - (c), or of European standard EN 395 (buoyancy of 100 N).

Inflatable life jackets shall inflate automatically and manually and shall also be inflatable by mouth. They shall be checked in accordance with the manufacturer's instructions.

Chapter 11

SAFETY AT WORK STATIONS

Article 11.01

General

1. Vessels shall be built, arranged and equipped in such a way as to enable the crew to work and move about in complete safety.

2. The necessary on-board working facilities and permanent fixtures shall be arranged, laid out and protected in such a way as to permit safe, easy movement on board, and maintenance. If necessary, mobile or high-temperature components shall be fitted with safety devices.

Article 11.02

Protection against falling

1. Decks and gunwales shall be flat and at no point be likely to cause tripping, it shall be impossible for puddles to form.

2. Decks, gunwales, engine-room floors, landings, stairways and the tops of gunwale bollards shall be designed to prevent slipping.

3. The tops of gunwale bollards and obstacles in passageways, such as the edges of steps, shall be painted in a colour contrasting with the surrounding deck.

4. The outer edges of decks and gunwales, as well as work stations where persons might fall more than 1 metre, shall be fitted with rails or coamings that are at least 0.70 m high or with a guard rail in accordance with European Standard EN 711, which shall comprise a handrail, a rail at knee height and a foot-rail. Gunwales shall be fitted with a foot-rail and a continuous hand-rail that is secured to the coaming. Coaming hand-rails shall not be required where gunwales are fitted with non-retractable shipside guard rails.

Article 11.03

Dimensions of working spaces

Working spaces shall be large enough to provide every person working at them with adequate freedom of movement.

Article 11.04

Gunwale

1. The clear width of the gunwale shall be at least 0.60 m. That figure may be reduced to 0.5 m at certain points that have been designed for safety of operations such as deck-swabbing cocks. It may be reduced to 0.4 m at bollard emplacements.

2. Up to a clear height of 0.90 m above the gunwale, the clear width of the gunwale may be reduced to 0.54 m provided that the clear width above, between the outer edge of the hull and the inner edge of the hold, is not less than 0.65 m. In this case, the clear width of the gunwale may be reduced to 0.50 m if the outer edge of the gunwale is fitted with a guard rail in accordance with European Standard EN 711 to prevent falling. On craft 55 m or less in length without aft accommodation, the guard rail may be dispensed with.

3. The requirements of 1 and 2 above shall apply up to a height of 2.00 m above the gunwale.

Article 11.05

Access to working spaces

1. Points of access and passageways for the movement of persons and objects shall be of sufficient size and so arranged that:

(a) in front of the access opening, there is sufficient room not to impede movement;

(b) the clear width of the passageway shall be appropriate for the intended use of the working space and shall be not less than 0.60 m, except in the case of craft less than 8 m wide, where it may be reduced to 0.50 m;

(c) the combined height of the passageway and the coaming is not less than 1.90 m.

2. Doors shall be so arranged that they can be opened and closed safely from either side. They shall be protected against accidental opening or closing.

3. Stairs, ladders or steps shall be installed in accesses, exits and passageways where there is more than a 0.50 m difference in floor level.

4. Working spaces which are manned continuously shall be fitted with stairs if there is a difference in floor level of more than 1 m. This requirement shall not apply to emergency exits.

5. Craft equipped with holds shall have at least two movable hold ladders which can be used to enter and leave the hold in complete safety. This requirement shall not apply where an equivalent ladder is fixed permanently in each hold.

Article 11.06

Exits and emergency exits

1. The number, arrangement and dimensions of exits, including emergency exits, shall be in keeping with the use and dimensions of the relevant space. Where one of the exits is an emergency exit, it shall be clearly marked as such.

2. Emergency exits or windows or the covers of skylights to be used as emergency exits shall have a clear opening of not less than 0.36 m^2, and the smallest dimension shall be not less than 0.50 m.

Article 11.07

Ladders, steps and similar devices

1. Stairs and ladders shall be securely fixed. Stairs shall be not less than 0.60 wide and the usable width between hand-rails shall be not less than 0.60 m; steps shall be not less than 0.15 m high; steps shall have non-slip surfaces and stairs with more than four steps shall be fitted with hand-rails.

2. Ladders and steps shall have a usable width of not less than 0.30 m; steps shall be not more than 0.30 m high and the steps of structures shall be not less than 0.15 m high.

3. Ladders and steps shall be clearly identifiable as such from above and shall be equipped with safety handles above exit openings.

4. Movable ladders shall be at least 0.40 m wide, and at least 0.50 m wide at the base; it shall be possible to ensure that they will not topple or skid; the rungs shall be securely fixed in the uprights.

5. Movable ladders used as hold ladders shall, with a 60° incline, extend at least 1 m above the upper edge of the hatchway, and in any event above the bottom.

Article 11.08

Inside spaces

1. The dimensions, arrangement and layout of inside working spaces shall be in keeping with the work to be carried out and shall meet the health and safety requirements. They shall be equipped with adequate non-dazzle lighting and with ventilation arrangements; if necessary, they shall be fitted with heating appliances capable of maintaining an adequate temperature.

2. The floors of inside working spaces shall be solid and durable, and shall be designed not to cause tripping or slipping. Openings in decks and floors shall, when open, be equipped with guards, and windows and skylights shall be so arranged and fitted that they can be operated and cleaned safely.

Article 11.09

Protection against noise and vibration

1. Working spaces shall be so situated, equipped and designed that crew members are not exposed to harmful vibrations.

2. Permanent working spaces shall, in addition, be so constructed and soundproofed that the health and safety of crew members are not affected by noise.

3. Persons who are continuously exposed to noise levels likely to exceed 85 dB(A) should be provided with individual acoustic protection devices. A reminder that the wearing of such devices is mandatory shall be displayed in working spaces where noise levels exceed 90 dB(A).

Article 11.10

Hatch covers

1. Hatch covers shall be easily accessible and safe to handle. Hatch-cover components neighing more than 40 kg shall be designed to slide or pivot or be fitted with mechanical opening devices. Hatch covers operated by lifting gear shall be fitted with easily accessible attachment devices. Non-interchangeable hatch covers and upper sills shall be clearly marked to show the hatches to which they belong and their correct position on those hatches.

2. Hatch covers shall be secured against being tilted by the wind or by loading gear. Sliding covers shall be fitted with catches to prevent accidental horizontal movement of more than 0.40 m; they shall be capable of being locked in their final position. Appropriate devices shall be fitted to hold stacked hatch covers in position.

3. The power supply for mechanically operated hatch covers must be cut off automatically when the control switch is released.

4. Hatch covers must be capable of bearing the loads to which they are likely to be subjected: at least 75 kg of concentrated load in the case of load-supporting hatch covers. Non-load-supporting hatch covers shall be marked as such. Hatch covers designed to receive deck cargo shall have the permissible load in t/m^2 marked on them. Where braces are needed to support the maximum permissible load this shall be indicated in an appropriate place, in which case the relevant drawings shall be kept on board.

Article 11.11

Winches

1. Winches shall be designed in such a way as to enable work to be carried out in complete safety. They shall be fitted with devices that prevent unintentional load release. Winches that do not lock automatically shall be fitted with a brake that is adequate to deal with their tractive force.

2. Hand-operated winches shall be fitted with devices to prevent kick-back of the crank. Winches that are both power and manually driven shall be designed in such a way that the motive-power control cannot actuate the manual control.

Article 11.12

Cranes

1. Cranes shall be built in accordance with the state of the art. The forces arising during their use shall be safely fed into the vessel's supporting structure; they shall not impair its stability.

2. A manufacturer's plate containing the following information shall be affixed to cranes:

a) manufacturer's name and address;
b) the CE stamp, together with the year of manufacture;
c) series or type reference;
d) where appropriate, serial number.

3. The maximum permissible loadings shall be permanently marked in a clearly legible manner on cranes.

Where a crane's safe load does not exceed 2 000 kg it will be sufficient if the safe load at the longest beam length is affixed durably and in a clearly legible manner to the crane.

4. There shall be devices to protect against crushing or shearing accidents. The outer parts of the crane shall leave a safety clearance of 0.5 m upwards downwards and to the sides, between them and all surrounding objects. The safety clearance to the sides is not required outside the work and access areas.

5. It shall be possible to protect mechanical cranes against unauthorised use. It shall only be possible to start these up from the crane's driving position. The control shall be of the automatic-return type (buttons without stops); their operating direction shall be unambiguously clear.

If the motive power fails it shall not be possible for the load to drop unimpeded. Unintentional crane movements shall be prevented.

It shall be possible to stop any upward movement of the hoisting device and any exceeding of the safe load by means of an appropriate restraining device. Any downward movement of the hoisting device shall be stopped if there are less than two cable windings on the drum. The corresponding counter movement shall still be possible after the automatic restraining device has been actuated.

The tensile strength of the cables for mobile loads shall correspond to five times the cable's permissible loading. The cable design shall be faultless and suitable for use on cranes.

6. Before the initial placing in service or after any return to service following major alteration calculations and a load test shall provide proof of adequate ruggedness and stability.

Where the safe load for a crane does not exceed 2 000 kg the expert may decide that the proof by calculation may be replaced by a test with a load 1.25 times the safe load conducted on the longest beam throughout its slewing range.

The acceptance referred to in the first or second paragraph shall be conducted by an expert approved by the inspection body.

7. Cranes shall be checked regularly and in any case at least every 12 months, by a competent person. That inspection shall include at least one visual check and one operating check.

8. Every ten years, at the latest, after acceptance the crane shall again be subjected to acceptance by an expert approved by an inspection body.

9. Cranes with a safe load exceeding 2 000 kg which tranship the cargo, or which have been mounted on board hoisting installations, pontoons or other water borne craft shall also meet the requirements of one of the Member States.

10. At least the following documents shall be kept on board cranes:

a) the crane manufacturer's instructions for use. Those instructions shall contain at least the following information:

use and operation of the controls;
maximum permissible safe load as a function of the boom;
maximum list and trim of the crane;
assembly and maintenance instructions;
instructions concerning regular checks;
general technical data.

b) certificates concerning the checks carried out in accordance with Sections 6-8 or 9.

Chapter 12

ACCOMMODATION

Article 12.01

General

1. Vessels shall have accommodation for the persons lodging habitually on board, and at least for the minimum crew.

2. Accommodation shall be so designed, arranged and fitted out as to meet the health, safety and comfort needs of those on board. It shall be of safe and easy access and insulated against heat and cold.

3. The inspection body may authorise derogations to the prescriptions of this Chapter if the health and safety of those on board are ensured by other means.

4. The inspection body shall indicate on the certificate any restrictions to the vessel's operating mode/entry into service resulting from the derogations referred to in Section 3.

Article 12.02

Special design requirements

1. It shall be possible to ventilate accommodation adequately even when the doors are closed; in addition, living quarters shall receive adequate daylight and, as far as possible, provide a view out.

2. Where there is no deck-level access to the accommodation and the difference in level is 0.30 m or more the accommodation shall be accessible by means of companionways.

3. In the fore section of the vessel no floor shall be more than 1.20 m below the plane of maximum draught.

4. Living and sleeping quarters shall have at least two exits which are as far apart from each other as possible and which serve as escape routes. An exit may be designed as an emergency exit. This does not apply to areas with an exit giving directly onto the deck or onto a corridor which serves as an escape route, provided the corridor has two exits at a distance from each other and giving onto port and starboard. Emergency exits, which may include skylights and glazing, shall have a clear opening of at least 0.36 m^2 and a shortest side no less than 0.50 m and permit rapid evacuation in an emergency. Escape routes shall be faced and insulated with fire-resistant materials and their usability guaranteed at all times by appropriate means such as ladders or rungs.

5. Accommodation shall be protected against noise and vibration. Sound pressure levels shall not exceed:

(a) 70 dB(A) in the living quarters;

(b) 60 dB(A) in the sleeping quarters. This provision does not apply to vessels operating exclusively under mode A_1. The operating mode restriction shall be mentioned on the certificate.

6. Headroom in the accommodation shall be not less than 2.00 m.

7. As a general rule, vessels shall have at least one day-room partitioned off from the sleeping quarters.

8. The free floor area of the living quarters shall be not less than 2 m^2 per person, and in any event not less than 8 m^2 in total (not counting furniture, except tables and chairs).

9. The cubic capacity of each unit in the living and sleeping quarters shall be not less than 7 m^3.

10. The volume of air per person shall be at least 3.5 m^3 in the living quarters. In the sleeping quarters it shall be at least 5 m^3 for the first occupant and at least 3 m^3 for each additional occupant (not counting volume of furniture). Sleeping cabins shall, as far as possible, be intended for no more than two persons. Berths shall be not less than 0.30 m above the floor. Where one berth is placed over another, the headroom above each berth shall be not less than 0.60 m.

11. Doors shall have a total height, coamings included, of at least 1.90 m 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. It shall be possible to open doors from either side. Coamings shall not be more than 0.40 m high, but shall nonetheless comply with the provisions of other safety regulations.

12. Companionways shall be permanently fixed and safely negotiable. They shall be deemed to be so when:

(a) they are at least 0.60 m wide;
(b) the tread is at least 0.15 m deep;
(c) the steps are non-slip;
(d) companionways with more than three steps are fitted with at least a handrail or handle.

13. Pipes carrying dangerous gases or liquids, and particularly those under high pressure in which the slightest leak could pose a danger to human beings, shall not be located in the accommodation or in corridors leading to the accommodation. An exception to this rule is made for steam pipes and hydraulic system pipes, provided they are fitted in metal sleeves, and for the pipes of liquefied gas installations for domestic purposes.

Article 12.03

Sanitary installations

1. The following sanitary installations at least shall be provided in vessels with accommodation:

(a) one toilet per accommodation unit or per six crew members, which it shall be possible to ventilate with fresh air,

(b) one wash basin with waste pipe and connected up to hot and cold potable water per accommodation unit or per four crew members,

(c) one shower or bath connected up to hot and cold potable water per accommodation unit or per six crew members.

2. The sanitary installations shall be in close proximity to the accommodation. Toilets shall not have direct access to galleys, mess rooms or combined day-rooms/galleys.

3. Toilet compartments shall have a floor space of at least 1 m², not less than 0.75 m wide and not less than 1.10 m long. Toilet compartments in cabins for no more than two persons may be smaller. Where a toilet contains a wash basin and/or shower, the surface area shall be increased at least by the surface area occupied by the wash basin and/or shower (or bath).

Article 12.04

Galleys

1. Galleys may be combined with day-rooms.

2. Galleys shall comprise:

(a) a cooker;
(b) a sink with waste connection;
(c) a supply of potable water;
(d) a refrigerator;
(e) sufficient storage and working space.

3. The eating area of combined galleys/day-rooms shall be large enough to accommodate the number of crew normally using it at the same time. Seats shall be not less than 0.60 m wide.

Article 12.05

Potable water

1. Vessels with accommodation shall have one or more potable water tanks. Potable water tank filling apertures and potable water pipes shall be marked as being intended exclusively for potable water. Potable water filler necks shall be installed above the deck.

2. Potable water tanks shall:

(a) be protected against excessive heating;

(b) have a capacity of at least 150 l per person normally living on board, and at least per member of the minimum crew;

(c) be made of a material which resists corrosion and poses no physiological danger;

(d) have a suitable, lockable opening to enable the inside to be cleaned;

(e) have a water level indicator;

(f) have ventilation caps to the open air or which are fitted with appropriate filters.

3. Potable water tanks shall not share walls with other tanks. Potable water pipes shall not pass through tanks containing other liquids. Connections are not permitted between the potable water supply system and other pipes. Pipes carrying gas or liquids other than potable water shall not pass through potable water tanks.

4. Potable water pressure vessels shall operate only on uncontaminated compressed air. Where it is produced by means of compressors, appropriate air filters and oil separators shall be installed directly in front of the pressure vessel unless the water and the air are separated by a diaphragm.

Article 12.06

Heating and ventilation

1. It shall be possible to heat accommodation in accordance with its intended use. Heating installations shall be appropriate for the weather conditions which may arise.

2. It shall be possible to ventilate the living and sleeping quarters adequately even when the doors are closed. The inflow and evacuation of air shall ensure adequate air circulation in all climatic conditions.

3. The accommodation shall be so designed and arranged as to prevent as far as possible the penetration of foul air from other areas of the vessel such as engine rooms or holds; where forced-air ventilation is used the intake vents shall be so placed as to satisfy the above requirements.

Article 12.07

Other accommodation installations

1. Each crew member living on board shall have an individual berth and an individual clothes locker fitted with a lock. The internal measurements of the berth shall be not less than 2.00 x 0.90 m.

2. Suitable places for storing and drying work clothes shall be provided, but not in the sleeping quarters.

3. All accommodation areas shall be fitted with electric lighting. Additional lamps using gas or liquid fuel may only be used in the day-rooms. Lighting devices using liquid fuel shall be made of metal and shall burn only fuels with a flash point above 55°C or paraffin. They shall be placed or fixed so as not to constitute a fire hazard.

Chapter 13

FUEL-FIRED HEATING, COOKING AND REFRIGERATING EQUIPMENT

Article 13.01

General

1. Heating, cooking and refrigeration equipment running on liquefied gas shall meet the requirements of Chapter 14 of this Annex.

2. Heating, cooking and refrigeration equipment, together with its accessories, shall be so designed and installed that it is not dangerous even in the event of overheating. It shall be so installed that it cannot overturn or be moved accidentally.

3. The equipment referred to in Section 2 shall not be installed in areas in which substances with a flash point below 55°C are used or stored. No flues from these installations may pass through such areas.

4. The intake of air necessary for combustion shall be ensured.

5. Heating appliances shall be securely connected to flues, which shall be fitted with suitable cowls or devices affording protection against the wind. They shall be disposed in such a manner as to permit cleaning.

Article 13.02

Use of liquid fuels, oil-fired equipment

1. Equipment which uses liquid fuel may be operated only with fuels whose flash point is above 55°C.

2. By way of derogation from Section 1, cooking appliances and heating and refrigeration appliances fitted with burners with wicks and running on commercial paraffin may be permitted in the accommodation and wheelhouse provided the capacity of the fuel tank does not exceed 12 litres.

3. Appliances fitted with burners with wicks shall be:

(a) fitted with a metal fuel tank whose filling aperture may be locked and which has no soft-solder joints below the maximum filling level, and shall be designed and installed in such a way that the fuel tank cannot be opened or emptied accidentally;

(b) capable of being lit without the aid of another liquid fuel;

(c) so installed as to ensure the safe evacuation of combustion gases.

Article 13.03

Vaporising oil burner stoves and vaporising oil burner heating appliances

1. Vaporising oil burner stoves and vaporising oil burner heating appliances shall be built in accordance with the state of the art.

2. Where a vaporising oil burner stove or a vaporising oil burner heating appliance is installed in an engine room, the air supply to the heating appliance and the engines shall be so designed that the heating appliance and the engines can operate properly and safely independently of one another. Where necessary, there shall be a separate air supply. The equipment shall be installed in such a way that no flame from the burner can reach other parts of the engine room installations.

Article 13.04

Vaporising oil burner stoves

1. It shall be possible to light vaporising oil burner stoves without the aid of another combustible liquid. They shall be fixed over a metal drip pan which encompasses all the fuel-carrying parts and is at least 20 mm high and has a capacity of at least two litres.

2. For vaporising oil burner stoves installed in an engine room, the metal drip pan prescribed in Section 1 shall be at least 200 mm deep. The lower edge of the vaporising burner shall be located above the edge of the drip pan. In addition, the drip pan shall extend at least 100 mm above the floor.

3. Vaporising oil burner stoves shall be fitted with a suitable regulator which, at all settings, ensures a virtually constant flow of fuel to the burner and which prevents any fuel leak should the flame go out. Regulators shall be considered suitable which function even when shaken or when tilted by up to 12° and which, in addition to a level-regulating float, have

(a) a second float which works safely and reliably to close off the fuel supply when the permitted level is exceeded, or

(b) an overflow pipe if the drip pan has sufficient capacity to accommodate the contents of the fuel tank.

4. Where the fuel tank of a vaporising oil burner stove is installed separately

(a) the drop between the tank and the burner feed may not exceed that laid down in the manufacturer's operating instructions;

(b) it shall be so installed as to be protected from unacceptable heating;

(c) it shall be possible to interrupt the fuel supply from the deck.

5. The flues of vaporising oil burner stoves shall be fitted with a device to prevent draught inversion.

Article 13.05

Vaporising oil burner heating appliances

Vaporising oil burner heating appliances shall in particular meet the following requirements:

(a) adequate ventilation of the burner shall be ensured before the fuel is supplied;

(b) the fuel supply shall be regulated by a thermostat;

(c) the fuel shall be ignited by an electric device or by a pilot flame;

(d) a flame monitoring device shall cut off the fuel supply when the flame goes out;

(e) the main switch shall be placed at an easily accessible point outside the installation room.

Article 13.06

Forced-air heating appliances

Forced-air heating appliances consisting of a combustion chamber around which the heating air is conducted under pressure to a distribution system or to an area shall meet the following requirements:

(a) If the fuel is vaporised under pressure the combustion air shall be supplied by a blower.

(b) The combustion chamber shall be well ventilated before the burner may be lit. This ventilation may be considered complete when the combustion air blower continues to operate after the flame has gone out.

(c) The fuel supply shall be automatically cut if:

the fire goes out;
the supply of combustion air is no longer adequate;
the heated air exceeds a previously set temperature, or
the electricity supply is no longer reaching the safety devices.

In the above cases the fuel supply shall not be reestablished automatically after being cut off.

(d) It shall be possible to switch off the combustion air and heating air blowers from outside the areas to be heated.

(e) Where heating air is drawn from outside, the intake vents shall as far as possible be located well above the deck. They shall be installed in such a manner that rain and spray cannot get in.

(f) Heating air pipes shall be made of metal.

(g) It shall not be possible to close the heating air outlet apertures completely.

(h) It shall not be possible for any leaking fuel to reach the heating air pipes.

(i) It shall not be possible for forced-air heating appliances to draw their heating air from an engine room.

Article 13.07

Solid fuel heating

1. Solid fuel heating appliances shall be placed on a metal plate with raised edges such that no burning fuel or hot cinders fall outside the plate.

This requirement does not apply to appliances installed in compartments built of fire-resistant materials and intended solely to house boilers.

2. Solid fuel boilers shall be fitted with thermostatic controls to regulate the flow of combustion air.

3. A means by which cinders can be quickly doused shall be placed in the vicinity of each heating appliance.

Chapter 14

LIQUEFIED GAS INSTALLATIONS FOR DOMESTIC PURPOSES

Article 14.01

General

1. Liquefied gas installations consist essentially of a supply unit comprising one or more gas receptacles, and of one or more reducing valves, a distribution system and a number of gas-consuming appliances.

Spare and empty receptacles not in the supply unit shall not be considered part of the installation. Article 14.05 is applicable to them.

2. Installations may be operated only with commercial propane.

Article 14.02

Installations

1. Liquefied gas installations shall be suitable throughout for use with propane and shall be built and installed in accordance with the state of the art.

2. A liquefied gas installation may be used only for domestic purposes in the accommodation and the wheelhouse, and for corresponding purposes on passenger vessels.

3. There may be a number of separate installations on board. A single installation may not be used to serve accommodation areas separated by a hold or a fixed tank.

4. No part of a liquefied gas installation shall be located in the engine room.

Article 14.03

Receptacles

1. Only receptacles with an approved content of between 5 and 35 kg are permitted. In the case of passenger vessels, the inspection body may approve the use of receptacles with a larger content.

2. Receptacles shall satisfy the requirements in force in one of the Member States of the Community.

They shall bear the official stamp certifying that they have been accepted following the statutory tests.

Article 14.04

Location and arrangement of supply units

1. Supply units shall be installed on deck in a freestanding or wall cupboard located outside the accommodation area in a position such that it does not interfere with movement on board. They shall not, however, be installed against the fore or aft bulwark plating. The cupboard may be a wall cupboard set into the superstructure provided that it is gastight and can only be opened from outside the superstructure. It shall be so located that the distribution pipes leading to the gas consumption points are as short as possible.

No more receptacles may be in operation simultaneously than are necessary for the functioning of the installation. Several receptacles may be in operation only if an automatic reversing coupler is used. Up to four receptacles may be in operation per installation. The number of receptacles on board, including spare receptacles, shall not exceed six per installation.

Up to six receptacles may be in operation on passenger vessels with galleys or canteens for passengers. The number of receptacles on board, including spare receptacles, shall not exceed nine per installation.

The pressure reducer, or in the case of two-stage reduction the first pressure reducer, shall be fitted to a wall in the same cupboard as the receptacles.

2. Supply units shall be so installed that any leaking gas can escape from the cupboard into the open without any risk of it penetrating inside the vessel or coming into contact with a source of ignition.

3. Cupboards shall be constructed of fire-resistant materials and shall be adequately ventilated by apertures in the top and bottom. Receptacles shall be placed upright in the cupboards in such a way that they cannot be overturned.

4. Cupboards shall be so built and placed that the temperature of the receptacles cannot exceed 50°C.

5. The words "liquefied gas" and a "no smoking" symbol at least 100 mm in diameter shall be affixed to the outer wall of the cupboard.

Article 14.05

Spare and empty receptacles

Spare and empty receptacles not located in the supply unit shall be stored outside the accommodation area and the wheelhouse in a cupboard built in accordance with Article 14.04.

Article 14.06

Pressure reducers

1. Gas-consuming appliances may be connected to receptacles only through a distribution system fitted with one or more reducing valves to bring the gas pressure down to the utilisation pressure. The pressure may be reduced in one or two stages. All reducing valves shall be set permanently at a pressure determined in accordance with Article 14.07.

2. The final pressure reducers shall be either fitted with or immediately followed by a device to protect the pipe automatically against excess pressure in the event of a malfunctioning of the reducing valve. It shall be ensured that in the event of a breach in the airtight protection device any leaking gas can escape into the open without any risk of it penetrating inside the vessel or coming into contact with a source of ignition; if necessary, a special pipe shall be fitted for this purpose .

3. The protection devices and vents shall be protected against the entry of water.

Article 14.07

Pressure

1. Where two-stage reducing systems are used, the mean pressure shall be not more than 2.5 bar above atmospheric pressure.

2. The pressure at the outlet from the last pressure reducer shall be not more than 0.05 bar above atmospheric pressure, with a tolerance of 10 %.

Article 14.08

Piping and flexible tubes

1. Pipes shall consist of fixed steel or copper tubing.

However, pipes connecting with the receptacles shall be high-pressure flexible tubes or spiral tubes suitable for propane. Gas-consuming appliances may, if not installed in a fixed manner, be connected by means of suitable flexible tubes not more than 1 m long.

2. Pipes shall be able to withstand any stresses or corrosive action which may occur under normal operating conditions on board and their characteristics and layout shall be such that they ensure a satisfactory flow of gas at the appropriate pressure to the gas-consuming appliances.

3. Pipes shall have as few joints as possible. Both pipes and joints shall be gastight and shall remain gastight despite any vibration or expansion to which they may be subjected.

4. Pipes shall be readily accessible, properly fixed and protected at every point where they might be subject to impact or friction, particularly where they pass through steel bulkheads or metal walls.

The entire outer surface of steel pipes shall be treated against corrosion.

5. Flexible pipes and their joints shall be able to withstand any stresses which may occur under normal operating conditions on board. They shall be unencumbered and fitted in such a way that they cannot be heated excessively and can be inspected over their entire length.

Article 14.09

Distribution system

1. It shall be possible to shut off the entire distribution system by means of a valve which is at all times easily and rapidly accessible.

2. Each gas-consuming appliance shall be supplied by a separate branch of the distribution system, and each branch must be controlled by a separate closing device.

3. Valves shall be fitted at points where they are protected from the weather and from impact.

4. An inspection joint shall be fitted after each pressure reducer. It shall be ensured using a closing device that in pressure tests the pressure reducer is not exposed to the test pressure.

Article 14.10

Gas-consuming appliances and their installation

1. The only appliances that may be installed are propane-consuming appliances approved in one of the Member States and equipped with devices that effectively prevent the escape of gas in the event of either the flame or the pilot light being extinguished.

2. Appliances shall be so placed and connected that they cannot overturn or be accidentally moved and as to avoid any risk of accidental wrenching of the connecting pipes.

3. Heating and water-heating appliances and refrigerators shall be connected to a duct for evacuating combustion gases into the open air.

4. The installation of gas-consuming appliances in the wheelhouse is permitted only if the wheelhouse is so constructed that no leaking gas can escape into the lower parts of the craft, in particular through the control runs leading to the engine room.

5. Gas-consuming appliances may be installed in sleeping quarters only if combustion takes place independently of the air in the quarters.

6. Gas-consuming appliances in which combustion depends on the air in the rooms in which they are located shall be installed in rooms which are sufficiently large.

Article 14.11

Ventilation and evacuation of combustion gases

1. In rooms containing gas-consuming appliances in which combustion depends on the ambient air, fresh air shall be supplied and combustion gases evacuated by means of ventilation apertures of adequate dimensions, with a clear section of at least 150 cm^2 per aperture.

2. Ventilation apertures shall not have any closing device and shall not give on to sleeping quarters.

3. Evacuation devices shall be so designed as to ensure the safe evacuation of combustion gases. They shall be reliable in operation and made of non-flammable materials. Their operation shall not be affected by the ventilators.

Article 14.12

Instructions for use and safety

A notice on the use of the installation shall be affixed on board in a suitable place. It shall bear the following instructions:

"The taps of receptacles not connected to the distribution system must be closed, even if the receptacles are presumed empty."

"Flexible pipes must be replaced as soon as their condition so requires."

"All gas-consuming appliances must remain connected unless the corresponding connecting pipes are sealed."

Article 14.13

Acceptance

Before a liquefied gas installation is used, after any modification or repair and on every renewal of the attestation referred to in Article 14.15, the whole of the said installation must be accepted by an expert approved by the inspection body. During this acceptance the expert shall verify whether the installation conforms to the requirements of this chapter. He shall submit an acceptance report to the inspection body.

Article 14.14

Tests and trials

Tests on the installation shall be carried out as follows:

1. Medium-pressure pipes between the closing device, referred to in Article 14.09, Section 4, of the first reducing device and the valves fitted before the final pressure reducer:

(a) strength test, carried out with air, an inert gas or a liquid at a pressure 20 bar above atmospheric pressure;

(b) gastightness test, carried out with air or an inert gas at a pressure 3.5 bar above atmospheric pressure.

2. Pipes at the utilisation pressure between the closing device, referred to in Article 14.09, Section 4, of the single pressure reducer or the final pressure reducer and the valves fitted before the gas-consuming appliances:

leak test, carried out with air or an inert gas at a pressure of 1 bar above atmospheric pressure.

3. Pipes situated between the closing device, referred to in Article 14.09, Section 4, of the single pressure reducer or the final pressure reducer and the controls of the gas-consuming appliance:

leak test at a pressure of 0.15 bar above atmospheric pressure.

4. In the tests referred to in Sections 1(b), 2 and 3, the pipes are deemed gastight if, after sufficient time to allow for normal balancing, no fall in the test pressure is observed during the following 10 minutes.

5. Receptacle connectors, piping and other fittings subjected to the pressure in the receptacles, and joints between the reducing valve and the distribution pipe:

leak test, carried out with a foaming substance, at the operating pressure.

6. All gas-consuming appliances shall be brought into service and tested at the nominal pressure to ensure that combustion is satisfactory with the regulating knobs in the different positions.

Flame failure devices shall be checked to ensure that they operate satisfactorily.

7. After the test referred to in Section 6, it shall be verified, in respect of each gas-consuming appliance connected to a flue, whether, after five minutes' operation at the nominal pressure, with windows and doors closed and the ventilation devices in operation, any combustion gases are escaping through the damper.

If there is a more than momentary escape of such gases, the cause shall immediately be detected and remedied. The appliance shall not be approved for use until all defects have been eliminated.

Article 14.15

Attestation

1. The certificate shall include an attestation to the effect that all liquefied gas installations conform to the requirements of this Chapter.

2. The attestation will be issued by the inspection body following the acceptance referred to in Article 14.13.

3. The attestation shall be valid for a period not exceeding three years. It may be renewed only after a further acceptance carried out in accordance with Article 14.13.

Exceptionally, where the owner of a vessel or his representative submits a reasoned request, the inspection body may extend the validity of the attestation for not more than three months without carrying out the acceptance referred to in Article 14.13. Such extension must be entered in the certificate.

Chapter 15

SPECIAL PROVISIONS FOR PASSENGER VESSELS

Article 15.01

General

1. Articles 4.01 to 4.04 and 8.06, Section 7 are not applicable.

2. Vessels with no motive power of their own are not authorised to carry passengers.

3. In the case of vessels with a length $_{LF}$ of 25 m or more, buoyancy in the event of a leak shall be demonstrated in accordance with Article 15.02 for all possible loading situations.

4. On all decks, passenger spaces shall be situated aft of the collision bulkhead.

5. Spaces intended for the accommodation of on-board staff shall by analogy satisfy the requirements of Articles 15.07 and 15.09.

6.

(a) Notwithstanding Article 3.02, Section 1(b), the minimum thickness t_{mind} of bottom, bilge and side plating of passenger vessels shall be the greater of the values obtained as follows:

$t_{1mind} = 0.006 \cdot a \cdot \sqrt{T}$ [mm]
$t_{2mind} = f \cdot 0 \cdot 55 \cdot \sqrt{L_F}$ [mm]

where:

$f = 1 + 0.0013 \cdot (a - 500)$, a being 400 mm or more,
a = distance between longitudinal or transverse ribs in [mm]; where the distance between ribs is less than 400 mm the value a = 400 mm will be used.

The greater value produced by the formulae shall be taken as the minimum thickness. Plates shall be replaced when the thickness of bottom or side plating no longer attains the minimum value determined according to the above requirement.

(b) Plate thickness may be less than the minimum value produced by the formulae where the permissible value has been determined and certified on the basis of calculated evidence of sufficient hull strength

(c) However the minimum thickness shall not be less than 3 mm at any point on the hull.

Article 15.02

Basic requirements for subdivision of vessels

1. The distribution of bulkheads shall be such that, if any watertight compartment becomes flooded, the hull does not sink below the margin line and the requirements of Article 15.04, Section 8, are met.

2. Watertight glazing may be installed below the margin line on condition that it cannot be opened, is sufficiently strong and meets the requirements of Article 15.07, Section 7.

3. Structural specifications shall be taken into account in calculating stability in the event of a leak.

In general, calculations should be based on a permeability factor of 95%.

If it is established by calculation that the average permeability of any compartment is less than 95%, the calculated permeability may be used instead. In such calculations, the following minimum values shall, however, be observed:

Passenger and crew areas	95%
Engine rooms (including boiler rooms)	85%
Cargo, luggage and provisions compartments	75%
Double bottoms, fuel bunkers and other tanks according to whether, according to their intended use, they are to be deemed full or empty, the vessel floating at the plane of maximum draught	0 or 95%

4. Between the collision bulkhead and the stern bulkhead, only those compartments having a length of at least 0.10 L_F, but not less than 4 m, shall be considered watertight compartments for the purposes of Section 1 above. The inspection body may allow minor exceptions to this rule.

Where a watertight compartment is longer than required by the foregoing provisions and is subdivided so as to form watertight spaces which also meet the minimum length requirement, those spaces may be taken into account in calculating stability in the event of a leak.

The length of the first compartment aft of the collision bulkhead may be less than 0.10 L_F or 4 m. In such cases, the fore peak and the adjacent compartment shall be taken as jointly floodable in the stability calculation. The distance between the forward perpendicular and the aft transverse bulkhead bounding this compartment may not, however, be less than 0.10 L_F or 4 m.

The distance between the collision bulkhead and the forward perpendicular shall be at least 0.04 L_F and not more than 0.04 L_F + 2 m.

5. Where a passenger vessel has longitudinal watertight subdivisions, asymmetries between the collision bulkhead and the rear bulkhead shall be taken into account as follows:

(a) provided that the longitudinal bulkheads are at least 1/5 B_F from the skin plating at the maximum loaded draft line and at least 1/6 B_F, but not less than 1.50 m, from each other, the stability calculation shall allow for the individual flooding of compartments A, B and C and the simultaneous flooding of compartments A + B and B + C (see fig. 1);

(b) if mid-compartment B has a watertight deck more than 0.50 m from the bottom of the vessel it is not necessary to allow for flooding of compartment D situated above that deck (see fig. 2). The conditions set out above regarding longitudinal bulkheads shall apply.

Figure 1.

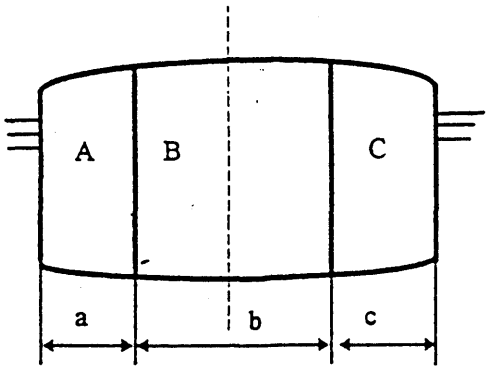
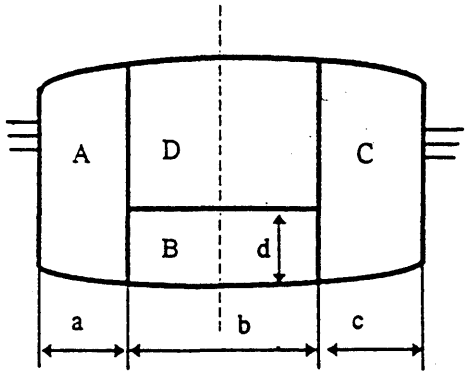


Figure 2.



a = at least 1/5 B_F
b = at least 1/6 B_F, but not less than 1.50 m
c = at least 1/5 B_F.
d = at least 0.50 m.

Article 15.03

Transverse bulkheads

1. In addition to the bulkheads prescribed in Article 3.03, Section 1, the transverse bulkheads deriving from the subdivision calculation shall be required.

The prescribed transverse bulkheads shall be watertight and be carried up to the bulkhead deck. Where there is no bulkhead deck these bulkheads shall extend to a height at least 20 cm above the margin line. The requirements of Article 15.04, Section 8 shall be met.

Passenger spaces and the on-board staff's quarters shall be separated from the engine rooms and boiler rooms by gastight bulkheads.

2. The number of openings in watertight transverse bulkheads as defined in Section 1 above shall be as small as the type of construction and normal operation of the vessel permit. Openings and passageways shall not adversely affect the watertightness of bulkheads.

Collision bulkheads shall have neither openings nor doors.

The bulkheads separating engine rooms from passenger spaces or the on-board staff's quarters shall have no doors.

3. Doors in watertight bulkheads which are manually operated and not remote controlled shall be authorised only in areas not accessible to passengers. They shall remain closed at all times and may be opened only temporarily to allow access. Rapid and safe locking shall be ensured by appropriate devices. The words "Close door immediately after use" shall appear on both sides of such doors.

Notwithstanding the first sentence above manually operated watertight bulkhead doors shall be permitted in passenger areas if:

(a) the length L_F of the craft does not exceed 40 m;

(b) the number of passengers does not exceed L_F;

(c) the vessel has only one deck;

(d) the doors are accessible directly from the deck and are not more than 10 m away from access to the deck;

(e) the lower edge of the door is at least 30 cm above the floor of the passenger area;

(f) the two adjacent compartments are equipped with a bilge level alarm system.

4. It shall be possible to close bulkhead doors which remain open for prolonged periods on the spot from either side and from an easily accessible place above the bulkhead deck. Once a door has been remotely closed, it shall be possible to reopen and close it safely on the spot. Closure shall not be impeded by carpeting, foot rails or other obstructions.

The duration of the remote closing operation shall be not less than 30 seconds and not more than 60 seconds. During the operation, an automatic alarm signal shall sound close to the door. It shall be ensured that the door control and alarm also operate independently of the supply system. At the point where the remote control operation is carried out, there shall be a device to indicate whether the door is open or closed.

5. Bulkhead doors and their opening and closing devices shall be located in an area bounded on the outside by a vertical plane at a distance of 1/5 of the breadth B_F parallel to the side plating at the maximum loaded draft line. The wheelhouse shall be equipped with a visual alarm system which acts as a monitoring device and is activated whenever the bulkhead door is opened.

6. Open-ended piping and ventilation ducts shall be so installed that, in the event of a leak, no other spaces or tanks are flooded. If several compartments are connected by piping or ventilation ducts, such piping and ducts shall open into an appropriate place above the waterline corresponding to the worst possible flooding. Where this is not the case, transverse bulkheads shall be fitted with remote closing devices operated from above the bulkhead deck.

Piping which has no open orifice in a compartment shall be considered intact in the event of any damage to that compartment, provided that it is within the safety area defined in Section 5 above and is more than 0.50 m from the bottom.

7. Where openings and doors such as those referred to in Sections 2 to 6 above are authorised, the following operating instructions shall be entered on the inspection certificate:

"The crew shall be instructed that, in the event of danger, all openings and doors in watertight bulkheads are to be hermetically closed without delay."

8. Transverse bulkheads may be recessed provided that all recess points are within the safety area defined in Section 5 above.

Article 15.04

Intact stability and stability in the event of a leak

1. The applicant shall show that the intact stability of the vessel is adequate by calculation based on the results of a lateral stability test and, if the inspection body so requests, of a turning test.

2. Proof of adequate intact stability by calculation shall be deemed to be furnished if, when fully rigged, with fuel bunkers, water tanks and waste water collection tanks half filled, while maintaining a residual freeboard and residual safety clearance conforming to Section 7 below, and under the simultaneous effects of:

(a) a lateral displacement of persons under the conditions set out in Section 4 below;

(b) wind pressure as defined in Section 5 below;

(c) the centrifugal force resulting from the turning of the craft under the conditions set out in Section 6 below,

the heel of the vessel does not exceed 12°. Under the sole effect of lateral displacement of persons, this angle shall not exceed 10°.

The inspection body may require the calculation also to be made for other degrees of filling of fuel bunkers and tanks.

3. For vessels with a length L_F of less than 25 m, the proof of adequate intact stability by calculation required in Section 2 above may be replaced by a load test with the weight of half the authorised maximum number of passengers and the most unfavourable loading of fuel bunkers and water tanks. This weight shall be distributed from the side plating over the free deck area for passenger use at a ratio of 3¾ passengers per m². During this test, the angle of heel shall not exceed 7° and the remaining freeboard and safety clearance shall not be less than 0.05B + 0.20 m and 0.05B + 0.10 m respectively

4. The moment resulting from the lateral displacement of persons M_p shall be the sum of the moments for each deck accessible to passengers. These shall be calculated as follows:

(a) For free decks:

$$M_{pn} = c_p \cdot b \cdot P \quad [kNm]$$

where

c_p - coefficient ($c_p = 1.5$) [m/s²];
b = the greatest usable width of the deck measured at a height of 0.50 m;
P = the total mass of persons permitted on the deck in question, in t.

(b) For deck space occupied by fixed installations:

In calculating the lateral displacement of persons on decks partly occupied by fixed installations, such as benches, tables, dinghies or small shelters, a load of 3¾ passengers per m² of free deck area shall be used; for benches, an area 0.50 m wide and 0.75 m long shall be allowed per passenger.

The calculation shall be made for displacement to starboard and to port.

For vessels with more than one deck, the distribution of the total weight of persons shall be the most unfavourable from the point of view of stability. Cabins, if any, shall be assumed to be unoccupied for the calculation of lateral displacement of persons.

The centre of gravity of a person shall be assumed to be at a height of 1 m above the lowest point of the deck at ½ L_F without allowing for the sheer or curvature of the deck and assuming a mass of 75 kg per passenger.

5. The moment resulting from the wind pressure M_w shall be calculated as follows:

$$M_W = p_W \cdot S \left(l_W + \frac{T}{2}\right) \quad [kNm].$$

where

p_w = specific wind pressure of 0.1 kN/m²;
S = lateral surface area of the vessel above the plane of maximum draught, in m²;
l_w = distance between the centre of gravity of the lateral surface area S and the plane of maximum draught, in m.

6. The moment resulting from the centrifugal force exerted by the turning of the vessel shall be calculated as follows:

$$M_{tr} = C_{tr} \cdot \frac{D}{L_F} \left(\overline{KG} - \frac{T}{2}\right) \quad [kNm].$$

where

C_{tr} = a coefficient (C_{tr} = 5) [m²/s²];

$\overline{KG}$ = distance between the centre of gravity and the upper side of the keel in m.

Where the angle of heel during turning is verified by a test the value so determined may be used in the calculation. The test shall be performed with the craft at half maximum speed fully loaded and on the smallest turning radius possible under these conditions.

7. With the vessel at the angle of heel resulting from the forces referred to in Section 2(a) to (c) the remaining freeboard must be not less than 0.20 m.

For vessels whose side glazing can be opened or whose sides contain other openings not guaranteed to be watertight a safety clearance of at least 0.10 m shall be maintained.

8. Proof by calculation of adequate stability in the event of a leak shall be deemed to have been furnished if at all the intermediate stages and the final stage of flooding the righting moment M_R defined by:

$$M_R = C_R \cdot \overline{MG}_{res} \cdot \sin\varphi \cdot D \quad [kNm]$$

is greater than the heeling moment $M_h = 0.2\ M_p$ [kNm].

where

C_R = coefficient (C_R = 10) [m/s²];

$\overline{MG}_{res}$ = reduced metacentric height in the flooded state in m;

φ = the smaller of the following two angles: the angle at which the main opening of a non-flooded compartment begins to be flooded or the angle at which the bulkhead deck begins to be flooded;

M_p = moment resulting from the lateral displacement of persons referred to in Section 4.

Article 15.05

Calculation of the number of passengers on the basis of free deck area

1. If Articles 15.04 and 15.06 have been complied with, the inspection body shall set the authorised maximum number of passengers as follows:

(a) The calculation shall be based on the sum total free deck area normally reserved on board to accommodate passengers.

However, the deck areas of cabins and toilet compartments and of areas used permanently or temporarily for the operation of the vessel, even if accessible to passengers, shall not be included in the calculation. Moreover, areas located below the main deck shall not be taken into consideration. However, areas let into the main deck and including large glazing above it may be included in the calculation.

(b) The following shall be subtracted from the total area calculated in accordance with (a) above:

the surfaces of corridors, companionways and other connecting surfaces;

surfaces beneath companionways;

surfaces permanently occupied by gear or furniture;

surfaces beneath dinghies, life-rafts and lifeboats, even where these are placed high enough for passengers to get beneath them;

small surfaces, including those between seats and tables, which are effectively unusable.

(c) A load of 2.5 passengers shall be considered per m^2 of free deck area determined in accordance with (a) and (b) above; however, this load shall be 2.8 passengers in the case of vessels with a length L_F of less than 25 m.

2. The authorised maximum number of passengers shall be indicated on board by means of easily legible notices affixed in prominent places. In the case of cabin vessels also operated for day excursions, passenger numbers shall be calculated as for a day-excursion vessel and as for a cabin vessel and entered on the certificate.

Articles 15.02 and 15.04 shall be complied with for each of these passenger numbers.

In the case of vessels used exclusively for journeys involving overnight accommodation, the number of berths shall be determinant.

Article 15.06

Safety clearance, freeboard and draught marks

1. The safety clearance shall be at least equal to the sum of:

(a) the additional lateral draught, measured from the outside plating, resulting from the authorised angle of heel, and

(b) the residual safety clearance prescribed in Article 15.04, Sections 2 and 7.

For vessels without a bulkhead deck, the safety clearance shall be at least 0.50 m.

2. The freeboard shall be at least equal to the sum of:

(a) the additional lateral draught, measured from the outside plating, resulting from the angle of heel calculated in accordance with Article 15.04, Section 2, and

(b) the residual freeboard prescribed in Article 15.04, Sections 2 and 7.

The freeboard shall be at least 0.30 m.

3. The plane of maximum draught shall be determined in such a way as to comply with the safety clearance prescribed in Section 1, the freeboard prescribed in Section 2, and Articles 15.02 to 15.04. However, for safety reasons the inspection body may lay down a greater freeboard or a greater safety clearance.

4. Draught marks shall be affixed to each side of the vessel in accordance with Article 4.04. Authorisation will be given for additional pairs of marks or a continuous mark to be affixed. The position of such marks shall be clearly specified in the certificate.

Article 15.07

Passenger installations

1. Deck areas which are intended for passengers and are not enclosed shall be surrounded by a ship's rail or guard rail at least 1.00 m high. The guard rail shall be fitted in such a way that children cannot fall through it. Openings and installations used to board or leave the vessel and openings used to load or unload it shall be fitted with an appropriate safety device.

Gangways shall be at least 0.60 m wide and shall be fitted with a railing on each side.

2.

(a) Connecting corridors and companionways, and doors and exits intended for use by passengers, shall have a clear width of at least 0.80 m. This may be reduced to 0.70 m for doors to passenger cabins and other small rooms.

Where a part of the vessel or a room intended for passengers is served by a single connecting corridor or companionway, the clear width thereof shall be at least one metre. On vessels whose length L_F is less than 25 m, the inspection body may authorise a width of 0.80 m.

In the case of rooms or groups of rooms intended for more than 80 passengers, the sum width of all the exits provided for passengers and which the latter would have to use in an emergency shall be at least 0.01 m per passenger.

(b) Rooms or groups of rooms designed or arranged for 30 or more passengers or including berths for 12 or more passengers shall have at least two exits. A watertight bulkhead door complying with Article 15.03, Sections 2, 4 or 5 and giving access to an adjacent compartment from which the upper deck may be reached shall be considered to be an exit.

Such exits shall be appropriately planned. If the total width of the exits referred to at (a) is determined by the number of passengers, the width of each exit shall be at least 0.005 m per passenger. Except in the case of cabin vessels, one of these two exits may be replaced by two emergency exits.

Rooms located below the main deck shall have at least one direct exit, or where appropriate one emergency exit, giving onto the said deck or to the outside. This requirement does not apply to individual cabins.

Emergency exits shall have a clear opening of at least 0.36 m^2 and a shortest side not less than 0.50 m long.

(c) Companionways below the main deck shall be located within two vertical planes at a distance of at least 1/5 B_F from the side plating. This distance is not obligatory where there is at least one companionway on each side of the vessel in the same room. Companionways shall be fitted with handrails on each side; a single handrail will be sufficient for companionways less than 0.90 m wide.

3. Doors to passenger day-rooms, except those opening onto corridors, shall be capable of opening outwards or shall be constructed as sliding doors; it shall not be possible for non-authorised persons to lock or bolt them during sailing.

Cabin doors shall be made in such a way that they can be unlocked from the outside at any time.

4. Evacuation routes and emergency exits shall be clearly signed; these signs shall be lit by the emergency lighting syste²m.

5. On board vessels authorised to carry up to 300 passengers there shall be at least one lavatory per 150 passengers. On board vessels authorised to carry more than 300 passengers there shall be separate lavatories for each sex, at the rate of at least one for every 200 passengers.

6. The entry of non-authorised persons into those parts of the vessel which are not intended for passengers, and in particular access to the wheelhouse and the engine rooms, shall be forbidden. In addition, the words "No entry" or a corresponding symbol shall appear in a prominent place at the access points to such parts of the vessel.

7. Only toughened glass, laminated glass or a synthetic material authorised for use in fire protection may be used for glazing located in the area accessible to passengers.

Article 15.08

Special requirements for survival equipment

1. Passenger vessels shall carry the number of lifebuoys indicated in the following table:

L_F in m	Authorised maximum number of passengers	Number of lifebuoys
up to 25	up to 200	3
more than 25 to 35	201 to 300	4
more than 35 to 50	301 to 600	6
more than 50	601 to 900	8
-	901 to 1200	10
-	over 1200	12

The number of lifebuoys shall be determined by reference to the larger of the values resulting from the first and second columns.

Half the prescribed lifebuoys shall be fitted with a buoyant line at least 30 m long.

2. Vessels with a length L_F of less than 25 m shall, in addition to the lifebuoys required under Section 1, carry individual or collective survival equipment both for the entire maximum number of passengers authorised for the vessel's operating mode and for the vessel's service crew. Where buoyancy in the event of a leak has been checked, the requirements referred to in Section 3 shall be applied.

3. Survival equipment shall be stored on board in such a way that in case of need it can be easily and safely reached. Concealed storage places shall be clearly signed.

4. Individual survival equipment is the lifebuoys and life-jackets referred to in Article 10.05 and buoyancy aids and appropriate equipment capable of supporting a person in the water.

The buoyancy aids and appropriate equipment shall:

(a) provide a buoyancy of at least 100 N in fresh water;

(b) be made of a suitable material and be resistant to oil and oil-derived products, and to temperatures of up to 50°C;

(c) be fitted with appropriate devices enabling them to be grabbed;

(d) have a fluorescent orange colour or have permanently fixed fluorescent surfaces measuring at least 100 cm^2.

Inflatable individual survival equipment shall be checked in accordance with the manufacturer's instructions.

5. Collective survival equipment is dinghies, life-rafts and appropriate equipment capable of supporting several persons in the water. These shall:

(a) bear an inscription indicating how they are to be used and the number of passengers for which they are approved;

(b) provide a buoyancy of at least 100 N in fresh water;

(c) assume and maintain a stable trim and, in this respect, be fitted with appropriate devices enabling them to be grabbed by the indicated number of persons;

(d) be made of a suitable material and be resistant to oil and oil-derived products, and to temperatures of up to 50°C;

(e) have a fluorescent orange colour or have permanently fixed fluorescent surfaces measuring at least 100 cm^2;

(f) from their place of storage be rapidly and safely launchable by a single person.

6. Inflatable survival equipment shall in addition:

(a) comprise at least two separate air compartments;

(b) inflate automatically or by manual command when launched;

(c) assume and maintain a stable trim whatever load it is supporting, even when only half the air compartments are inflated;

(d) be checked in accordance with the manufacturer's instructions.

Article 15.09

Fire protection and fire-fighting in passenger spaces

1. Decks separating passenger areas from one another or from the engine rooms and wheelhouse, and bulkheads and walls between passenger areas and engine rooms and between passenger areas and galleys shall be fire-retardant.

Partition walls and doors separating corridors from cabins and cabins from other cabins shall be fire-retardant.

Partition walls between corridors and cabins shall extend from deck to deck or shall extend up to a fire-resistant ceiling.

Where appropriate sprinkler systems have been fitted the prescriptions of the second and third paragraphs of this Section shall not be compulsory.

Free spaces above ceilings, under floors and behind facings shall be subdivided at no more than 10 m intervals by fire-resistant structural parts.

2. Companionways, exits and emergency exits shall be so disposed that in the event of a fire in any area, the other areas may be evacuated safely.

Companionways, including their steps, shall include a frame made of steel or an equivalent non-flammable material. The steps shall be fire-resistant.

On cabin vessels they shall be located within a stairwell fitted with fire-retardant walls and with automatically closing fire-retardant doors.

A companionway which links only two decks need not be surrounded by a stairwell where one of these decks is surrounded by fire-retardant bulkheads with automatically closing fire-retardant doors or where appropriate sprinkler devices have been installed.

Stairwells shall link directly to the corridors and external decks.

3. Account shall be taken of the increased fire risk in galleys, hairdressing salons and perfume shops in accordance with the prescriptions of the competent authorities.

4. Paint, varnish and other surface treatment products used indoors, as well as materials used to face and insulate, shall be of a fire-resistant type. In the event of fire they shall not give off dangerous amounts of smoke or toxic gas;

Door-opening mechanisms shall function normally for a sufficiently long period in the event of fire.

5. Corridors which are more than 40 m long shall be subdivided by fire-retardant partition walls fitted with automatically closing doors at intervals of no more than 40 m.

6. Automatically closing fire-retardant doors which are left open during normal service shall be closable from a place which is permanently occupied by the vessel's crew and shall be closable on the spot.

7. Ventilation installations shall be built in such a way as to prevent the spread of fire through such installations. It shall be possible to close the air inlet and outlet vents.

Continuous ducts shall be subdivided at intervals of no more than 40 m by fire valves.

Ventilation ducts which pass through stairwell partition walls or engine room bulkheads shall be fitted with fire valves where they pass through such walls.

It shall be possible to switch off built-in ventilators from a central unit located outside the engine room.

8. On cabin vessels all cabins and day-rooms for passengers and crew members as well as the galleys and engine rooms shall be linked to an appropriate fire alarm system. The presence of a fire and its location shall be signalled automatically to a place which is permanently occupied by the vessel's crew.

9. Passenger vessels shall be fitted with a fire-fighting system comprising:

(a) a fixed, powered fire pump;
(b) piping with a sufficient number of hydrants;
(c) a sufficient number of fire hoses.

Fire-fighting installations shall be so arranged and of such dimensions that any point on the vessel may be reached from at least two different hydrants, in each case by using a single fire hose no more than 20 m long. Water pressure at the hydrant shall be at least 3 bar. On the highest deck it shall be possible to achieve a jet length of at least 6 m.

Fire pumps shall not be installed forward of the collision bulkhead. Where the fire pump is installed in the main engine room, a second powered fire pump shall be installed outside that room such as may be used independently of the engine room installations. This pump may be portable.

Normal service and deck wash pumps and deck wash pipes may be encompassed within the fire-fighting installation where appropriate.

On cabin vessels with a length L_F less than 25 m and on day-excursion vessels with a length L_F less than 40 m the following derogations are allowed:

(a) the fire pump need not be a fixed installation;
(b) where the fire pump is installed in the main engine room a second pump is not required;

(c) it is sufficient that every point on the vessel may be reached from one hydrant using a single fire hose no more than 20 m long.

10. In addition to the extinguishers prescribed in Article 10.03, Section 1, the following extinguishers at least shall be carried on board:

(a) one extinguisher for every 120 m^2 of gross floor area, rounded up to the next 120 m^2, in day-rooms, dining rooms and similar areas;

(b) one extinguisher for every group of 10 cabins, rounded upwards.

These additional extinguishers shall be located around the vessel in such a way that one of them is to hand at all times no matter where a fire breaks out.

Article 15.10

Supplementary requirements

1. Lighting shall be provided solely by electric lighting systems.

2. There shall be an emergency electric lighting system within the meaning of Article 9.18, Section 2.

3. Where direct communication is not possible between the wheelhouse and the crew's living quarters, the operating areas, the fore and aft sections of the vessel and the passenger access points, a communication system providing a sure and reliable two-way link shall be provided.

4. Vessels with a length L_F of 40 m or more or authorised to carry more than 75 passengers shall be equipped with loudspeakers capable of reaching all passengers.

5. Cabin vessels shall have an alarm system. This shall comprise:

(a) an alarm system to warn the vessel command and the crew:

This alarm shall be given only in areas assigned to vessel command and the crew; it shall be possible for the vessel command to stop the alarm. It shall be possible to trigger the alarm from at least the following places:

in each cabin;

in the corridors, lifts and stairwells, with the distance to the nearest trigger not exceeding 10 m and with at least one trigger per watertight compartment;

in the lounges, dining rooms and similar areas;

in the engine rooms, galleys and similar areas exposed to fire risk.

(b) an alarm system to warn passengers:

This alarm shall sound clearly and unmistakably in all areas accessible to passengers. It shall be possible to trigger it from the wheelhouse and from a location permanently occupied by the crew.

Alarm triggers shall be protected against unintentional use.

6. Cabin vessels shall be equipped with a radio-telephone system allowing communication with the public telephone network.

7. The following points and areas at least shall be adequately lit:

(a) the points where collective survival equipment is stored and those where it is normally prepared for use;

(b) evacuation routes, passenger access points, corridors, lifts and companionways in the accommodation and the cabin and accommodation areas;

(c) signs indicating evacuation routes and exits;

(d) engine rooms and their exits;

(e) the wheelhouse;

(f) the room housing the emergency power source;

(g) the points where extinguishers and fire pumps are located;

(h) the areas in which passengers and crew muster in the event of danger.

8. On cabin vessels, a safety plan shall be kept on board indicating the tasks to be performed by the crew and staff in the event of an emergency in accordance with the police requirements in force. Tasks shall be indicated for the following cases:

(a) a leak;
(b) a fire on board;
(c) evacuation of passengers;
(d) a man overboard.

The safety plan shall include a plan of the vessel indicating clearly and precisely:

(a) the survival and safety equipment;
(b) the watertight doors located below deck and the position of their controls, as well as other openings such as those referred to in Article 15.03, Sections 2 and 6;
(c) fire-retardant doors;
(d) fire-dampers;
(e) alarm installations;
(f) fire alarm system;
(g) fire-fighting installations and extinguishers;
(h) evacuation routes and emergency exits;
(i) the emergency power source;
(j) the ventilation system controls;
(k) connection to the earthing network;
(l) closing controls for fuel supply pipes;
(m) liquefied gas plant;
(n) loudspeaker systems;
(o) radio-telephone installations.

The safety plan and the plan of the vessel shall bear the stamp of the inspection body and be displayed prominently at appropriate locations.

9. On cabin vessels a general evacuation plan shall be displayed for passengers at appropriate locations. The plan may be combined with the safety plan required under Section 8.

The requisite instructions to passengers on what to do in the event of an alarm, fire, damage to the vessel and evacuation and indicating the location of the survival equipment shall be provided in each cabin.

These instructions shall be written in Dutch, English, French and German.

10. In the case of vessels with a wooden, aluminium or synthetic hull, the engine rooms shall be constructed of materials referred to in Article 3.04, Sections 3 and 5, or be equipped with a permanently installed extinguishing system within the meaning of Article 10.03, Section 5.

Article 15.11

Waste collection and disposal facilities

1. Passenger vessels with more than 50 passenger berths shall be equipped either with waste water collection tanks or with on-board treatment plant.

2. Waste water collection tanks shall have sufficient volume. They shall be fitted with a device to indicate their content level. To empty the tanks, the vessel shall have its own pumps and pipes with which to evacuate the waste water to berths situated to either side of the vessel. The pipes shall be fitted with waste water evacuation joints in accordance with European standard EN 1306.

3. On-board treatment plant shall at all times and without dilution be able to ensure the exit limit value required by the police provisions in force. A sampling device shall be fitted immediately before the outlet.

Chapter 16

SPECIFIC PROVISIONS CONCERNING CRAFT INTENDED TO FORM PART OF A PUSHED OR TOWED TRAIN OR OF A BREASTED-UP FORMATION

Article 16.01

Pusher craft

1. Craft which are to be used for pushing purposes shall incorporate a suitable pushing device. They shall be designed and equipped in such a way as to:

a) enable crews easily and safely to cross over to the pushed craft by means of the coupling device;
b) enable them to occupy a fixed position in relation to the coupled craft following the coupling operation
c) prevent transverse movement between the vessels themselves.

2. If the craft are joined together with cables the pusher craft shall be equipped with at least two special winches or equivalent coupling devices.

3. The coupling devices shall enable a rigid assembly to be formed with the pushed craft.

Where vessel cranes consist of a pusher craft and a single pushed craft the coupling devices may permit controlled articulation. The necessary controls shall easily absorb the forces to be transmitted and shall be capable of being controlled easily and safely. Articles 6.02 to 6.04 shall apply by analogy to such installations.

4. The collision bulkhead referred to in Article 3.03(1)(a) is not required for pusher craft.

Article 16.02

Pushed craft

1. The following shall not apply to lighters with no steering system, accommodation, engine room or boilers:

a) Chapters 5-7, and 12;

b) Articles 8.06(2-8), 10.02 and 10.05(1).

c) If steering system, accommodation, engine rooms or boilers are present the relevant requirements of this Regulation shall apply to them.

2. In addition ship lighters whose length L does not exceed 40 m shall meet the following design requirements:

a) The watertight transverse bulkheads referred to in Article 3.03(1) are not required if their front faces are able to bear a load at least 2.5 times that set for the collision bulkheads on inland waterway vessels having the same draught and having being built in accordance with the requirements of an approved classification society.

b) By way of exemption from Article 8.06(1) double-bottomed compartments to which access is difficult do not have to be drainable if their volume exceeds 5% of the water displacement of the ship lighter at the maximum authorised loaded draught.

3. Other craft which have to be pushed shall be fitted with coupling devices enabling a safe connection to be made with other craft.

Article 16.03

Craft designed to propel breasted-up formations

Craft intended to propel breasted-up formations shall be equipped with bollards or equivalent devices which, as a result of their number and arrangement, enable the formation to be linked together in a safe manner.

Article 16.04

Craft designed for use in trains

Craft intended for use in trains shall be equipped with coupling devices, bollards or equivalent devices which, as a result of their number and arrangement, closely link these with the other craft in the train.

Article 16.05

Craft which may be used for towing purposes

1. Craft which are to be used for towing operations shall meet the following conditions:

a) The towing equipment shall be arranged in such a way that their use does not compromise the safety of the craft, crew or cargo.

b) Craft intended for tugging and towing shall be fitted with a tow hook which shall be capable of safe release from the steering position.

c) Winches or a tow hook which can be released from the steering position shall constitute towing devices. It shall be possible to arrange those towing devices ahead of the propeller plane. That requirement shall not apply to craft that are steering by their drive units such as cycloidal propulsion units or swivelling propellers.

d) By way of an exemption from the requirements of (c) for craft which are to be used solely for back-up towing, a towing device such as a bollard which is to be located ahead of the propeller plane may be used.

e) Where the towing cables could snag on the stern of the vessel there must be deflector hoops.

2. Craft whose length L exceeds 86 m may not be used for towing downstream.

Article 16.06

Tests on trains of vessels

1. In order to issue the certificate of fitness for a pusher craft or self-propelled barge that is to propel a rigid train, and to enter this in the certificate, the inspection body shall decide which trains are to be submitted to it and will conduct the navigation tests referred to in Article 5.02 with the train in those formation(s) requested, which seem to it to be the least suitable. The requirements set out in Articles 5.02-5.10 shall be met by this train.

The inspection body shall check that the rigid formation comprising all of the craft in the train is maintained during the manoeuvres required by Chapter 5.

2. If during the tests referred to in Section 1 there are specific installations on board the craft that are being either pushed or breasted-up, such as the steering system, power plant or manoeuvring equipment, or articulated couplings in order to meet the requirements set out in Articles 5.02-5.10, the following shall be mentioned in the certificate for the craft propelling the crane: formation, position, name and official number of those craft accepted and fitted with the specific installations used.

Article 16.07

Entries on the certificate

1. If a craft is intended to push a train, or be pushed in a train, the certificate shall mention its compliance with the relevant requirements as set out in Article 16.01-16.06.

2. The following information shall be entered in the certificate for the craft that is intended to provide the motive power:

a) the trains and formations that have been accepted;
b) the types of coupling;
c) the maximum coupling forces transmitted and,
d) here appropriate, the minimum tensile strength of the coupling cables for the longitudinal link and the number of cable windings.

Chapter 17

SPECIFIC PROVISIONS GOVERNING FLOATING EQUIPMENT

Article 17.01

General

Chapter 3, 7-14, and 16 apply to the structure and working gear of floating equipment. Floating equipment with a mechanical means of motive power shall also meet the requirements of Chapters 5 and 6. Motive power only permitting short-haul operation shall not constitute mechanical means of motive power.

Article 17.02

Exemptions

1. The inspection body may grant exemptions to the following provisions:

(a) Article 3.03, sections 1 and 2, shall apply by analogy;

(b) Article 7.03 shall apply by analogy;

(c) the maximum sound pressure levels prescribed by Article 12.02, section 5, second sentence, may be exceeded while the floating equipment's working gear is operating, provided that, during service, nobody sleeps on board at night.

(d) exemptions may be granted from other provisions concerning structure, working gear or rigging provided that equal safety is ensured in each case.

2. The inspection body may choose not to implement the following provisions:

(a) Article 10.01: Section 1 shall not apply if during operation of floating equipment that equipment may be securely anchored by means of a working anchor or piles. However, floating equipment with its own motive power shall at least have an anchor as defined in Article 10.01, section 1, where an empirical coefficient k is taken to be equal to 45, and the smallest lateral height is taken for T.

(b) Article 12.02, section 1, second phrase: if the accommodation can be adequately lit by means of electricity.

3. The following also apply:

(a) as a departure from Article 8.06, section 2, second sentence, there shall be a power-driven pump instead of a hand-operated pump;

(b) as a departure from Article 8.08, section 3, the noise shall not exceed 65 dB(A) within a footprint extending 25 m from the sidewalls of any floating equipment while its working gear is operating;

(c) by way of a departure from Article 10.03, section 1, at least one further manual extinguisher is required if the working equipment is on the deck.

(d) by way of a departure from Chapter 14, in addition to the liquefied-gas equipment for domestic use, there may also be other liquefied-gas facilities. Those facilities and their accessories shall meet the requirements of one of the Member States.

Article 17.03

Additional requirements

1. Floating equipment on which persons are present during their operation shall be fitted with a general alarm. The alarm signal shall be clearly different from the other signals and, within accommodation and at all work stations, shall produce a sound pressure level that is at least 5 dB(A) higher than the maximum local sound pressure level. It shall be possible to actuate the alarm from the wheelhouse and the main work stations.

2. Items of floating equipment shall be fully able to withstand their loads and meet the national requirements of one of the Member States of the Community.

3. The stability and strength of floating equipment, and where appropriate of their tethering, shall be such that they may withstand the stresses resulting from the list, trim and movements of that equipment which may occur.

4. If loads are lifted by means of hoists the maximum authorised load deriving from stability and strength shall be clearly stated on a panel on the deck and at the control station. If the lifting capacity can be increased by linkage with further floating equipment the values authorised both with and without that floating equipment shall be clearly stated.

5. The certificate referred to in Annex III or IV shall be issued for floating equipment that has been accepted for operation in coastal regions or at sea.

Article 17.04

Residual safety clearance

1. The residual safety clearance is the shortest vertical distance between water level and the lowest part of the floating equipment below which this is no longer leakproof as a result of the trim and list resulting from the moments referred to in Article 17.07, section 4.

2. Within the meaning of Article 17.07, section 1, a residual safety clearance of 300 mm is sufficient for any aperture that is proof against spray and bad weather;

3. If the aperture is not proof against spray and bad weather the residual safety clearance shall be at least 400 mm.

Article 17.05

Residual freeboard

1. The residual freeboard is the smallest vertical distance between the surface of the water and the top of the deck arising from the trim and list resulting from the moments referred to in Article 17.07, section 4.

2. The residual freeboard meets the requirements of Article 17.07, section 1, if it is at least 300 mm.

3. The residual freeboard may be reduced if it is proven that the requirements of Article 17.08 have been met.

4. Where the shape of an item of floating equipment differs perceptibly from that of a pontoon, as in the case of cylindrical floating equipment, or where the cross-section of floating equipment has more than four sides, the inspection body may require and authorise residual freeboards that differ from those referred to in section 2. This also applies to an item of floating equipment consisting of several floating installations.

Article 17.06

Lateral stability tests

1. The stability test referred to in Articles 17.07 and 17.08 shall be based on a lateral stability test that has been carried out in a proper manner.

2. If during a lateral stability test it is not possible to achieve adequate list, or if the lateral stability test causes unreasonable technical difficulties, this may be replaced by a calculation of the craft's centre of gravity and weight. The result of the weight calculation shall be checked by measuring the draught, and the difference shall not exceed $\pm$ 5%.

Article 17.07

Confirmation of stability

1. It shall be confirmed that, when account has been taken of the loads applied during the use and operation of the working gear, the residual freeboard and the residual safety clearance are adequate. For that purpose the sum of the list and trim angles shall not exceed 10° and the base of the hull shall not emerge.

2. Stability confirmation shall include the following data and documents:

(a) scale drawings of the floating equipment and working gear and the detailed data relating to these that are needed to confirm stability, such as content of the tanks, opening providing access to the inside of the vessel;

(b) hydrostatic data or curves;

(c) curves for the static-stability lever-arm effects to the extent required in accordance with section 5 below or Article 17.08;

(d) description of the situations of use together with the corresponding data concerning weight and centre of gravity, including its unladen state and the equipment situation as regards transport;

(e) calculation of the list, trim and righting moments, with statement of the list and trim angles and the corresponding residual free board safety clearances;

(f) all of the results of the calculation with a statement of the use and load limits.

3. Stability checking shall be based on the following load conditions:

(a) specific mass of the dredging products for dredgers
sands and gravels: 1.5 t/m^3
very wet sands: 2.0 t/m^3

earth, on average: 1.8 t/m³
mixture of sand and water in the ducts: 1.3 t/m³;

(b) for clamshell dredgers, the values given under letter (a) are to be increased by 15%;

(c) for hydraulic dredgers the maximum lifting power must be considered.

4.1 Stability checking shall take account of the moments resulting from:

(a) the load;
(b) the asymmetric structure;
(c) the wind pressure;
(d) the turning, under way, of self-propelled equipment;
(e) the cross current, if necessary;
(f) the ballast and provisions;
(g) the deck cargoes and, where appropriate, the freight;
(h) the clear surfaces occupied by liquids;
(i) the inertia forces
(j) other mechanical equipment.

The moments which may act simultaneously shall be added up.

4.2 The moment caused by the wind pressure shall be calculated in accordance with the following formula:

$$M_V = c \cdot p_V \cdot S \left(l_V + \frac{T}{2}\right) \quad [kNm]$$

where:

c = shape-dependent coefficient of resistance

For frameworks one must take c = 1.2 and for solid-section beams c = 1.6. The two values take account of gusts.

All of the surfaces included in the frame envelope must be taken to be the surface area exposed to the wind.

p_v = specific wind pressure; this must consistently be taken to be 0.25 kN/m²;

S = side surface area of the floating installation in m²;

l_v = distance from the centre of gravity of the side surface S of the installation from the plane of maximum draught, in m;

4.3 In order to determine the moments due to turning while under way referred to in item 4.1, (d) where self-propelled installations sail freely, the formula set out in Article 15.04, section 6, must be used.

4.4 The moment resulting from the cross current referred to in item 4.1 (e) must only be taken into account for floating equipment which is anchored or moored across the current while operating.

4.5 The least favourable extent of tank filling on stability shall be determined and the corresponding moment introduced into the calculation when calculating the moments resulting from the liquid ballast and the liquid provisions referred to in item 4.1 (f).

4.6 The moment resulting from the forces of inertia referred to in item 4.1 (i) must be given due consideration if the movements of the load and the installations working gear are likely to affect its stability.

5. The righting moments for floating installations with vertical side walls may be calculated via the formula

$$M_R = 10 \cdot D \cdot \overline{MG} \cdot \sin\varphi \ [kNm]$$

where:

$\overline{MG}$ = metacentric height, in m;

φ = list angle in degrees.

That formula now applies up to list angles of 10° or up to a list angle corresponding to immersion of the edge of the deck or emergence of the edge of the bottom. In this instance the smallest angle is decisive. The formula may be applied to oblique side walls up to list angles of 5°; incidentally the limit conditions set out in Sections 3 and 4 apply.

If the particular shape of the floating installation(s) does not permit that simplification the lever-effect curves referred to in Section 2(c) are required

Article 17.08

Confirmation of stability in the case of reduced residual freeboard

If a reduced residual freeboard is taken into account in pursuance of Article 17.05 Section 3, it must be checked for all operating conditions:

a) that, after correction for the free surfaces of liquids, the metacentric height is not less than 15 cm;

b) that, for list angles of between 0 and 30°, there is a righting lever effect of at least

$$0.30 - 0.28 \cdot \varphi_n \ [m]$$

φ_n being the list angle from which the lever-arm curve displays negative values (stability limit); it may not be the less than 20° or 0.35 rad and shall not be introduced into the formula for more than 30° or 0.52 rad, taking the radian (rad) (1° = 0.01745 rad) for the unit of φ_n.

c) that the sum of the list and trim angles does not exceed 10°;

d) that a residual safety clearance within the meaning of Article 17.06 remains;

e) that a residual freeboard of at least 0.05 m remains;

f) that, for list angles of between 0 and 30°, a residual lever effect of at least

$$0.20 - 0.23 \cdot \varphi \ [m]$$

where φ n is the list angle from which the lever-arm curve displayed negative values; this should not be introduced into the formula for more than 30° or 0.52 rad.

Residual lever effect should be taken to mean the maximum difference existing between 0° and 30° of lifts between the curve for the righting lever effects and the curve for the tilt lever effects. If an opening towards the inside of the vessel is reached by the water at a list angle less than that corresponding to the maximum difference between the lever-effect curves, the lever effect corresponding to that list angle shall be taken into account.

Article 17.09

Draught marks and draught scales

Draught marks and draught scales shall be affixed in accordance with Articles 4.04 and 4.06.

Article 17.10

Floating installations without confirmation of stability

1. The following floating installations may be exempted from Articles 17.04-17.08:

a) those whose working gear may in no way alter their list or trim and

b) those where there can in no way be any displacement of the centre of gravity.

2. However,

a) at maximum load the safety clearance shall be at least 300 mm and the freeboard at least 150 mm;

b) for apertures which cannot be closed in such a way as to exclude spray and bad weather the safety clearance shall be at least 500 mm.

Chapter 18

SPECIFIC REQUIREMENTS CONCERNING WORKSITE CRAFT

Article 18.01

Operating conditions

Worksite craft designated as such in the certificate referred to in Annex II or IV may only move outside worksites when unladen. That restriction shall be mentioned on the certificate:

For this purpose worksite craft shall bear a certificate from the competent authority concerning the duration and geographical confines of the worksite on which the craft may be operated.

Article 18.02

Implementation of Part II

Unless otherwise specified by this chapter the structure and equipment of worksite craft shall be in line with Chapters 3-14 of Part II.

Article 18.03

Exemptions

1. a) Article 3.03, Section 1, shall apply by analogy;

b) Chapters 5 and 6 shall apply by analogy where the craft is self propelled;

c) Article 10.02, Section 2, (a) and (b) shall apply by analogy;

d) the inspection body may grant exemptions to the other requirements concerning structure, equipment and rigging provided that equivalent safety is proven in every case.

2. The inspection body may choose not to implement the following provisions:

a) Article 8.06, Section 2-8, if no crew is required;

b) Article 10.01, Sections 1 and 3, if the worksite craft may safely be anchored by working anchors or piles. However, self-propelled worksite craft are to be equipped with an anchor in accordance with Article 10.01, Section 1, where coefficient k is equal to 45 and T is taken to be the lowest lateral height.

c) Article 10.02, Section 1. (c), if the worksite craft is not self propelled.

Article 18.04

Safety clearance and freeboard

1. If a worksite craft is used as a barrier barge or ram vessel the safety clearance outside the hold area shall be 300 mm and the freeboard at least 150 mm. The inspection body may permit a smaller freeboard if proof via calculation is provided that stability is adequate for a cargo having a density of 1.5 t/m^3 and that no side of the deck reaches the water. The effect of the liquid cargo shall be taken into account.

2. The provisions of Articles 4.01 and 4.02 shall apply by analogy to worksite craft not covered by Section 1. The inspection body may accept values departing from the above for the safety clearance and the freeboard.

Article 18.05

Dinghies

Worksite craft are not required to have a dinghy where:

a) they are not self propelled or

b) another dinghy is available on the worksite.

That exemption shall be mentioned in the certificate.

Chapter 19

SPECIFIC REQUIREMENTS CONCERNING CANAL BARGES

(left void)

[redacted]

Chapter 20

SPECIFIC REQUIREMENTS CONCERNING SEA GOING VESSELS

(left void)

Chapter 21

SPECIFIC REQURIEMENTS CONCERNING SPORTS CRAFT

Article 21.01

General

Only Articles 21.02 and 21.03 shall apply to the structure and equipment of sports craft.

Article 21.02

Implementation of Part II

Sports craft shall meet the following requirements.

1. Articles 3.01, 3.02, Section 1(a) and Section 2, 3.03, Section 1(a) and Sections 6 and 3.04, Section 1;

2. Chapter 5;

3. Articles 6.01, Section 1, and 6.08;

4. Articles 7.01, Sections 1 and 2, 7.02, 7.03, Sections 1 and 2, 7.04, Section 1, 7.05, Section 2, 7.13 for sports craft approved for radar navigation by one person;

5. Articles 8.01, Sections 1 and 2, 8.02, Sections 1 and 2, 8.03, Sections 1 and 3, 8.04, 8.05, Sections 1-9 and 11, 8.06, Sections 1, 2, 5, 7 and 10, 8.07, Section 1, and 8.08;

6. Article 9.01, Section 1, by analogy;

7. Articles 10.01, Sections 2, 3 and 5-14, 10.02, Section 1, (a)-(c), and Section 2, (a) to (g) and (h), 10.03, Section 1, (a), (b) and (d): however there shall be at two fire extinguishers on board; Articles 10.03, Sections 2-5 and 10.05;

8. Chapter 13;

9. Chapter 14

Chapter 22

STABILITY OF VESSELS CARRYING CONTAINERS

Article 22.01

General

1. The provisions of this chapter apply to vessels carrying containers where the documents concerning stability are required in pursuance of the police regulations in force in the Member States.

The documents concerning stability shall be checked and stamped by an inspection body.

2. The documents concerning stability shall provide the operator with comprehensible information on vessel stability each time that containers are loaded.

The documents concerning stability shall include at least the following:

(a) tables of the permissible stability coefficients, the permissible KG values or the permissible heights for the centre of gravity of the cargo;

(b) the data concerning the spaces that can be filled with ballast water;

(c) the forms for checking stability;

(d) an example of a calculation or instructions for use by the operator.

3. In the case of vessels likely to carry either attached or non-attached containers separate documents concerning stability are required for the carriage of each type of container.

4. A cargo of containers shall be considered to be attached if each individual container is firmly attached to the hull of the vessel by means of rails or turnbuckles and its position cannot alter during the voyage.

Article 22.02

Limit conditions and method of calculation used in confirming the stability of vessels carrying non-attached containers

1. All methods of calculating vessel stability in the case of non-attached containers shall meet the following limit conditions:

(a) Metacentric height $\overline{MG}$ shall not be less than 1.00 m.

(b) Under the joint action of the centrifugal force resulting from the vessel's turning, wind thrust and the free surfaces occupied by the water the angle of tilt shall not exceed 5° and the edge of the deck shall not be immersed.

(c) The lever effect resulting from the centrifugal force caused by the vessels turning shall be determined in accordance with the following formula:

$$h_{KZ} = c_{KZ} \cdot \frac{v^2}{L_F} \cdot (\overline{KG} - \frac{T'}{2}) \text{ [m]}$$

where:

c_{KZ} = parameter ($c_{KZ} = 0.04$) [s²/m];

v = the maximum speed of the vessel [m/s];

$\overline{KG}$ = height of centre of gravity of the laden vessel above its base [m];

T' = average draught of the laden vessel [m].

(d) The tilting lever effect resulting from the wind thrust shall be determined in accordance with the following formula:

$$h_{KW} = c_{kw} \cdot \frac{A'}{D'} \cdot (l_w + \frac{T'}{2}) \text{ [m]}$$

where:

c_{kw} = parameter: ($c_{kw} = 0.025$) [t/m²];

A' = side surface above the water with the vessel laden [m²];

D' = displacement of the laden vessel [t];

l_w = height of the centre of gravity of the side surface A' above the water in relation to the surface of the water [m];

T' = average draught of the laden vessel [m].

(e) The tilting lever effect resulting from the free surfaces exposed to rainwater and residual water within the hold or the double hold base shall be determined in accordance with the following formula:

$$h_{KFO} = \frac{c_{KfO}}{D'} \cdot \Sigma (b \cdot l \cdot (b - 0.55 \sqrt{b})) \text{ [m]}$$

where:

c_{KfO} = parameter ($c_{KfO} = 0.015$) [t/m²];

b = width of hold or (cross)section of the hold in question [m];*

l = length of hold or (cross)section of hold in question [m];*

D' = displacement of the laden vessel [t].

(f) Half of the fuel and fresh water supply shall be taken into account for each load situation.

2. The stability of a vessel carrying non-attached containers shall be considered to be sufficient if the effective KG does not exceed the Kg_{zul} resulting from the formula. The Kg_{zul} shall be calculated for various displacements covering all of the possible draught differences:

(a) $$\overline{KG_{zul}} = \overline{KM} + \frac{B_F}{2F} \cdot \left(Z \cdot \frac{T_m}{2} - h_{KW} - h_{KfO}\right) \quad [m]$$

$$\frac{}{\frac{B_F}{2F} \cdot Z + 1}$$

No value less than 11.5 (11.5 = 1/tan5°) shall be taken for $\frac{B_F}{2F}$.

(b) $\overline{KG_{zul}} = \overline{KM}$ - 1.00 [m].

The lowest value of KG_{zul} in accordance with formula (a) or (b) shall be decisive. Within the formula:

KG_{zul} = maximum permissible height of the laden vessel's centre of gravity above its base [m];

KM = height of the metacentre above the base [m] in accordance with the approximation formula in section 3;

F = effective free board at 1/2L [m];

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* The hold sections providing free surfaces that are exposed to water arise from the longitudinal or transverse water-tight compartmentalisation that forms independent sections.

Z = parameter for the centrifugal force resulting from turning;

$$Z = \frac{(0,7 \cdot v)^2}{9,81 \cdot 1,25 \cdot L_F} = 0,04 \cdot \frac{v^2}{L_F} \quad [-]$$

v = maximum speed of the vessel in relation to the water [m/s];

T_m = average draught [m];

h_{KW} = tilting lever effect resulting from the pressure of the side wind (cf. section 1, (d)) [m];

h_{KfO} = sum of the tilting lever effects resulting from the free surfaces occupied by water (in accordance with section 1, (e)) [m].

3. Approximation formula for *KM*

Where no curve diagram is available the value *KM* for the calculation in accordance with section 2 and Article 22.03, section 2, may be determined, for example, via the following approximation formulae:

(a) vessels in the form of a pontoon

$$\overline{KM} = \frac{B^2_F}{\left(12.5 - \frac{T_m}{H}\right) \cdot T_m} + \frac{T_m}{2} \quad [m];$$

(b) other vessels

$$\overline{KM} = \frac{B^2_F}{\left(12.7 - 1.2 \cdot \frac{T_m}{H}\right) \cdot T_m} + \frac{T_m}{2} \quad [m].$$

Article 22.03

Limit conditions and method of calculation for confirming the stability of vessels carrying attached containers

1. In the case of attached containers all means of calculation used in order to determine vessel stability shall meet the following limit conditions:

(a) Metacentric height $\overline{MG}$ shall be not less than 0.50 m.

(b) No hull aperture shall be immersed by the joint action of the centrifugal force resulting from the turning of the vessel, the wind thrust and the free surfaces occupied by water.

(c) The tilting moments resulting from the centrifugal force due to the vessel's turning, the wind thrust and the free surfaces exposed to water shall be determined in accordance with the formulae referred to in Article 22.02, section 1, (c)-(e).

(d) The count shall be taken of half of the supply of fuel and fresh water for each load situation.

2. The stability of a vessel carrying attached containers shall be considered to be adequate if the effective KG does not exceed the KG_{zul} resulting from the formula KG_{zul} that has been calculated for the different displacements resulting from the possible height variations.

(a) $$KG_{zul} = \frac{\overline{KM} - \frac{I-i}{2\forall}(l - 1.5\frac{F}{F'}) + 0.75\frac{B_F}{F'}(Z \cdot \frac{T_m}{2} - h_{KW} - h_{KfO}}{0.75 \cdot \frac{B_F}{F'} \cdot Z + 1} \quad (m)$$

No value less than 6.6 will be taken for $\frac{B_F}{F'}$, and

no value of less than 0 for $\frac{I-i}{2\forall} \cdot (1 - 1.5\frac{F}{F'})$.

(b) $Kg_{zul} = \overline{KM} - 0.50\,(m)$

The lowest value for KG_{zul} in accordance with (a) and (b) shall be decisive.

Within these formulae, apart from the terms defined previously:

I = transverse moment of inertia of water line T_m [m^4], (for the approximate formula see section 3);

i = transverse moment of inertia of the water line parallel to the base, at height $T_m + \frac{2}{3}F'$ [m^4]

$\forall$ = displacement of the vessel at T_m [m^3]

F' = ideal free board $F' = H' - T_m$ or $F' = \frac{a \cdot B_F}{2 \cdot b}$ [m] or the lowest value shall be decisive;

a = the vertical distance between the lower edge of the aperture that is first immersed in the event of tilting and the water line in the vessel's normal position [m];

b = distance from that same aperture from the centre of the vessel [m];

H' = ideal payload $H' = H + \frac{q}{0.9 \cdot L \cdot B_F}$ [m]

q sum of the volumes of the deckhouses, hatchways, trunk decks and other superstructures up to a height 1.0 m above H or up to the lowest aperture in the space under consideration, the lowest value being decisive. Parts of spaces located within a sweep of 0.05 L from the extremities of the vessel shall not be taken into account [m^3].

3. Approximation formula for I
Where there is no curve diagram the value needed for calculating lateral moment of inertia I of the water line may be obtained from the following approximation formulas:

(a) vessels in the form of a pontoon

$$I = \frac{B^2_F \cdot \forall}{\left(12.5 - \frac{T_m}{H}\right) \cdot T_m} \text{ [m}^4\text{];}$$

(b) other vessels

$$I = \frac{B^2_F \cdot \forall}{\left(12.7 - 1.2 \cdot \frac{T_m}{H}\right) \cdot T_m} \text{ [m}^4\text{].}$$

Article 22.04
Procedure for assessing on-board stability

The procedure for assessing stability may be determined via the documents referred to in Article 22.01, section 2.

Chapter 22a

SPECIFIC REQUIREMENTS CONCERNING CRAFT LONGER THAN 110 M

Article 22a.01

Implementation of Part I

In addition to the requirements set out in Article 2.03, section 3, concerning craft longer than 110 m, apart from sea-going ships, the inspection body which is subsequently to issue the certificate shall be informed by the owner or his representative before building begins. That inspection body shall conduct inspections during the building stage. It may opt not to conduct inspections during the building stage if a certificate is produced before building begins to show that an approved classification society certifies that it is to supervise that building.

Article 22a.02

Implementation of Part II

In addition to Part II Articles 22a.03-22a.05 shall apply to craft that are longer than 110 m.

Article 22a.03

Durability, buoyancy and stability

1. In addition to Chapter 15 adequate strength of passenger-vessel hulls within the meaning of Article 3.02, section 1, (a) shall be proven by means of a certificate from an approved classification society.

2. Sections 4 - 8 shall apply to all other craft that are longer than 110 m.

3. Adequate hull strength within the meaning of Article 3.02, section 1, (a) and adequate coupled-formation strength (longitudinal, lateral and local strength) shall be proven by means of a certificate issued by an approved classification society that takes account of the particular method of construction referred to in section 5.

4. The craft shall be double hulled and be built with double deadwork and a double base in the hold area:

(a) the distance between the vertical edge of the vessel and the sidewall of the hold shall be at least 0.60 m;

(b) the double base shall be at least 0.40 m in height.

5. Adequate buoyancy and stability in the event of damage shall be demonstrated for the least favourable load situation. The following assumption shall be taken into account with regard to the post-damage stage:

(a) the internal hold bulkheads and the collision bulkheads and the bulkheads between the holds and the machine rooms shall be considered to be intact;

(b) the following permeability values shall be taken into account:

Accommodation	95%	
Engine rooms and service premises	85%	
Double bottoms, side chambers, fuel bunkers, ballast tanks, and other bunkers according to whether those spaces are, according to their intended use, to be assumed to be full or empty, the craft being on its unladen water line	0	or 95%;

(c) It will in principle be taken for the proof by calculation that only one compartment has been flooded. In the double-hull area it will be assumed that at least two adjacent compartments in longitudinal terms have been flooded. The longitudinal extent of the damage shall be taken to be equal to 0.1 L;

(d) Where the engine room area is not of the double-hull construction as required by section 5 the craft shall remain afloat if an engine room is flooded.

During the final stage of flooding referred to under (c) or (d) a residual safety clearance of 100 mm shall remain and the list angle of the vessel shall not exceed 5°.

The proof via calculation shall be considered to have been provided if the positive-result calculations referred to in ADNR footnote 110 295 are provided.

6. Where craft carry containers account will also be taken of the effects of wind pressure and of the free surfaces occupied by water. Where craft carry non-attached containers the side of the deck shall not be immersed in the final buoyancy position following flooding.

7. If necessary in order to comply with section 6 the plane of maximum draught shall be redetermined.

Article 22a.04

Manoeuvrability

Vessels longer than 110 m shall display adequate navigability and manoeuvrability within the meaning of Chapter 5, including in their unladen state.

Article 22a.05

Additional equipment

Craft longer than 110 m shall

(a) be fitted with a bow thruster that is controlled from the wheelhouse and has a minimum power of 250 kW, and is also effective when the craft is an unladen state;

(b) have a twin-propeller drive system, with two engines, or

have a single-propeller drive system and a bow thruster in accordance with (a), that is efficient in both transverse and longitudinal directions and has a minimum power of 500 kW;

(c) have a permanently-installed bailing system in accordance with Article 8.06;

(d) be fitted with a radar navigation system, together with a turn indicator in accordance with Article 7.06, section 1.

Article 22a.06

(Left void)

Article 22a.07

Implementation of Part IV in the event of conversion

The inspection body may only apply Chapter 24 to converted craft and craft that are longer than 110 m on the basis of specific Commission recommendations after the Committee provided for in Article 19 of the Directive has been consulted.

On the basis of those recommendations the inspection body may grant exemptions from Article 22a.03 in pursuance of Article 2.19, section 1.

PART III

Chapter 23

CREWS

Article 23.01

(Left void)

Article 23.02

(Left void)

Article 23.03

(Left void)

Article 23.04

(Left void)

Article 23.05

Operating modes

A distinction is drawn between the following operating modes:

A_1	daytime navigation for 14 hours at the most)	
A_2	semi-continuous navigation for 18 hours at the most	per 24-hour period
B	continuous navigation for 24 hours at the most	

PART IV

Chapter 24

TRANSITIONAL AND FINAL PROVISIONS

Article 24.01

Validity of previous inspection certificates

Without prejudice to the provisions of Article 2.09, section 2, inspection certificates that have been drawn up on the basis of requirements applying up to 30 June 1998 shall continue to be valid up to the expiry date entered on the certificate.

Article 24.02

Renewal of previous certificates

1. Craft which, on 1.7.98 bear a valid certificate, or are in the process of being built or converted and which do not fully meet the requirements of the Directive, as amended by Directive 97/.../EC,

(a) shall be made to comply with these within the deadlines and in accordance with the transitional requirements listed in the table below;

(b) shall, before being made to comply, meet the requirements of the version of this Directive that was in force before the amendments arising from Directive 97/.../EEC.

2. In the table the term

- "NRC" means that the requirement does not apply to vessels in service unless the parts concerned are replaced or converted, i.e. that the requirement only applies to new craft, replaced parts and converted parts. If existing parts are replaced by spare or replacement parts of the same design and manufacture this is not a replacement "R" within the meaning of these transitional requirements.

- "Certificate renewal":

  means that this requirement shall be met the next time that the certificate is renewed after 1.7.98. If the certificate expires between 1.7.1998 and 30.6.1999 that requirement is, however, only mandatory from 1.7.1999.

Articles and sections	SUBJECT	DEADLINE OR COMMENTS
	Chapter 3	
3.02 sec. 1 (b)	Minimum thickness of the base-, bilge-, and vertical side plates in the event of an additional special inspection	*)
3.03 sec. 1 (a)	Position of the collision bulkhead	NRC
Sec. 2	Equipment needed	NRC
Sec. 4	Gastight separation of accommodation from the engine and boiler rooms, and from the holds	NRC
Sec. 5 2nd paragraph	Remote monitoring of the doors in the rear-peak bulkhead	NRC
3.04 sec. 6	Engine room exits	The engine rooms, which in pursuance of the version of Chapter 1 in force before 1.7.98 are not to be considered to be engine rooms, shall not be required to have a second exit

*) For a transitional period of 10 years the inspection body may accept the following values for the minimum thickness of the base, bilge and vertical sideplates referred to in Article 3.02, section 1, (b) for double-bottom and double-deadwork craft whose keel was laid before 1 July 1998.

L in [m]	Minimum thickness, in [mm] of the base, bilge and vertical-side plates
20	3.0
30	3.3
40	3.9
50	4.3
60	4.7
70	5.1
80	5.5
90	5.7
100	6.1
110	6.4

The values shall apply to a floor-plate gap of $\leq$ 500 mm. If the gap is wider the minimal thickness shall be multiplied by the following factor:

$$\frac{\text{gap [mm]}}{500}$$

If the craft is of an intermediate length the minimum thickness values shall be interpolated linearly. The minimum thickness deriving from draught shall be checked in accordance with Article 3.02, Section 1, (b), formula 2.

Articles and sections	SUBJECT	DEADLINE OR COMMENT
	Chapter 4	
	(no transitional requirements)	
	Chapter 5	
5.06 Sec. 1 1st sentence	Minimum speed	**New builds from 1.7.1999**
	Chapter 6	
6.01 Sec. 1	Manoeuvrability required by Section 5	**NRC**
Sec. 3	List and ambient temperature	**NRC**
Sec. 7	Rudder-spindle bushings	**New builds from 1.7.1999**
6.02 Sec. 2	Placing in service of the second control system by a single operation	**NRC**
Sec. 3	Manoeuvrability required by Chapter 5 via the second control system or manufacturer control	**NRC**
6.03 Sec. 1	Connection of other users to the hydraulic-control systems	**NRC**
Sec. 2	Separate hydraulic reservoirs	**NRC**
6.05 Sec. 1	Automatic disengagement of the hand wheel	**NRC**
6.06 Sec. 1	Two independent control systems	**NRC**
Sec. 2	Adequate manoeuvrability in the event of failure of one of the steering-propeller, waterjet, cycloidal-propulsion or bow-thruster system	**NRC**
6.07 Sec. 2a)	Level alarm for the two hydraulic-system hydraulic and pressure reservoirs	**NRC**
Sec. 2e)	Checking of the buffer devices	**NRC**
6.08 Sec. 1	Requirements concerning the electronic systems in accordance with Article 9.20	**NRC**
Sec. 5	Turn indicators used in the rate-of-turn regulators	**NRC**
	Chapter 7	
7.02 Sec. 3 Second para.	Field of view at the helmsman's normal position	**NRC**
Sec. 5	Tinted glazing	**NRC**
7.03 Sec. 1	Controls	**Renewal of the certificate where the wheelhouse has not already been designed for one person**
Sec. 2	Monitoring instruments	**Renewal of the certificate where the wheelhouse has not already been designed for one person**
Sec. 3	Warning-light test	**Renewal of the certificate**
Sec. 4 Sec. 7	Green warning light Alarm-system shut down	**Certificate renewal** **NRC where the wheel has not already been designed for one person**

7.03 Sec. 8	Automatic connection to another energy source	**NRC**
7.04 Sec. 1	Control of the power plants and steering system	**NRC**
Sec. 2	Control of each power plant	**NRC, provided that the wheel house has not already been designed for one person**
7.05 Sec. 2	Monitoring of signal lights	**NRC**
7.06 Sec. 1 Third sentence	Rate of turn indicator located in front of the helmsman	**Certificate renewal**
7.07 Sec. 2	Radio telephone system	**NRC**
7.09	Alarm system	**NRC**
7.12	Height-adjustable wheel houses	**NRC**
	Chapter 8	
8.01 Sec. 3	Only internal combustion engines burning fuels having a flash point higher than 55°C	**NRC**
8.02 Sec. 1	Preventing inadvertent starting of the engines	**NRC**
8.03 Sec. 2	Systems for checking the critical levels	**NRC**
Sec. 4	Drive shaft bushes	**NRC**
8.05 Sec. 1	Steel fuel tanks	**NRC**
Sec. 2	Automatic closure of water-extraction valves	**NRC**
Sec. 3	No fuel tank ahead of the collision bulkhead	**NRC**
Sec. 4	No daily-supply tanks and fittings above engines or exhaust pipes	**NRC**
Sec. 6	Installation and sizing of breather pipes and connecting pipes	**NRC**
Sec. 7	Shut-off device that can be operated from the deck	**NRC**
Sec. 9 First sentence	Fuel-tank capacity-gauging device legible right up to maximum filling level	**NRC**
Sec. 11	Monitoring of filling level, not only for the power plants but also for the other engines needed for navigation purposes	**NRC**
8.06 Sec. 2 First sentence	Ban on installing bilge pumps within the same space	**NRC**
Second sentence	Vessels not intended for the carriage of goods with a displacement higher than 250 m^3 and an engine power less than 225 kW	**NRC**
Third sentence Sec. 8	Each pump capable of use on each sealed compartment A simple shut-off device is not an adequate form of link between the ballast compartments and the draining system where holds have been designed for ballast	**NRC**

8.06 Sec. 9	Depth gauges for hold bottoms	NRC
Sec.10	Attachment of seals for closures	Where so required by the national regulations
8.07	Oily-water and drained-oil stores	NRC
8.08 Sec. 3	Limit of 65 dB(A) not to be exceeded by moored vessels	NRC
	Chapter 9	NRC
9.01 Sec. 1 Second sentence	Submission of the document to the inspection body	NRC
Sec. 2 Second para.	Switching diagrams for the main control panel, the emergency-installation panel and the distribution panels	NRC
Sec. 3	Ambient inside temperatures and temperatures on deck	NRC
9.02	Electricity supply system	NRC
9.04	Explosion proofing	NRC
9.05 Sec. 4	Cross-section of the earthing conductors	NRC
9.11 Sec. 4	Ventilation when accumulators are installed in a closed compartment, cabinet or chest	NRC
9.12 Sec. 2d	Direct supply of appliances required for propelling and manoeuvring the vessel	NRC
Sec. 3b	Earth-insulation checking devices	NRC
9.13	Emergency circuit breakers	NRC
9.14 Sec. 3 Second sentence	Ban on single-pole switches in laundries, bathrooms and washrooms	NRC
9.15 Sec. 2	Minimum unit cross-section of 1.5 mm^2 for conductors	NRC
Sec. 9	Cables linking mobile wheel houses	NRC
9.16 Sec. 3 Second sentence	Distribution of lighting appliances among two circuits	NRC
9.19	Alarm and safety systems for mechanical equipment	NRC
9.20	Electronic equipment	NRC
9.21	Electromagnetic compatibility	NRC
	Chapter 10	
10.01	Anchors, chains and anchor hawsers	NRC
10.02 Sec. 2a Sec. 2b	Mooring cables Towing cables	NRC NRC

10.03 Sec. 2c and Sec. 5	Extinguishing substances and fire-fighting equipment	*)
	Chapter 11	
11.02 Sec. 4	Equipment on outer edges of decks, gunwales and work stations	**NRC**
11.04	Gunwale	**)
11.05	Access to working spaces	**NRC**
11.06	Exits and emergency exits	**NRC**
11.07	Ladders, steps and similar devices	**NRC**
11.08	Inside spaces	**NRC**
11.09	Protection against noise and vibration	**NRC**
11.10	Hatch covers	**NRC**
11.11	Winches	**NRC**
11.12	Cranes	**NRC**
	Chapter 12	
12.01 Sec. 1	Accommodation for persons normally living on board	**NRC**
12.02 Sec. 2	Accessibility of accommodation	**NRC**
Sec. 3	Floor situation	**NRC**
Sec. 4	Living and sleeping quarters	**NRC**
Sec. 6	Headroom within accommodation	**NRC**

*) 1. The permanently installed CO_2 extinguishing systems fitted before 1 January 1985 shall continue to be accepted provided that these meet the national requirements in force.

2. Permanently installed halon 1301 ($CBrF_3$) extinguishing systems fitted before 1 July 1998 shall continue to be permitted.

3. Article 10.03, Section 5(b) shall only apply if those installations were laid out in vessels whose keel was laid down after 1 January 1999.

**) The requirement applies to vessels built on their keels after 1.1.1996 and for vessels in service under the following conditions:

The requirements of Article 11.04 should be met where the entire whole area has been renewed.

Where the entire length of the gunwale has been converted, thus altering the side clearance,

(a) Article 11.04 shall be complied with where the side clearance of the gunwale up to a height of 0.90 m that was available before the conversion, has to be reduced,

(b) the side clearance of the gunwale up to height of 0.90 m or the side clearance above this that were available for the conversion do not have to be reduced if their dimensions are less than those required by Article 11.04.

Articles and sections	SUBJECT	DEADLINE OR COMMENT
12.02 Sec. 7	Living accommodation separate from sleeping accommodation	NRC
Sec. 8	Ground area of the living accommodation	NRC
Sec. 9	Volume of each room	NRC
Sec. 10	Volume of air per person	NRC
Sec. 11	Dimensions of doors	NRC
Sec. 12	Arrangement of staircases	NRC
Sec. 13	Pipework for dangerous gases and liquids	NRC
12.03	Sanitary installations	NRC
12.04	Galleys	NRC
12.05	Potable water	NRC
12.06	Heating and ventilation	NRC
12.07	Other accommodation installations	NRC
	Chapter 13	
	(no transitional requirements)	
	Chapter 14	
14.09 Sec. 4	Inspection connection	**Renewal of the certificate referred to in Article 14.15**
	Chapter 15 (no transitional requirements)	

	Chapter 16	
16.01 Sec. 3 Final sentence	Requirements concerning controls	**NRC**
	Chapter 17 (no transitional requirements)	
	Chapter 18	
	(no transitional requirements)	
	Chapter 19 (no transitional requirements)	
	Chapter 20 (no transitional requirements)	
	Chapter 21 (no transitional requirements)	
	Chapter 22	
	(no transitional requirements)	
	Chapter 23	
	(no transitional requirements)	

ANNEX III

MODEL COMMUNITY INLAND NAVIGATION CERTIFICATE

(Article 3 of the Directive)

1

COMMUNITY INLAND NAVIGATION CERTIFICATE

(Reserved for State emblem)

NAME OF STATE / SEAL OF STATE

CERTIFICATE No .....

Place, date

.....

Inspection Body

.....

Seal

.....

(Signature)

Remarks:

The craft may be used for navigation by virtue of this certificate only while in the condition herein described.

In the event of major alterations or repairs, the craft must undergo a special inspection before any new voyage.

The owner of the craft, or his representative, must inform an Inspection Body of any change in the name or ownership of the craft, any remeasurement and any change in the official number, registration number or home port, and send it the inspection certificate for amendment.

Certificate N° ..... of the..... Inspection Body

1. Name of craft	2. Type of craft	3. Official number
4. Name and domicile of owner		
5. Place of registration and registration number	6. Home port	
7. Year of construction	8. Name and location of shipyard	

9. This certificate replaces Certificate No ..... issued on ..... by the .....Inspection Body

10. The abovementioned craft,

subsequent to the inspection carried out on *) .....

on presentation of the certificate issued on *) .....

by the recognised classification society .....

is acknowledged as fit to operate
- on Community waterways in zone(s) (*).....

.....

on the waterways in zone(s) (*).....
in .....(Names of States(*))
.....
except for:.....
.....
.....
-on the following waterways in:...(Name of the State
(*))....
.....
.....
.....

at the maximum authorised draught and with the rigging specified below.

11. The validity of this certificate expires on.....

*) Amendment to item(s): .....
New text: .....
.....
.....

*) This page has been replaced.

Place, date ..... Inspection Body

.....

Seal

.....
(Signature)

*) Delete as appropriate

[redacted]

Certificate No..... of the .....Inspection Body

12. The certificate number (1), official number (2), registration number (3) and measurement number (4) are affixed with the corresponding signs at the following locations on the craft

1 .....

2 .....

3 .....

4 .....

13. The maximum authorised draught is indicated on each side of the craft

- by two - ..... - draught marks*).
- by the upper measurement plates*).

Two draught scales have been applied*).
The rear measurement scales serve as draught scales: they have been supplemented for that purpose by figures indicating the draughts*).

14. Without prejudice to the restrictions*) mentioned in items 15 and 52, the craft is fit to

1. push-tow*)
1.1 in rigid formation*)
1.2 with guided articulation*)
2. be push-towed*)
2.1 in rigid formation*)
2.2 at the head of a rigid formation*)
2.3 with guided articulation*)
3. power a breasted-up formation*)
4. be empowered in a breasted-up formation*)
5. tow*)
5.1 craft having no motive power of their own*)
5.2 motorised craft*)
5.3 upstream only*)
6. be towed*)
6.1 as a motorised craft*)
6.2 as a craft with no motive power of its own*)

*) Amendment to item(s): .....
New text: .....
.....
.....

*) This page has been replaced.

Place, date .....

Inspection Body

.....

Seal

.....
(Signature)

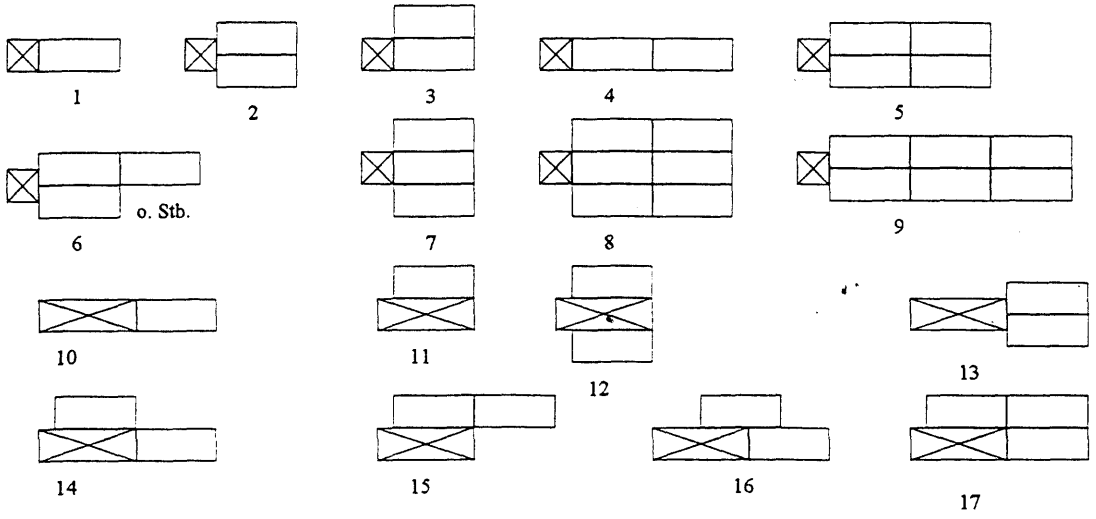
*) Delete as appropriate

Certificate No ..... of the .....Inspection Body

15. Authorised formations

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

For-mation figure	Restrictions resulting from chapters 5 and 16								
	Max. dimensions m		Navigation direction and load status UPSTREAM		DOWNSTREAM		Maximum wetted section in m²		Remarks
No	length	breadth	loaded t	empty	loaded t	empty	upstream	downstream	



Weitere Formationen:

Zeichenerklärung: SB MS SL

o. stb = without starboard

Weitere Formationen = Other formations

Key to symbols: SB, MS, SL = pusher craft, self-propelled barge, pushed lighter

2. Couplings:

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

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

Breaking strain per longitudinal coupling: ..... kN

Breaking strain per coupling cable: ..... kN

Number of cable windings: .....

*) Amendment to item(s): .....

New text: .....

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*) This page has been replaced.

Place, date ..... Inspection Body

.....

Seal

.....

(Signature)

*) Delete as appropriate

Certificate No ..... of the ..... Inspection Body

16.	Measurement certificate No ..... of the .....Measurement Office dated.....			
17a. 17b.	Max. length. m Length L m	18a. Max. breadth m 18b. Breadth B m	19. Maximum draught m	20. Freeboard cm
21.	Dead weight/Displacement*) t/m³*)	22. Number of passengers:	23. Number of passenger berths:	
24.	Number of watertight compartments	25. Number of holds	26. Type of hatch cover	
27.	Number of main propulsion engines	28. Total power rating of main means o propulsion kW	29. Number of main propellers	
30.	Number of bow windlasses of which ..... powered		31. Number of stern windlasses of which .....powered	
32.	Number of towing hooks	33. Number of towing winches of which..... powered		
34.	Steering gear			
	Number of rudder blades on main rudder	Main rudder drive	- manual *) - electric *)	- electric/hydraulic*) - hydraulic*)
	Other installations: yes/no*) Type :			
	Flanking rudder: yes/no*)	Flanking rudder drive:		
			- manual *) - electric *)	- electric/hydraulic*) - hydraulic*)
	Bow rudder installation	- bow rudder*)	- Remote control	Remote activation
	yes/no*)	- bow thruster*) - other installation*)	yes/no*)	yes/no*)
35.	Pumping equipment Total calculated capacity	Number of power-driven pumps	Flow rate	Number of hand pumps
	..... l/min	.....	..... l/min	.....

*) Amendment to item(s): .....
New text: .....
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.....

*) This page has been replaced.

Place, date ..... Inspection Body

.....

Seal

.....
(Signature)

*) Delete as appropriate

36. Number and position of closures referred to in Article 8.06, Section 10

37. Anchors

Number of bow anchors	Total mass of bow anchors	Number of stern anchors	Total mass of stern anchors
.....	..... kg	.....	..... kg

38. Anchor chains

Number of bow anchor chains	Length of each chain	Breaking strain of each chain	
.....	..... m	..... kN	
Number of stern anchor chains	Length of each chain	Breaking strain of each chain	
.....	..... m	..... kN	

39. Mooring cables

1st cable ..... m long with a breaking strain of ..... kN

2nd cable ..... m long with a breaking strain of ..... kN

3rd cable .....m long with a breaking strain of ..... kN

40. Towing cables

..... with a length of ..... m and a breaking strain of ..... kN

..... with a length of ..... m and a breaking strain of ..... kN

41. Visual and audible signals

The lights, flags, balls, floats and audible warning devices used for signalling and to emit the visual and audible signals prescribed by the police regulations in force in the Member States are carried on board, as are the stand-alone emergency mooring lights prescribed by the police regulations in force in the Member States.

*) Amendment to item(s): .....

New text: .....

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*) This page has been replaced.

Place, date .....

Inspection Body

.....

Seal

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(Signature)

*) Delete as appropriate

Certificate No..... of the ..... Inspection Body

42. Other rigging

heaving line
gangway with handrail
gaff hook
bandaging kit
pair of binoculars
notice concerning rescue of men overboard
fire-resistant receptacles
embarkation stairway/ladder*)

Voice communication system
- alternative two-way*)
- simultaneous two-way/telephone*)
- internal radio-telephone link*)

Radio-telephone installation
- vessel-to-vessel service
- nautical information service
- vessel-port authority service

Cranes
- in accordance with Article 11.12 Section 9*)
- other cranes with a useful load not exceeding 2000 kg*)

43.	Fire-fighting appliances	Number of portable extinguishers.....	Fixed sprinkler system(s)	No	Number*) .....
			Other fixed fire-fighting system(s)	No	Number*) .....

Number of fire pumps	Number of hydrants	Number of hoses

The powered drainage pump replaces a fire pump Yes/No*)

44. Survival equipment
Number of lifebuoys

A life-jacket for each person regularly on board.
Other survival equipment on passenger vessels*) .....
.....
.....
.....

A dinghy with a set of oars, one mooring line and a baler*)

Collective survival equipment on passenger vessels*) .....
.....
.....
.....

45. Special wheelhouse arrangements for steering on radar by one person:

Approved for steering on radar by one person*).

*) Amendment to item(s): .....
New text: .....
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*) This page has been replaced.

Place, date ..... Inspection Body

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Seal

.....
(Signature)

*) Delete as appropriate

Certificate No..... of the ..... Inspection Body

46. The craft is authorised to operate under mode A1*), A2*), B*).

47. Vessel equipment and crew

(Indicate whether the vessel meets the requirements of national and international law, if any.)

	Operating mode		
	A1	A2	B
.....	.....	.....	.....
.....	.....	.....	.....

48. Minimum crew.
(Indicate whether the vessel meets the requirements of national and international law, if any.)

	Operating mode		
	A1	A2	B
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Observations and special conditions:

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*) Amendment to item(s): .....

New text: .....

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*) This page has been replaced.

Place, date .....

Inspection Body

.....

Seal

.....

(Signature)

*) Delete as appropriate

Certificate No..... of the ..... Inspection Body

49. **Extension/confirmation*) of certificate validity*)** **Supplementary/special*) inspection certificate**

The Inspection Body inspected the vessel on .....*).

A certificate dated ..... from the .....recognised classification society

.....

was presented to the Inspection Body*).

Reason for the inspection/certificate*):

.....

.....

In view of the inspection result/certificate*), the period of validity for the certificate is maintained/extended*) until ..... .

....., ...

(Place) (date)

.....

Seal Inspection Body

.....

(Signature)

*) Delete as appropriate

49. **Extension/confirmation*) of certificate validity*)** **Supplementary/special*) inspection certificate**

The Inspection Body inspected the vessel on .....*).

A certificate dated ..... from the .....recognised classification society

.....

was presented to the Inspection Body*).

Reason for the inspection/certificate*):

.....

.....

In view of the inspection result/certificate*), the period of validity for the certificate is maintained/extended*) until ..... .

....., ...

(Place) (date)

.....

Seal Inspection Body

.....

(Signature)

*) Delete as appropriate

49. **Extension/confirmation*) of certificate validity*)** **Supplementary/special*) inspection certificate**

The Inspection Body inspected the vessel on .....*).

A certificate dated ..... from the .....recognised classification society

.....

was presented to the Inspection Body*).

Reason for the inspection/certificate*):

.....

.....

In view of the inspection result/certificate*), the period of validity for the certificate is maintained/extended*) until ..... .

....., ...

(Place) (date)

.....

Seal Inspection Body

.....

(Signature)

*) Delete as appropriate

Certificate No..... of the ..... Inspection Body

49. **Extension/confirmation*) of certificate validity*) Supplementary/special*) inspection certificate**

The Inspection Body inspected the vessel on .....*).

A certificate dated ..... from the .....recognised classification society

.....

was presented to the Inspection Body*).

Reason for the inspection/certificate*):

.....

.....

In view of the inspection result/certificate*), the period of validity for the certificate is maintained/extended*) until ..... .

....., ...

(Place) (date)

Seal

.....

Inspection Body

.....

(Signature)

*) Delete as appropriate

49. **Extension/confirmation*) of certificate validity*) Supplementary/special*) inspection certificate**

The Inspection Body inspected the vessel on .....*).

A certificate dated ..... from the .....recognised classification society

.....

was presented to the Inspection Body*).

Reason for the inspection/certificate*):

.....

.....

In view of the inspection result/certificate*), the period of validity for the certificate is maintained/extended*) until ..... .

....., ...

(Place) (date)

Seal

.....

Inspection Body

.....

(Signature)

*) Delete as appropriate

49. **Extension/confirmation*) of certificate validity*) Supplementary/special*) inspection certificate**

The Inspection Body inspected the vessel on .....*).

A certificate dated ..... from the .....recognised classification society

.....

was presented to the Inspection Body*).

Reason for the inspection/certificate*):

.....

.....

In view of the inspection result/certificate*), the period of validity for the certificate is maintained/extended*) until ..... .

....., ...

(Place) (date)

Seal

.....

Inspection Body

.....

(Signature)

*) Delete as appropriate

50. **Attestation relating to liquefied gas plant**

The liquefied gas plant on board the craft has been inspected by the authorised officer*) .....

.....

and according to his acceptance report dated .....*) fulfils the conditions laid down.

The plant includes the following gas-consuming appliances:

Plant	Serial No	Model	Make	Type	Position

This attestation is valid until .....

....., ...
(Place) (Date)

.....
Inspection Body

.....
Authorised officer*)

Seal .....
(Signature)

*) Amendment to item(s): .....
New text: .....
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*) This page has been replaced.
Place, date ..... Inspection Body

.....

Seal

.....
(Signature)

*) Delete as appropriate

Certificate No..... of the [redacted] ..... Inspection Body

51. **Extension of the attestation relating to liquefied gas plant**

The period covered by the attestation relating to liquefied gas plant(s)

dated ..... is extended until .....

- following the supplementary inspection by the authorised officer .....
- on presentation of the acceptance report dated .....

....., ...
(Place) (Date)

.....
Inspection Body

..... Seal

.....
(Signature)

51. **Extension of the attestation relating to liquefied gas plant**

The period covered by the attestation relating to liquefied gas plant(s)

dated ..... is extended until .....

- following the supplementary inspection by the authorised officer .....
- on presentation of the acceptance report dated .....

....., ...
(Place) (Date)

.....
Inspection Body

..... Seal

.....
(Signature)

51. **Extension of the attestation relating to liquefied gas plant**

The period covered by the attestation relating to liquefied gas plant(s)

dated ..... is extended until .....

- following the supplementary inspection by the authorised officer .....
- on presentation of the acceptance report dated .....

....., ...
(Place) (Date)

.....
Inspection Body

..... Seal

.....
(Signature)

Certificate No ..... of the ..... Inspection Body

52. Annex to certificate No .....

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*) Amendment to item(s): .....

New text: .....

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*) This page has been replaced.

Place, date .....

Inspection Body

.....

Seal

.....

(Signature)

*) Delete as appropriate

Continued on page*) .....

End of inspection certificate*)

ANNEX Va

Any additional technical requirements for vessels operating on waterways of Zone 1 and/or Zone 2, adopted by Member States pursuant to Article ,5 paragraph 1 of the present Directive, shall be restricted to the following subjects :

Zone 2

- minimum freeboard;
- safety distance;
- the watertightness and strength of fasteners to close windows, doors, portholes, hatches, etc.;
- the anchor equipment including the length of the anchor chains;
- signalling lights and horns;
- compass;
- radio transmission/receiver installation (VHF);
- life raft and other lifesaving equipment;
- availability of nautical charts.

Zone 1

In addition to the requirements for Zone 2, the competent authorities may require :

- an increased freeboard and safety distance;
- evidence, if appropriate through a special attestation from a recognised classification society, that the vessel is sufficiently strong and stable to cope with the prevailing wave conditions.

ANNEX Vb

Any reduced technical requirements for vessels operating on Zone 4 waterways only, adopted by Member States pursuant to Article 5, paragraph 3 of the present Directive, shall be restricted to the following subjects :

Zone 4

- minimum freeboard;
- safety distance;
- anchor equipment, including length of anchor chains;
- minimum speed;
- life saving equipment and life raft.

Simplified construction requirements may be allowed for vessels used exclusively for the carriage of freight or passengers in a strictly limited area.

ANNEX VI

MODEL TEMPORARY COMMUNITY INLAND NAVIGATION CERTIFICATE

(Article 11 of the Directive)

Temporary Community certificate*) / Temporary certificate of approval *)

N° .....

1. Name of craft	2. Type of craft	3. Official number

4. Name and domicile of owner

5. Length L/ L_{WL} *) ..... Number of passengers .....

Number of berths*) .....

6. Crew: (Indicate whether vessel meets the requirements of national and international law, if any.)

6.1 The craft is authorised to operate under mode A1*), A2*), B*).

6.2 Vessel equipment and crew.
(Indicate whether vessel meets the requirements of national and international law, if any.)

	Mode of operation			
	A1	A2	B	
.....	.....	.....	.....	
.....	.....	.....	.....	

6.3. Minimum crew: (Indicate whether vessel meets the requirements of national and international law, if any.).....

7. Liquefied gas plant(s)
Attestation valid until .....

8. Special conditions

9. Carriage of dangerous goods, see overleaf*)

10. Validity
Temporary certificate*) / temporary certificate of approval*) valid until..... .....
for navigation*) / for a single voyage*) (Date)
is acknowledged as fit to operate
- on Community waterways in zone(s) (*).....
on the waterways in zone(s) (*)
.....
.in .....(Names of States(*))
.....
except for:.....
.....
-on the following waterways in :...(Name of
State(*)).....
.....

11. ....., ..., ...
Place Date Place Date

....
Competent authority for temporary certificate of approval Survey Body

Seal ..... Seal .....
Signature Signature

*) Delete as appropriate

9. Carriage of dangerous goods

(Indicate whether the vessel meets the requirements of national and international law, if any.)

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