

Interpretations
of the
International Convention
on Load Lines, 1966

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LL5 Doors	Reg. 12	1968	1972	yes	1972	Rev.1 2008
LL6 Hatchways closed by weather tight covers of steel or other equivalent material fitted with gaskets and clamping devices	Reg.16 & 27 (7)(c)	Rev.1 July 2004	1972	yes	1972	Rev.3 2008
LL7 Machinery space openings	Reg. 17(1)	1968/Rev.1 Jun 2002	1972	yes	1972	Rev.2 2008
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LL10 Air pipes	Reg. 20	1968	1972	yes	1972	Rev.1 2008
LL11 Scuppers, inlets and discharges	Reg. 22(1)	Rev.2 1994	1972	yes	1972	Rev. 3 1994
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LL13 Freeing ports	Reg. 24(1) & 24(5)	1968	1972	yes	1972	Rev.1 2008
LL14 Protection of the crew	Reg. 25(2)	1968	1972	yes	1972	Rev.1 2008
LL15 Length of superstructure	Reg. 34(1) & 34(2)	1968/Rev.2 July 2003	1972	yes	1972	Rev.3 2008
LL16 Sheer	Reg. 38	1968	1972	yes	1972	Rev.1 2008

Interpretation	Reference	Adopted	Submitted to IMO A	IMO approval	Submitted to governments	Remarks
LL17 Minimum bow height	Reg. 39(1) & 39(2)	Corr.2 Oct 2007	1972	not yet	1972	Rev.1 2008
LL18 Freeboard tables	Reg. 28	1968	1972	yes	1972	Rev.1 2008
LL19 Form of certificates	Art. 18	1972	1972	yes	1972	Rev.1 2008
LL20 Hatch beams and cover stiffeners of variable cross section	Reg. 15(4), (5) (6), (7) & 16	1972	1972	yes	1972	Rev.1 2008
LL21 Cargo ports or similar openings below the uppermost load line	Reg. 21(2)	1972	1972	yes	1972	Rev.1 2008
LL22 Position of the inboard end of discharges when timber freeboard is assigned	Reg. 22(1)	1972	1972	yes	1972	Rev.1 2008
LL23 Freeing arrangement	Reg. 26(5), 27(7) & 36(1) (e)	1972	1972	yes	1972	Rev.1 2008
LL24 Negative depth correction	Reg. 31(3)	1972	1972	yes	1972	Rev.1 2008
LL25 Effective length of raised quarterdeck	Reg. 35(4)	1972 Rev. 1	1972	yes	1972	Rev.1 2008
LL26 Continuous hatchways as trunk	Reg. 36	1983	1983	yes		Rev.2 2008
LL27 Less than standard hatch coamings on trunks of less than standard height	Reg. 36(4)	1972	1972	yes	1972	Rev.1 2008
LL28 Deduction for superstructures and trunks	Reg. 37	1972	1972	yes	1972	Rev.1 2008
LL29 Sheer credit for superimposed superstructures	Reg. 38(5) & 38(12)	Rev. 1 1983	1983	yes		Rev.2 2008
LL30 Sheer allowance for excess height of superstructure	Reg. 38(7) & 38(12)	1972	1972	yes	1972	Rev.1 2008

Interpretation	Reference	Adopted	Submitted to IMO A	IMO approval	Submitted to governments	Revised
LL31 Deduction for excess sheer	Reg. 38(15)	1972	1972	yes	1972	Rev.1 2008
LL32 Special requirements for vehicle ferries, ro-ro ships and other ships of similar type		Withdrawn Oct 2007	1972	yes partly	1972	LL32(b) Noted at IMO as a safety requirement but outside the scope of LLC 1966. Retained for IACS purposes
LL33 Timber freeboards for ships having reduced Type 'B' freeboards assigned	Reg.45(2)& 45(3)	1972	1972	yes	1972	Rev.1 2008
LL34 Freeboard for lighters and barges	Reg. 27(11)	1972	1972	yes	1972	Corr.1 2008
LL35 Stowage of timber deck cargo on ships having timber freeboards assigned	Reg. 44 & 45	1972	1972	yes	1972	Corr.1 2008
LL36 Minimum wall thickness of pipes	Rev. 19, 20 & 22	Rev. 1 1978	1978	yes	1978	Rev.2 July 2008
LL37 Superstructures with sloping end bulkheads	Reg. 34, 35 & 38(12)	Rev. 1 1983/ Corr. 1996	1983	yes		Rev.2 2008
LL38 Bow height	Reg. 39(2)	Corr.1 June 2006	1983	yes		Rev.2 2008
LL39 Structure of a lower freeboard deck	Reg. 3(9)	1977	1978	yes	1978	Rev.1 2008
LL40 Security of hatch covers	Reg. 15(13)	Rev. 1 1980	1980	yes	1980	Rev.2 2008
LL41 Trunks	Reg. 29 & 38	1978	1978	yes	1978	Rev.1 2008
LL42 Access openings on barges	Reg. 27(11)	1978	1978	yes	1978	Rev.1 2008
LL43 Minimum bow height	Reg. 39	1978	1978	yes	1978	Rev.1 2008
LL44 Freeing ports	Reg. 24(3)	1978	1978	yes	1978	Rev.1 2008
LL45 Presentation of stability data	Reg. 10(2)	Rev. 1 1984	1986			Rev.2 2008
LL46 Protection of openings in raised quarter decks	Reg. 18(2) & Interp. LL8	Rev. 1 1980/Rev 2 1997	1980	yes	1980	Rev.3 2008

Interpretation	Reference	Adopted	Submitted to IMO A	IMO approval	Submitted to governments	Remarks
LL47 Guard rails		Corr.1 Oct 2007	1980	yes	1980	Rev.3 2008
LL48 Moulded depth and freeboard calculation	Reg. 3(5) (c), 3(9) & 40(1)	Rev.1 1983	Rev. 1 1983	yes		Rev.2 2008
LL49 Air pipe closing devices	Reg. 20	1980	1980	yes	1980	Rev.1 2008
LL50 Protection of crew	Reg. 25(4), 26(2) & 27(7)	Rev.4.1 Oct 98	Rev. 4 1998	yes		Rev.5 2008
LL51 Freeboards greater than minimum	Reg. 2(5)	Rev.1 1986	Rev.2 1997	yes		Rev.2 2008
LL52 Weathertight closing appliances for ventilators	Reg. 19(4)	1983	1983	yes		Rev.1 2008
LL53 Treatment of moonpools		1987	1987			Rev.1 2008
LL54 Effective length of superstructures	Reg. 35(3)	1989				Rev.1 2008
LL55 Least Moulded Depth for a ship with a Rake of Keel	Reg. 3 (1)	1993				Rev.1 2008
LL56 Block Coefficient of a Pontoon	Reg. 3 (7)	1993				Rev.1 2008
LL57 Block Coefficient of a Multi-hull Craft	Reg. 3 (7)	1996				Rev.1 2008
LL58 Machinery space and emergency generator room ventilator coaming heights	Reg.17(2),19(3), &19(4)	1997				Rev.1 2008
LL59 Cargo manifold gutter bars - freeing arrangements and intact stability		Rev.1 Dec 2007				
LL60 Freeing ports in way of wells in combination with open superstructures	Reg.24(1) & 24(4)	1997, Corr. 1 April 1998				Rev.1 2008
LL61 Method of correction for the effect of free surface of liquids in tanks (Regulation 10(2), UR L3 and UI LL45)		1997				Rev.1 2008
LL62 Side Scuttles, Windows and Skylights	Reg. 23	1997				Corr.1 Aug 2010

Interpretation	Reference	Adopted	Submitted to IMO A	IMO approval	Submitted to governments	Remarks
LL63	Treatment of steps and recesses in transverse subdivision bulkheads : IMO Res. A.320		Rev.2 July 2008			
LL64	Non-Weathertight Hatchcovers above Superstructure Deck		Rev.5 July 2008			
LL65	Ships with assigned or reassigned reduced freeboards and intended to carry deck cargo		Rev.2 July 2008			
LL66	Hatch Cover Stress/Deflection Calculation (Res. MSC.143(77), 2005 LL Protocol Regulation 16(5) (a) & (b))		Oct 2003			
LL67	Endorsement of Certificates with the Date of Completion of the Survey on which they are Based		Rev.1 Nov 2005			
LL68	Position of Freeboard Deck on Float On/Float Off Barge Carriers (Regulation 3((9))		Rev.1 July 2008			
LL69	Interpretation to 1966 ICLL Reg. 27		Rev.1 July 2008			
LL70	Corrosion Margin for Hatch Cover Design		Jan 2005			
LL71	Similar Stage of Construction		Rev.1 July 2008			
LL72	Interpretation to ICLL Regulation 27		Sept 2005			
LL73	under development					
LL74	Measurement of distances		Aug 2008			
LL75	Permeability of Store Space in the Damage Stability Calculation (Regulation 27(3) & (8.d.))		Rev.1 Mar 2009			
LL76	Initial Statutory Surveys at New Construction		Corr.1 Jul 2010			

LL1 Application (Article (4))

(1968)
(Rev.1
July 2008)

Even where the increase in draught is only of the order of 1 in or 2 in there should be no relaxation from the condition that existing ships comply with all the requirements.

Footnote: This UI is also applicable to the revised Article 4 of the 1966 Convention as modified by its 1988 Protocol.

End of Document

LL2 Depth for freeboard (Regulation 3(6))

(1968)
(Rev.1
July 2008)

The correction for thickness of sheathing on the exposed freeboard deck $T(L-S)/L$ is applicable only when deck is completely sheathed between superstructures. In other cases the correction should be T/l , where l = length of sheathed area which extends from side to side. Only wood sheathing should be considered.

Footnote: This UI is also applicable to Regulation 3(6) of the 1988 Protocol.

End of Document

LL3

(1968)
(Rev.1
July 2008)

Superstructure (Regulation 3 (10)(b))

A bridge or poop shall not be regarded as enclosed unless access is provided for the crew starting from any point on the uppermost complete exposed deck or higher to reach machinery and other working spaces inside these superstructures by alternative means which are available at all times when bulkhead openings are closed.

Footnote: This UI is also applicable to Regulation 3(10)(b) of the 1988 Protocol.

End of Document

LL4 Details of marking (Regulation 8)

(1968)
(Rev.1
July 2008)

'Permanently marked' is considered to include welding of the marks on the sides of the ship provided the usual precautions as to material, electrodes, etc. are observed.

Footnote: This UI is also applicable to Regulation 8 of the 1988 Protocol and the revised 1988 Protocol.

End of Document

LL5 Doors (Regulation 12)

(1968)
(Rev.1
July 2008)

- (a) Doors should generally open outwards to provide additional security against the impact of the sea. Doors which open inwards are to be especially approved.
- (b) Portable sills should be avoided. However, in order to facilitate the loading/unloading of heavy spare parts or similar, portable sills may be fitted on the following conditions:
- (i) They must be installed before the ship leaves port.
 - (ii) Sills are to be gasketed and fastened by closely spaced through bolts.
 - (iii) Whenever the sills are replaced after removal, the weathertightness of the sills and the related doors must be verified by hose testing. The dates of removal, replacing and hose testing shall be recorded in the ship's log book.

Footnotes:

1. This UI is also applicable to Regulation 12 of 1988 Protocol.
2. Paragraph (b)(iii) of this UI is also applicable to Regulation 12 of the revised 1988 Protocol.

End of Document

LL6

(1968)
(Rev.1
May 1999)
(Rev.2
July 2004)
(Rev.3
July 2008)

Hatchways closed by weather tight covers of steel or other equivalent material fitted with gaskets and clamping devices (Regulations 16 and 27(7)(c))

Regulation 16:

Where hatchways are fitted with coamings of standard height, no extra strengthening (beyond what is required in the Load Line Convention) shall be required for covers loaded with cargo, even if dense cargo, provided the load does not exceed 1,75 ton/m² (in position 1)*.

Regulation 27(7)(c):

No extra strengthening is recommended for hatchway covers on vessels* which are assigned freeboards less than those based on Table B, except for flush hatchway covers which are fitted on the freeboard deck forward of the quarter length, in which case the section modulus and the moment of inertia shall be increased 15% over that required by Regulation 16.

***Bulk Carriers:**

For the hatch covers on Bulk Carriers, as defined in UR Z11.2.2, contracted for construction on or after 1 July 1998, the hatch cover load and strength requirements are to be in accordance with IACS Unified Requirement S21, "Evaluation of Scantlings of Hatch Covers of Bulk Carrier Cargo Holds".

Note:

1. The "contracted for construction" date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of "contract for construction", refer to IACS Procedural Requirement (PR) No. 29.

Footnote: This UI is also applicable to Regulations 16 and 27(8)(c) of the 1988 Protocol.

End of Document

LL7

(1968)
(Rev.1
June
2002)
(Rev.2
July 2008)

Machinery space openings (Regulations 17(1), 26(1), 27(8) and 27(9))

Where casings are not protected by other structures, double doors should be required for type A or type B ships assigned freeboards less than those based on Table B. An inner sill of 230 mm in conjunction with the outer sill of 600 mm is recommended.

Note: Changes introduced in Rev. 1 are to be uniformly implemented by IACS Members and Associates from 1 January 2003.

Footnotes:

1. This UI is also applicable to Regulations 17(1), 26(1), 27(9) and 27(10) of the 1988 Protocol;
2. "Based on Table B" means without any reduction in accordance with Regulation 27(8) or (9) of the 1966 ICLL or Regulation 27(9) or (10) of the 1988 Protocol.

End of Document

LL8

(1968)
(Rev.1
July 2008)

Miscellaneous openings in freeboard and superstructure decks (Regulation 18(2) & 18(3))

1. Regulation 18(2):

(a) Only those doorways in deckhouses leading to or giving access to companionways leading below, need to be fitted with doors in accordance with Regulation 12.

(b) Alternatively, if stairways within a deckhouse are enclosed within properly constructed companionways fitted with doors complying with Regulation 12, the external door need not be watertight.

(c) Where an opening in a superstructure deck or in the top of a deckhouse on the freeboard deck which gives access to a space below the freeboard deck or to a space within an enclosed superstructure is protected by a deckhouse, then it is considered that only those side scuttles fitted in spaces which give direct access to an open stairway need be fitted with deadlights in accordance with Regulation 23. A cabin is considered to provide adequate protection against the minimal amount of water which will enter through a broken side scuttle glass fitted on the second tier.

2. Regulation 18(3):

In the application of Regulation 18 it is understood that:

(i) where access is provided from the deck as an alternative to access from the freeboard deck in accordance with Regulation 3(10)(b) then the height of sills into a bridge or poop should be 380 mm. The same consideration should apply to deckhouses on the freeboard deck.

(ii) where access is not provided from above, the height of the sills to doorways in a poop bridge or deckhouse on the freeboard deck should be 600 mm.

(iii) where the closing appliances of access openings in superstructures and deckhouses are not in accordance with Regulation 12, interior deck openings are to be considered exposed, i.e. situated in the open deck.

Footnotes:

1. This UI is also applicable to Regulation 18(2) and 18(3) of the 1988 Protocol.
2. Paragraphs 1 (c) and 2 (ii) of this UI are also applicable to Regulation 18(2) and (6) of the revised 1988 Protocol respectively.

End of Document

LL9 Deleted
(1968)

End of
Document

LL10 Air pipes (Regulation 20)

(1968)
(Rev.1
July 2008)

For ships assigned timber freeboards the air pipes should be provided with automatic closing appliances.

Footnote: This UI is also applicable to Regulation 20 of the 1988 Protocol.

End of Document

LL11 Scuppers, inlets and discharges (Regulation 22(1))

(1968)
(Rev.1
1990)
(Rev.2
1994)
(Rev.3
July 2008)

It is considered that an acceptable equivalent to one automatic non-return valve with a positive means of closing from a position above the freeboard deck would be one automatic non-return valve and one sluice valve controlled from above the freeboard deck.

Where two automatic non-return valves are required, the inboard valve must always be accessible under service condition, i.e., the inboard valve should be above the level of the tropical load water line. If this is not practicable, then, provided a locally controlled sluice valve is interposed between the two automatic non-return valves, the inboard valve need not to be fitted above the LWL.

Where sanitary discharges and scuppers lead overboard through the shell in way of machinery spaces, the fitting to shell of a locally operated positive closing valve, together with non-return valve inboard, is considered to provide protection equivalent to the requirements of Regulation 22(1).

It is considered that the requirements of Regulation 22(1) for non-return valves are applicable only to those discharges which remain open during the normal operation of a vessel. For discharges which must necessarily be closed at sea, such as gravity drains from topside ballast tanks, a single screw down valve operated from the deck is considered to provide efficient protection.

The inboard end of a gravity discharge which leads overboard from an enclosed superstructure or space is to be located above the water line formed by a 5 degree heel, to port or starboard, at a draft corresponding to the assign summer freeboard.

It is considered that the position of the inboard end of discharges should be related to the timber summer load waterline when timber freeboard is assigned.

Refer to the attached Table for the acceptable arrangements of scuppers, inlets, and discharges.

For garbage chutes it is considered that an acceptable equivalent to the non-return valve with a positive means of closing from a position above the freeboard deck would be two gate valves controlled from the working deck of the chute. The lowest gate valve should, in addition, be controlled from a position above the freeboard deck. An interlock system between the two valves should be arranged.

It is recommended that the inboard end be located above the waterline formed by an 8.5 degree heel, to port or starboard, at a draft corresponding to the assigned summer freeboard, but not less than 1000 mm above the summer waterline.

Where the inboard end of the garbage chute exceeds 0.01L above the summer waterline, valve control from the freeboard deck is not required, provided the inboard gate valve is always accessible under service conditions.

Footnote: This UI is also applicable to Regulation 22(1) of the 1988 Protocol.

LL11
(cont)

The distance between the two gate valves should be adequate to allow the smooth operation of the interlock system.

Alternatively, the upper gate valve may be replaced by a hinged weathertight cover at the inboard end of the chute together with a discharge flap which replaces the lower gate valve.

The cover and flap are to be arranged with an interlock so that the discharge flap cannot be operated until the hopper cover is closed.

The chute is to be constructed of material of substantial thickness up to, and including, the cover.

The gate valve(s) controls and/or hinged cover are to be clearly marked: "Keep closed when not in use".

Where the inboard end of a garbage chute is below the margin line in a passenger ship, or the critical (crucial) waterline of a cargo ship of more than 100 m in length then:

- (i) the inboard end hinged cover/valve is to be watertight.
- (ii) the valve is to be a screw-down non-return valve fitted in an easily accessible position above the deepest subdivision load line.
- (iii) the screw-down non-return valve is to be controlled from a position above the bulkhead deck and provided with open/shut indicators. The valve control is to be clearly marked: "Keep closed when not in use".

Where plastic pipes are used for sanitary discharges and scuppers, they are also subject to the requirements of the Table, and the valve at the shell is to be operated from outside the space in which the valve is located.

Where such plastic pipes are located below the summer waterline (timber summer load waterline), the valve is to be operated from a position above the freeboard deck.

The portion of discharge line from the shell to the first valve as well as shell fittings and valves shall be of steel, bronze or other approved ductile material.

The approval of plastic piping in any location will be subject to the consideration of strength and fire hazards involved with special reference to penetrations through bulkheads, decks or other significant compartment boundaries.

Attention must also be paid to valid fire technical regulations.

LL11 – The Table

Discharges coming from enclosed spaces below the freeboard deck or on the freeboard deck		Discharges coming from other spaces	
General requirement Reg. 22(1) where inboard end < 0.01L above SWL	Discharges coming from enclosed spaces below the freeboard deck or on the freeboard deck	Discharges coming from other spaces	Discharges coming from other spaces
Discharges through machinery space	Alternatives (Reg. 22(1)) where inboard end > 0.02L above SWL	outboard end > 450mm below FB deck or < 600mm above SWL Reg. 22(3)	otherwise Reg. 22(4)
<p>Superstructure or Deckhouse Deck</p> <p>FB Deck</p> <p>SWL</p> <p>1</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>2</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>3</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>4</p>
<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>5</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>6</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>7</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>8</p>
<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>9</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>10</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>11</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>12</p>
<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>13</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>14</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>15</p>	<p>FB Deck</p> <p>FB Deck</p> <p>SWL</p> <p>16</p>
<p>SWL</p> <p>SWL</p> <p>17</p>	<p>SWL</p> <p>SWL</p> <p>18</p>	<p>SWL</p> <p>SWL</p> <p>19</p>	<p>SWL</p> <p>SWL</p> <p>20</p>
<p>SWL</p> <p>SWL</p> <p>21</p>	<p>SWL</p> <p>SWL</p> <p>22</p>	<p>SWL</p> <p>SWL</p> <p>23</p>	<p>SWL</p> <p>SWL</p> <p>24</p>
<p>SWL</p> <p>SWL</p> <p>25</p>	<p>SWL</p> <p>SWL</p> <p>26</p>	<p>SWL</p> <p>SWL</p> <p>27</p>	<p>SWL</p> <p>SWL</p> <p>28</p>
<p>SWL</p> <p>SWL</p> <p>29</p>	<p>SWL</p> <p>SWL</p> <p>30</p>	<p>SWL</p> <p>SWL</p> <p>31</p>	<p>SWL</p> <p>SWL</p> <p>32</p>
<p>SWL</p> <p>SWL</p> <p>33</p>	<p>SWL</p> <p>SWL</p> <p>34</p>	<p>SWL</p> <p>SWL</p> <p>35</p>	<p>SWL</p> <p>SWL</p> <p>36</p>
<p>SWL</p> <p>SWL</p> <p>37</p>	<p>SWL</p> <p>SWL</p> <p>38</p>	<p>SWL</p> <p>SWL</p> <p>39</p>	<p>SWL</p> <p>SWL</p> <p>40</p>
<p>SWL</p> <p>SWL</p> <p>41</p>	<p>SWL</p> <p>SWL</p> <p>42</p>	<p>SWL</p> <p>SWL</p> <p>43</p>	<p>SWL</p> <p>SWL</p> <p>44</p>
<p>SWL</p> <p>SWL</p> <p>45</p>	<p>SWL</p> <p>SWL</p> <p>46</p>	<p>SWL</p> <p>SWL</p> <p>47</p>	<p>SWL</p> <p>SWL</p> <p>48</p>
<p>SWL</p> <p>SWL</p> <p>49</p>	<p>SWL</p> <p>SWL</p> <p>50</p>	<p>SWL</p> <p>SWL</p> <p>51</p>	<p>SWL</p> <p>SWL</p> <p>52</p>
<p>SWL</p> <p>SWL</p> <p>53</p>	<p>SWL</p> <p>SWL</p> <p>54</p>	<p>SWL</p> <p>SWL</p> <p>55</p>	<p>SWL</p> <p>SWL</p> <p>56</p>
<p>SWL</p> <p>SWL</p> <p>57</p>	<p>SWL</p> <p>SWL</p> <p>58</p>	<p>SWL</p> <p>SWL</p> <p>59</p>	<p>SWL</p> <p>SWL</p> <p>60</p>
<p>SWL</p> <p>SWL</p> <p>61</p>	<p>SWL</p> <p>SWL</p> <p>62</p>	<p>SWL</p> <p>SWL</p> <p>63</p>	<p>SWL</p> <p>SWL</p> <p>64</p>
<p>SWL</p> <p>SWL</p> <p>65</p>	<p>SWL</p> <p>SWL</p> <p>66</p>	<p>SWL</p> <p>SWL</p> <p>67</p>	<p>SWL</p> <p>SWL</p> <p>68</p>
<p>SWL</p> <p>SWL</p> <p>69</p>	<p>SWL</p> <p>SWL</p> <p>70</p>	<p>SWL</p> <p>SWL</p> <p>71</p>	<p>SWL</p> <p>SWL</p> <p>72</p>
<p>SWL</p> <p>SWL</p> <p>73</p>	<p>SWL</p> <p>SWL</p> <p>74</p>	<p>SWL</p> <p>SWL</p> <p>75</p>	<p>SWL</p> <p>SWL</p> <p>76</p>
<p>SWL</p> <p>SWL</p> <p>77</p>	<p>SWL</p> <p>SWL</p> <p>78</p>	<p>SWL</p> <p>SWL</p> <p>79</p>	<p>SWL</p> <p>SWL</p> <p>80</p>
<p>SWL</p> <p>SWL</p> <p>81</p>	<p>SWL</p> <p>SWL</p> <p>82</p>	<p>SWL</p> <p>SWL</p> <p>83</p>	<p>SWL</p> <p>SWL</p> <p>84</p>
<p>SWL</p> <p>SWL</p> <p>85</p>	<p>SWL</p> <p>SWL</p> <p>86</p>	<p>SWL</p> <p>SWL</p> <p>87</p>	<p>SWL</p> <p>SWL</p> <p>88</p>
<p>SWL</p> <p>SWL</p> <p>89</p>	<p>SWL</p> <p>SWL</p> <p>90</p>	<p>SWL</p> <p>SWL</p> <p>91</p>	<p>SWL</p> <p>SWL</p> <p>92</p>
<p>SWL</p> <p>SWL</p> <p>93</p>	<p>SWL</p> <p>SWL</p> <p>94</p>	<p>SWL</p> <p>SWL</p> <p>95</p>	<p>SWL</p> <p>SWL</p> <p>96</p>
<p>SWL</p> <p>SWL</p> <p>97</p>	<p>SWL</p> <p>SWL</p> <p>98</p>	<p>SWL</p> <p>SWL</p> <p>99</p>	<p>SWL</p> <p>SWL</p> <p>100</p>
<p>SWL</p> <p>SWL</p> <p>101</p>	<p>SWL</p> <p>SWL</p> <p>102</p>	<p>SWL</p> <p>SWL</p> <p>103</p>	<p>SWL</p> <p>SWL</p> <p>104</p>
<p>SWL</p> <p>SWL</p> <p>105</p>	<p>SWL</p> <p>SWL</p> <p>106</p>	<p>SWL</p> <p>SWL</p> <p>107</p>	<p>SWL</p> <p>SWL</p> <p>108</p>
<p>SWL</p> <p>SWL</p> <p>109</p>	<p>SWL</p> <p>SWL</p> <p>110</p>	<p>SWL</p> <p>SWL</p> <p>111</p>	<p>SWL</p> <p>SWL</p> <p>112</p>
<p>SWL</p> <p>SWL</p> <p>113</p>	<p>SWL</p> <p>SWL</p> <p>114</p>	<p>SWL</p> <p>SWL</p> <p>115</p>	<p>SWL</p> <p>SWL</p> <p>116</p>
<p>SWL</p> <p>SWL</p> <p>117</p>	<p>SWL</p> <p>SWL</p> <p>118</p>	<p>SWL</p> <p>SWL</p> <p>119</p>	<p>SWL</p> <p>SWL</p> <p>120</p>
<p>SWL</p> <p>SWL</p> <p>121</p>	<p>SWL</p> <p>SWL</p> <p>122</p>	<p>SWL</p> <p>SWL</p> <p>123</p>	<p>SWL</p> <p>SWL</p> <p>124</p>
<p>SWL</p> <p>SWL</p> <p>125</p>	<p>SWL</p> <p>SWL</p> <p>126</p>	<p>SWL</p> <p>SWL</p> <p>127</p>	<p>SWL</p> <p>SWL</p> <p>128</p>
<p>SWL</p> <p>SWL</p> <p>129</p>	<p>SWL</p> <p>SWL</p> <p>130</p>	<p>SWL</p> <p>SWL</p> <p>131</p>	<p>SWL</p> <p>SWL</p> <p>132</p>
<p>SWL</p> <p>SWL</p> <p>133</p>	<p>SWL</p> <p>SWL</p> <p>134</p>	<p>SWL</p> <p>SWL</p> <p>135</p>	<p>SWL</p> <p>SWL</p> <p>136</p>
<p>SWL</p> <p>SWL</p> <p>137</p>	<p>SWL</p> <p>SWL</p> <p>138</p>	<p>SWL</p> <p>SWL</p> <p>139</p>	<p>SWL</p> <p>SWL</p> <p>140</p>
<p>SWL</p> <p>SWL</p> <p>141</p>	<p>SWL</p> <p>SWL</p> <p>142</p>	<p>SWL</p> <p>SWL</p> <p>143</p>	<p>SWL</p> <p>SWL</p> <p>144</p>
<p>SWL</p> <p>SWL</p> <p>145</p>	<p>SWL</p> <p>SWL</p> <p>146</p>	<p>SWL</p> <p>SWL</p> <p>147</p>	<p>SWL</p> <p>SWL</p> <p>148</p>
<p>SWL</p> <p>SWL</p> <p>149</p>	<p>SWL</p> <p>SWL</p> <p>150</p>	<p>SWL</p> <p>SWL</p> <p>151</p>	<p>SWL</p> <p>SWL</p> <p>152</p>
<p>SWL</p> <p>SWL</p> <p>153</p>	<p>SWL</p> <p>SWL</p> <p>154</p>	<p>SWL</p> <p>SWL</p> <p>155</p>	<p>SWL</p> <p>SWL</p> <p>156</p>
<p>SWL</p> <p>SWL</p> <p>157</p>			

LL12 Side scutters (Regulation 23)

(1968)

Deleted (July 2008)

End of
Document

LL13 Freeing ports (Regulation 24(1) and 24(5))

(1968)
(Rev.1
July 2008)

Regulation 24(1):

On a flush deck ship with a substantial deckhouse amidships it is considered that the deckhouse provides sufficient break to form two wells and that each could be given the required freeing port area based upon the length of the 'well'. It would not then be allowed to base the area upon 0.7L.

In defining a substantial deckhouse it is suggested that the breadth of the deckhouse should be at least 80% of the beam of the vessel, and that the passageways along the side of the ship should not exceed 1.5 m (4.9 ft) in width.

Where a screen bulkhead is fitted completely across the vessel, at the forward end of a midship deck house, this would effectively divide the exposed deck into wells and no limitation on the breadth of the deckhouse is considered necessary in this case.

It is considered that wells on raised quarterdecks should be treated as previously, i.e. as being on freeboard decks.

Regulation 24(5):

With zero or little sheer on the exposed freeboard deck or an exposed superstructure deck it is considered that the freeing port area should be spread along the length of the well.

Footnote: This UI is also applicable to Regulation 24(1) and 24(5) of the 1988 Protocol.

End of Document

LL14 Protection of the crew (Regulation 25(2))

(1968)

(Rev.1

July 2008)

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

Footnote: This UI is also applicable to Regulation 25(2) of the 1988 Protocol and the revised 1988 Protocol.

End of Document

LL15 Length of superstructure (Regulation 34(1) and 34(2))

(1968)
(Rev.1
1993)
(Rev.2
July 2003)
(Rev.3
July 2008)

Regulation 34(1):

Where a superstructure bulkhead is recessed, the effective length of the superstructure shall be reduced by an amount equivalent in area to the area of the recess related to the breadth of the ship at the mid-length of the recess.

Where the recess is unsymmetrical about the centre line, the largest portion of the recess shall be considered as applying to both sides of the ship.

It is considered that such a recess need not be decked over.

Where a cargo hatchway, complying with the requirements of regulation 16 and having a coaming height that extends above the level of the superstructure deck, is fitted in the recess and covering the whole area of the recess, the hatchway may be taken into account as forming a part of the superstructure, and the effective length of the superstructure need not be reduced by the amount equivalent in area to the area of the recess.

The hatchway coaming height shall be in accordance with Regulation 16(1), measured from the superstructure deck level.

Regulation 34(2):

Where there is an extension to a superstructure, which extension has a breadth on each side of the centre line at least 30% of the breadth of the ship, the effective length of the superstructure may be increased by considering an equivalent superstructure bulkhead in the form of a parabola. This parabola should extend from the extension at the centre line and pass through the junction of the actual superstructure bulkhead with the sides of the extension and extend to the sides of the ship. This parabola should be completely contained within the boundary of the superstructure and its extensions.

If the superstructure is set-in from the side, up to the limit allowed under Regulation 3(10), the equivalent bulkhead should be calculated on the basis of the actual breadth of the superstructure (not the breadth of the ship).

Note: Changes introduced in Rev.2 (July 2003) are to be uniformly implemented by IACS Members and Associates from 1 January 2004.

Footnotes:

1. This UI is also applicable to Regulation 34(1) and 34(2) of the 1988 Protocol.
2. Changes introduced in Rev.2 (July 2003) are also applicable to Regulation 34(1) of the revised 1988 Protocol.

End of Document

LL16 Sheer (Regulation 38)

(1968)
(Rev.1
July 2008)

Where the height of a superstructure is less than standard, paragraph 12 may be applied except that the superstructure deck shall not be less than the minimum height of the superstructure above the virtual shear curve at any point.

For this purpose y shall be taken as the difference between the actual and minimum height of the superstructure at the end of sheer.

Footnote: This UI is also applicable to Regulation 38 of the 1988 Protocol.

End of Document

LL17 Minimum bow height (Regulation 39(1) and 39(2))

(1968)
(Corr.
1996)
(Corr.1
June
2006)
(Corr.2
Oct 2007)
(Rev.1
July 2008)

When a ship built on or after 21 July 1968 is arranged to suit exceptional operational requirements such that the forecastle and/or sheer forward do not meet the provisions of paragraphs (1) and (2) of Regulation 39 of the 1966 ICLL, the increase of calculated summer freeboard may, with the concurrence of the Administration, be determined in the following ways.

Nomenclature

$\Delta E_0 \geq 0$	Bow height penalty
$S_{\min} =$	$H_{\min} - \text{fbd}_s$
H_{\min}	Minimum bow height calculated according to paragraph (1) of this Regulation
fbd_s	Summer freeboard
$d \leq 0.15L$	Extent of sheer (measured from FP)
$l_F \leq 0.07L$	Mean covered length of forecastle
h	Height of forecastle measured at FP from zero sheer line
S_{FP}	Actual sheer measured at FP
S_{BHD}	Actual sheer in way of forecastle bulkhead
$S_1 = S_{\min} \left(\frac{0.15L - l_F}{0.15L} \right)^2$	Theoretical sheer in way of forecastle bulkhead corresponding to S_{\min}
$S_2 = h \left(\frac{0.15L - l_F}{0.15L} \right)^2$	Theoretical sheer in way of forecastle bulkhead corresponding to h

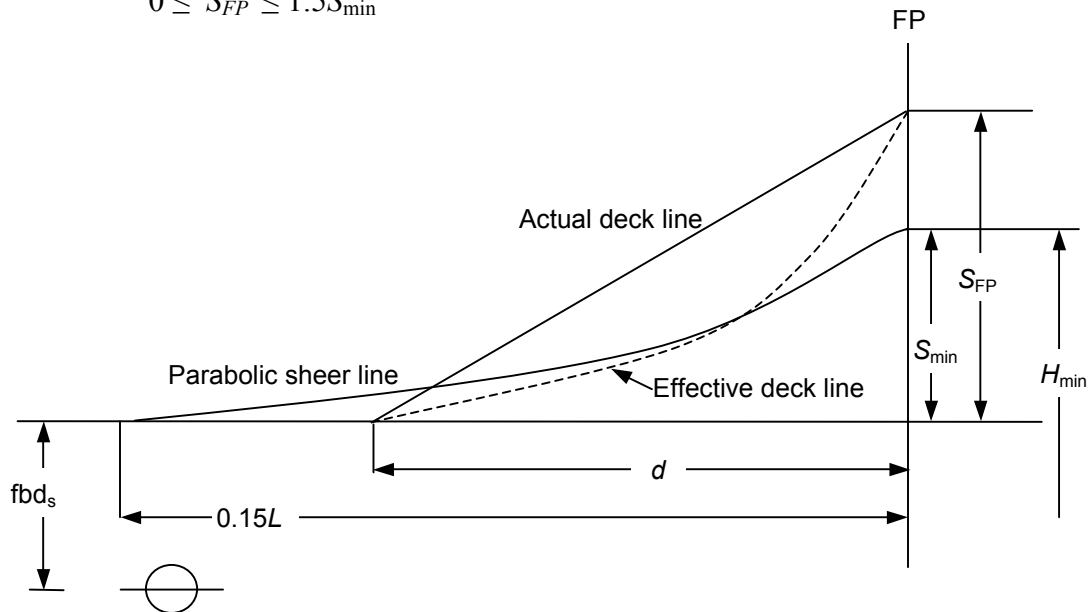
Note: This UI may also be applied to Regulation 39(1) and 39(2) of the 1988 Protocol and the revised 1988 Protocol upon the special consideration by the Administration.

LL17
(cont)

- a) Where no forecastle is fitted and the sheer forward extends less than $0.15L$ from fore perpendicular (FP):

$$\Delta E_0 = S_{\min} - S_{FP} \frac{d}{0.15L} \geq 0$$

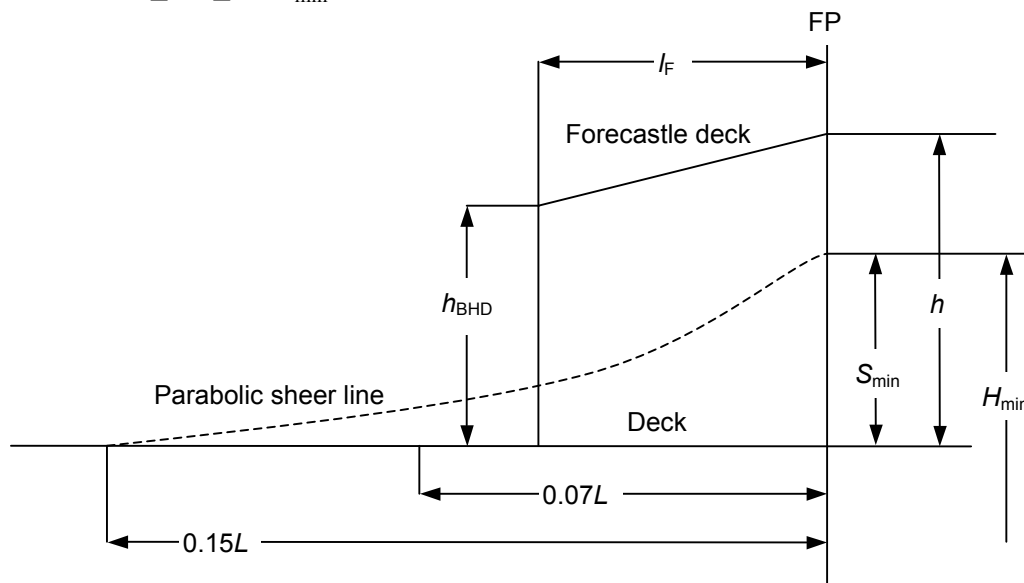
$$0 \leq S_{FP} \leq 1.5S_{\min}$$



- (b) Where there is no sheer on the forward part of the freeboard deck, and the forecastle length is less than $0.07L$ from FP:

$$\Delta E_0 = S_{\min} - h \frac{l_F}{0.07L} \geq 0$$

$$0 \leq h \leq 1.5S_{\min}$$



The height of the forecastle at the bulkhead position shall not be less than the ordinate, at that point, of a parabolic sheer curve having an ordinate S_{\min} at the

LL17

(cont)

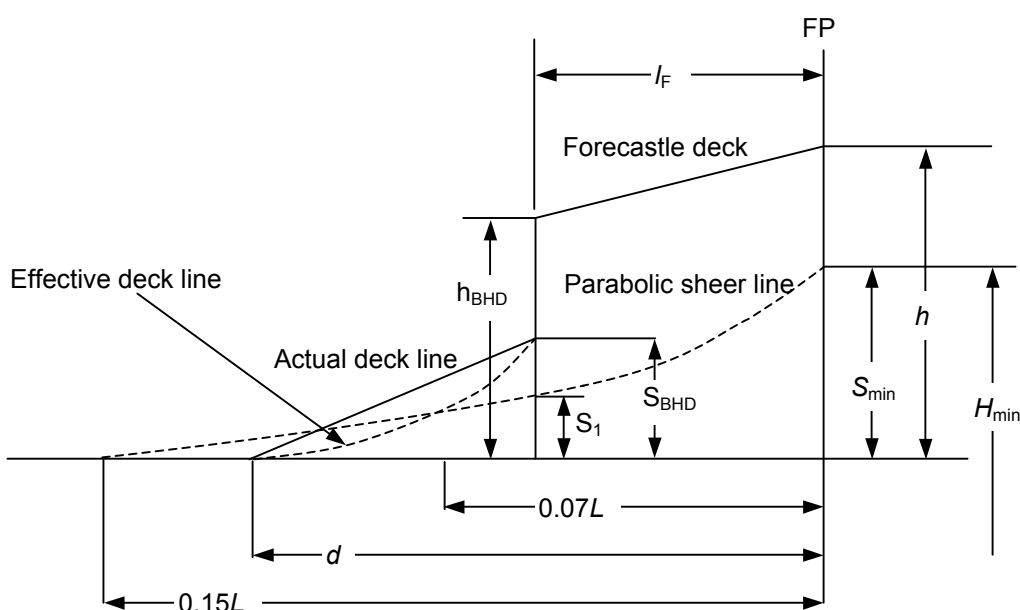
forward perpendicular and extending aft for a distance of $0.15L$ from the forward perpendicular.

- (c) Where the shear forward extends less than $0.15L$ and the length of forecastle is less than $0.07L$ from FP:

(i) $S_{\min} \leq h \leq 1.5S_{\min}$

$$0 \leq S_{BHD} \leq 1.5S_1$$

$$\Delta E_0 = S_{\min} \left(1 - \frac{h}{S_{\min}} \frac{l_F}{0.07L} \right) \left(1 - \frac{S_{BHD}}{S_1} \frac{d - l_F}{0.15L - l_F} \right) \geq 0$$



Conditions:

$$\left. \begin{array}{l} \left(1 - \frac{h}{S_{\min}} \frac{l_F}{0.07L} \right) \\ \left(1 - \frac{S_{BHD}}{S_1} \frac{d - l_F}{0.15L - l_F} \right) \end{array} \right\} \text{not to be taken negative (less than zero)}$$

The height of the forecastle at bulkhead must satisfy the same conditions as in subparagraph (b) of this paragraph.

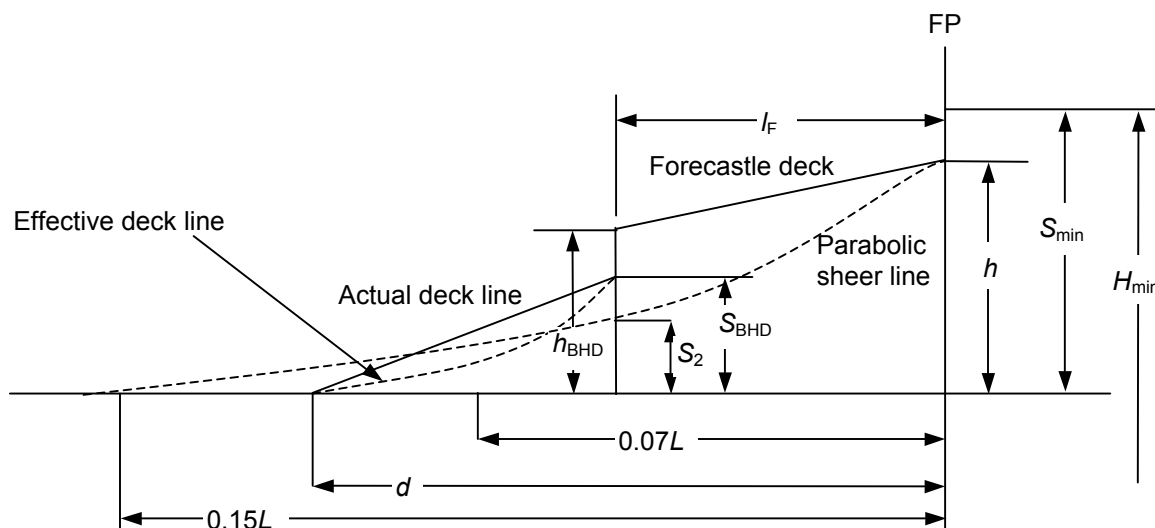
LL17

(cont)

(ii) $h \leq S_{\min}$

$0 \leq S_{BHD} \leq 1.5S_2$

$$\Delta E_0 = (S_{\min} - h) + h \left(1 - \frac{l_F}{0.07L} \right) \left(1 - \frac{S_{BHD}}{S_2} \frac{d - l_F}{0.15L - l_F} \right) \geq 0$$



Conditions:

$$\left. \begin{array}{l} \left(1 - \frac{l_F}{0.07L} \right) \\ \left(1 - \frac{S_{BHD}}{S_2} \frac{d - l_F}{0.15L - l_F} \right) \end{array} \right\} \text{not to be taken negative (less than zero)}$$

The height of the forecastle at the bulkhead position shall not be less than the ordinate, at that point, or a parabolic sheer curve having an ordinate h at the forward perpendicular and extending aft for a distance of $0.15L$ from the forward perpendicular.

In general, this interpretation should be applied to existing ships only. However, to suit exceptional operational requirements, and upon the special consideration by the Administration, the provision of this interpretation may also be applied to new ships.

End of Document

LL18 Freeboard tables (Regulation 28)

(1968)
(Rev.1
July 2008)

(a) Type A ships

(i) Freeboards for Type A ships with lengths between 365 m and 400 m shall be determined by the following formula:

$$f = 221 + 16,10L - 0,02L^2$$

where f is the freeboard in mm

L is the length as defined in Regulation 3(1).

(ii) Freeboards for Type A ships with lengths of 400 m and above shall be the constant value, 3460 mm.

(b) Type B ships

(i) Freeboards for Type B ships with lengths between 365 m and 400 m shall be determined by the following formula:

$$f = - 587 + 23L - 0,0188L^2$$

where f is the freeboard in mm

L is the length as defined in Regulation 3(1).

(ii) Freeboards for Type B ships with lengths of 400 m and above shall be the constant value, 5605 mm.

Footnote: This UI is also applicable to Regulation 28 of the 1988 Protocol and the revised 1988 Protocol.

End of Document

LL19 Form of certificates (Article 18)

(1972)
(Rev.1
July 2008)

It is recommended that the model form of certificates given in Annex III of the Load Line Convention should be strictly adhered to and any deviations from this pattern should be avoided.

Footnote: This UI is also applicable to Article 18 of the 1988 Protocol and the revised 1988 Protocol.

End of Document

LL20

(1972)
(Rev.1
July 2008)

Hatch beams and cover stiffeners of variable cross section (Regulations 15(4), 15(5), 15(6), 15(7) and 16)

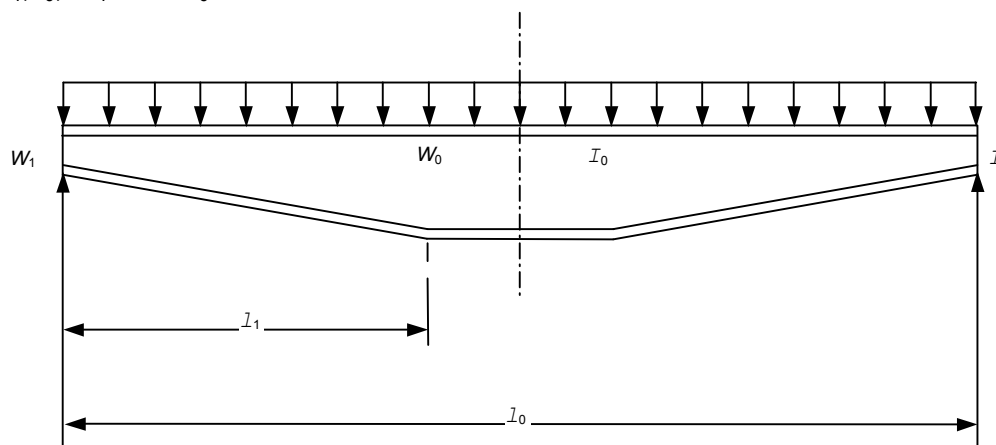
To avoid stresses and deflections exceeding those given in the above Regulations along construction elements of variable cross section, the required section modulus calculated as for constriction elements of constant cross section is to be increased by a factor K expressed by:

$$K = 1 + \frac{3.2\alpha - \gamma - 0.8}{7 + 0.4}$$

where $\alpha = l_1/l_0$, $\gamma = W_1/W_0$

The value of factor K obtained by the formula is not to be less than unity.

l_1 , l_0 , W_1 and W_0 are indicated on the sketch below:



The moment of inertia is likewise to be increased by the factor C expressed by:

$$C = 1 + 8\alpha^3 \frac{1 - \beta}{0.2 + 3\sqrt{\beta}}$$

where $\alpha = l_1/l_0$, $\beta = I_1/I_0$

The value factor of C obtained by the formula is not to be less than unity.

I_1 and I_0 are indicated on the sketch above.

The use of the above formulae is limited to the determination of the strength of hatch beams and covers in which abrupt changes in the section of the face material do not occur along the length of the beam or cover.

Footnote: This UI is also applicable to Regulations 15(4), 15(5), 15(6), 15(7) and 16 of the 1988 Protocol.

End of
Document

LL21 Cargo ports or similar openings below the uppermost load line (Regulation 21(2))

(1972)
(Rev.1
July 2008)

It is recommended that cargo ports or similar openings may be accepted submerged provided the safety of the ship is in no way impaired. It is considered that the fitting of a second door of equivalent strength and watertightness is one acceptable arrangement. In that case leakage detection device should be provided in the compartment between the two doors. Further, drainage of this compartment to the bilges controlled by an easily accessible screw down valve, should be arranged. The outer door should preferably open outwards.

Footnote: This UI is also applicable to Regulation 21(2) of the 1988 Protocol.

End of Document

LL22

(1972)
(Rev.1
July 2008)

**Position of the inboard end of discharges when
timber freeboard is assigned (Regulation 22(1))**

It is considered that the position of the inboard end of discharges should be related to the timber summer load waterline when timber freeboard is assigned.

Footnotes:

1. This UI is also applicable to Regulation 22(1) of the 1988 Protocol.
2. This UI is also applicable to Regulation 22-1 of the revised 1988 Protocol.

End of Document

LL23 Freeing arrangement (1972) (Rev.1 July 2008)

(Regulations 26(5), 27(7) and 36(1)(e))

1. Regulation 27(7): Freeing arrangements on ships having reduced B freeboard assigned and fitted with bulwarks on the freeboard deck

For Type B ships with freeboards reduced by not more than 60% of the difference between B and A tables there shall be freeing port area in the lower part of the bulwarks equal to at least 25% of the total area of the bulkwarks. The upper edge of the sheer strake shall be kept as low as possible.

2. Regulations 26(5) and 36(1)(e): Freeing arrangements for Type A ships and Type B ships with trunks

It is considered that a freeing port area, in the lower part of the bulwarks, of 33% of the total area of the bulwarks provides the 'other effective freeing arrangements' mentioned in Regulation 26(5), and may be considered equivalent to the 50% open rails in way of trunks required by Regulation 36(1)(e).

Footnotes:

1. This UI is also applicable to Regulations 26(5), 27(8) and 36(1)(e) of the 1988 Protocol.
2. Paragraph 1 of this UI is also applicable to Regulation 27(8) of the revised 1988 Protocol.

End of Document

LL24 Negative depth correction (Regulation 31(3))

(1972)
(Rev.1
July 2008)

When the height of a superstructure, raised quarterdeck or trunk is less than the corresponding standard height, it is recommended that the calculated reduction be corrected in the ratio of the height of the actual superstructure, raised quarterdeck or trunk to the applicable standard height as defined in Regulation 33.

Footnote: This UI is also applicable to Regulation 31(3) of the 1988 Protocol and the revised 1988 Protocol.

End of Document

LL25 Effective length of raised quarterdeck (Regulation 35(4))

(1972)
(Rev.1
July 2008)

It is recommended that the maximum effective length of $0.6L$ of a raised quarterdeck which is stipulated by Regulation 35(4), is to be measured from the after perpendicular even where a poop is fitted in conjunction with the raised quarterdeck.

Footnote: This UI is also applicable to Regulation 35(4) of the 1988 Protocol.

End of Document

LL26 Continuous hatchways as trunk (Regulation 36)

(1972)
Rev.1
1983)
(Rev.2
July 2008)

It is recommended that continuous hatchways may be treated as a trunk in the freeboard computation provided Regulation 36 is complied with in all respects.

The trunk deck stringer referred to in Regulation 36(1)(b) may be fitted outboard of the trunk side bulkhead in association with the following:

- (i) The stringer so formed is to provide a clear walkway of at least 450 mm in width on each side of the ship.
- (ii) The stringer is to be of solid plate efficiently supported and stiffened.
- (iii) The stringer is to be as high above the freeboard deck as practicable. In the freeboard calculation, the trunk height is to be reduced by at least 600 mm or by the actual difference between the top of the trunk and the stringer, whichever is greater.
- (iv) Hatch cover securing appliances are to be accessible from the stringer or walkway.
- (v) The breadth of the trunk is to be measured between the trunk side bulkheads.
- (vi) Regulation 36 is to be complied with in all other respects.

Footnote: This UI is also applicable to Regulation 36 of the 1988 Protocol.

End of Document

LL27

(1972)
(Rev.1
July 2008)

**Less than standard hatch coamings on trunks
of less than standard height (Regulation 36(4))**

In the case where the trunk height is less than standard and the trunk hatch coamings are also of less than standard height, or omitted entirely, doubt may arise whether the trunk hatchways are located in position 1 or position 2 and, consequently, about the reduction to be made in the actual trunk height. It is considered that in these cases the reduction from the actual height of trunk on account of insufficient hatch coaming height shall be taken as the difference between 600 mm and the actual height of coaming, or 600 mm if no hatch coamings are fitted. Reduction in the actual height of trunk shall not be required in cases where only small hatches with less than standard height coamings are fitted in the trunk deck for which dispensation from the requirement of standard coaming height may be given.

Footnote: This UI is applicable to Regulation 36(4) of the 1988 Protocol.

End of Document

LL28 Deduction for superstructures and trunks (Regulations 37 and 38(12))

(1972)
(Rev.1
July 2008)

For the purpose of applying the table 'Percentage of Deduction for Type B ships' in Regulation 37(2) it is considered that any detached superstructure abaft midship whose after bulkhead is located $0.05L$ or more forward of the after perpendicular may be treated as a detached bridge.

A superstructure whose after bulkhead is located within $0.05L$ from the after perpendicular shall not qualify as a detached bridge.

Any excess in the height of such a superstructure, which does not extend to the after perpendicular, cannot be regarded as contributing to the sheer allowance contemplated in Regulation 38(12).

Footnote: This UI is applicable to Regulations 37 and 38(12) of the 1988 Protocol.

End of Document

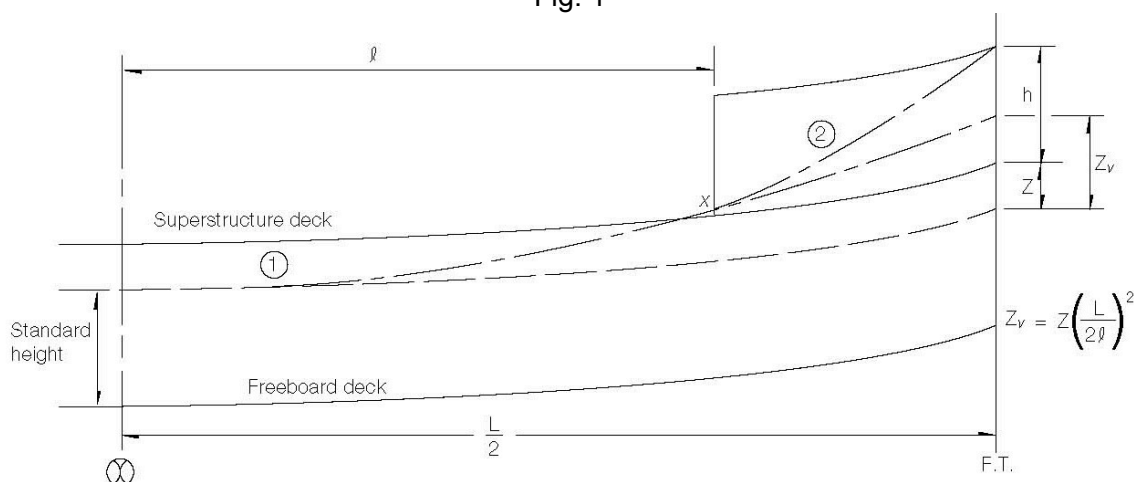
LL29 Shear Credit for Superimposed Superstructures (Regulation 38(5), 38(7) and 38(12))

(1972)
(Rev.1
1983)
(Rev.2
July 2008)

- (a) **Regulation 38(5):** Superstructures superimposed on a complete superstructure.

In applying Regulation 38(5) (sheer on a complete superstructure ship) where there is an enclosed poop or forecastle superimposed on a complete superstructure, sheer credit shall be allowed for such a poop or forecastle, according to the method of Regulation 38(12) as shown in Fig 1.

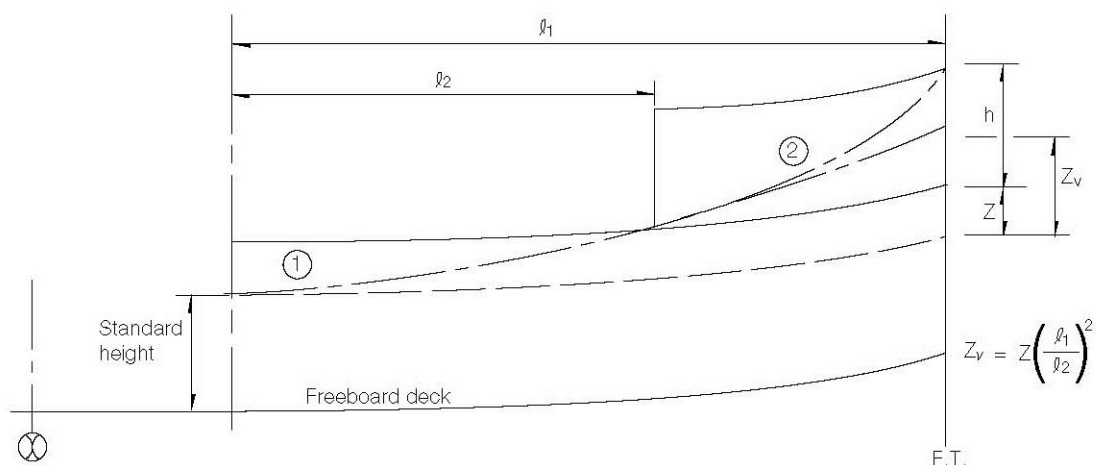
Fig. 1



- (b) **Regulation 38(7):** Superstructures superimposed on a forecastle or poop (i.e. a stepped forecastle or poop).

In applying Regulation 38(7) and 38(12) where a poop or forecastle consists of two layers, the method shown in Fig 2 shall be used:

Fig. 2



Footnote: This UI is applicable to Regulations 38(5), 38(7) and 38(12) of the 1988 Protocol.

LL29
(cont)

In the above the following definitions apply:

Z is as per Regulation 38(5).

Z_v is the end ordinate of a virtual standard parabolic curve taken through the point "X". If Z_v is greater than $(Z+h)$, the end ordinate shall be $(Z+h)$, in which case point "X" shall be disregarded and curve (2) not taken into account.

When the length of the first tier superstructure is greater than $0.5L$, the virtual standard parabolic curve shall commence at amidships as indicated in Fig 1.

End of Document

LL30 Sheer allowance for excess height of superstructure (Regulations 38(7) and 38(12))

(1972)
(Rev.1
July 2008)

As Regulation 38(7) and (12) does not refer to a raised quarter deck it is recommended that credit under this paragraph be given for this type of superstructure only when the height of the raised quarterdeck is greater than the standard height of 'other superstructures' as defined in Regulation 33, and only for the amount by which the actual height of the raised quarterdeck exceeds that standard height.

Footnote: This UI is applicable to Regulations 38(7) and 38(12) of the 1988 Protocol.

End of Document

LL31 Deduction for excess sheer (Regulation 38(15))

(1972)
(Rev.1
July 2008)

Since no stipulation is made as to the height of the superstructure referred to in Regulation 38(15), it is recommended that the height of this superstructure shall be related to its standard height. When the height of the superstructure or raised quarterdeck is less than standard, the reduction shall be in the ratio of the actual to the standard height thereof.

Footnote: This UI is applicable to Regulation 38(15) of the 1988 Protocol.

End of Document

LL32 Special requirements for vehicle ferries,
(1972) **ro-ro ships and other ships of similar type**

Withdrawn Oct 2007, re-categorised as UI SC220 (NEW Oct 2007)

End of
Document

LL33
(1972)
(Rev.1
July 2008)

Timber freeboards for ships having reduced Type B freeboards assigned (Regulations 45(2) and 45(3))

It is understood that some Administrations accept that timber freeboards may be assigned to ships with reduced Type B freeboards, provided the timber freeboards are calculated on the basis of the ordinary Type B freeboard.

It is recommended that Regulation 45(2) and (3) is interpreted or, if necessary, amended such that the Timber Winter mark and/or the Timber Winter North Atlantic mark are placed at the same level as the reduced Type B Winter mark when the computed Timber Winter mark and/or the computed Timber Winter North Atlantic mark fall below the reduced Type B Winter mark.

Footnote: This UI is applicable to Regulations 45(2) and 45(3) of the 1988 Protocol.

End of Document

LL34 Freeboard for lighters and barges (Regulation 27(11) of 1966 ILLC)

(1972)
(Corr.1
July 2008)

In applying Regulation 27(11) to deck cargo barges it is recommended that only Type B freeboard can be assigned, even if the barges possess the same integrity of exposed decks and equivalent safety against flooding as normal tank barges.

This view is taken as a result of the consideration that Type A freeboard can only be assigned to liquid cargo barges.

It is further concluded that deck cargo can only be carried on barges to which Type B freeboard is assigned.

End of Document

LL35

(1972)
(Corr.1
July 2008)

**Stowage of timber deck cargo on ships having
timber freeboards assigned (Regulations 44
and 45)**

It is recommended that for the purpose of applying Regulation 45 the timber deck cargo shall extend as far outboard as possible due allowance being given for obstructions such as guard rails, stanchions, uprights, etc.

End of Document

LL36 Minimum wall thickness of pipes (Regulations 19, 20 and 22)

(1975)
(Rev.1
1978)
(Rev.2
July 2008)

For pipes covered by the above Regulations the following minimum wall thicknesses are recommended:

- (a) (i) For scupper and discharge pipes, where substantial thickness is not required;
and
(ii) For venting pipes other than specified under (c):
- external diameter of pipes equal to or less than 155 mm: thickness not less than 4,5 mm
 - external diameter of pipes equal to or more than 230 mm: thickness not less than 6,0 mm
- intermediate sizes are to be determined by linear interpolation.
- (b) For scupper and discharge pipes where substantial thickness is required:
- external diameter of pipes equal to or less than 80 mm: thickness not less than 7,0 mm
 - external diameter of pipes 180 mm: thickness not less than 10,0 mm
 - external diameter of pipes equal to or more than 220 mm: thickness not less than 12,5 mm
- intermediate sizes are to be determined by linear interpolation.
- (c) For venting pipes in position 1 and 2 leading to spaces below the freeboard deck or to spaces within enclosed superstructures:
- external diameter of pipes equal to or less than 80 mm: thickness not less than 6,0 mm
 - external diameter of pipes equal to or more than 165 mm: thickness not less than 8,5 mm
- intermediate sizes are to be determined by linear interpolation.

Footnotes:

1. This UI is also applicable to Regulations 19, 20 and 22 of the 1988 Protocol.
2. Paragraphs (a)(ii) and (c) are also applicable to Regulations 19 and 20 of the revised 1988 Protocol.

End of Document

LL37 Superstructures with sloping end bulkheads (Regulations 34, 35 and 38(12))

(1975)
(Rev.1
1983)
(Corr.
1996)
(Rev.2
July 2008)

When taking account of superstructures which have sloping end bulkheads in the calculations of freeboards, such superstructures shall be dealt with in the following manner:

(a) Regulation 34

- (i) When the height of the superstructure, clear of slope, is equal to or smaller than the standard height, length S is to be obtained as shown in Fig. 1.
- (ii) When the height is greater than the standard, length S is to be obtained as shown in Fig 2.
- (iii) The foregoing will apply only when the slope, related to the base line, is 15° or greater. Where the slope is less than 15° , the configuration will be treated as sheer.

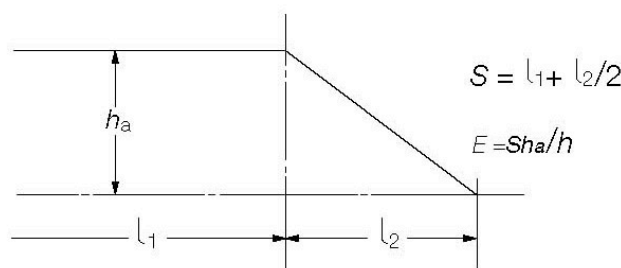


Fig. 1 Height of superstructure equal to or smaller than the standard height h

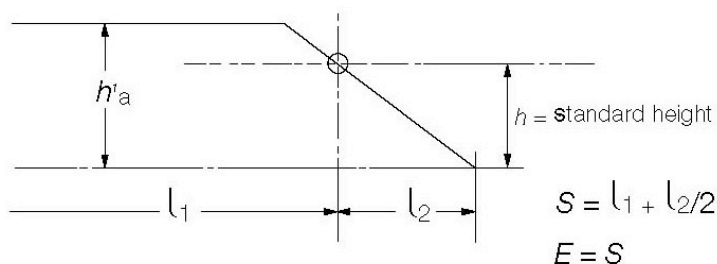


Fig. 2 Height of superstructure greater than the standard height

(b) Regulation 35

When the height of the superstructure, clear of the slope, is less than the standard height, its effective length E shall be its length S as obtained from (a)(i), reduced in the ratio of the actual height to the standard height.

Footnote: This UI is also applicable to Regulations 34, 35 and 38(12) of the 1988 Protocol.

LL37
(cont)**(c) Regulation 38(12)**

When a poop or a forecastle has sloping end bulkheads, the sheer credit may be allowed on account of excess height, the formula given in Regulation 38(12) shall be used, the values for y and L' being as shown in Fig 3.

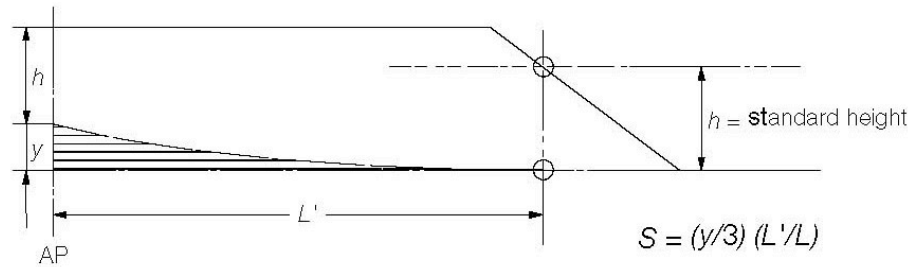


Fig. 3 Sheer credit s for excess height

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LL38 Bow Height (Regulation 39(2))

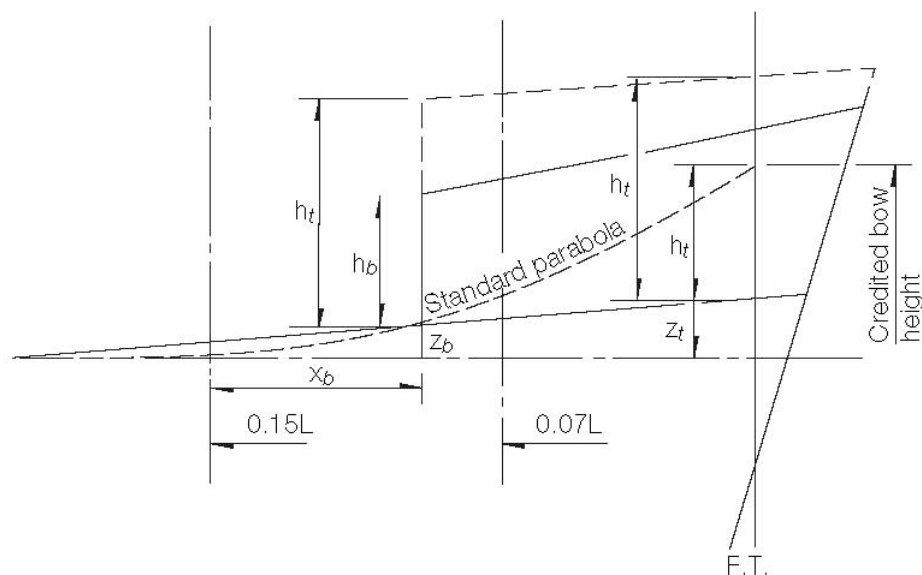
(1976)
 (Rev.1
 1983)
 (Corr.1
 Jun 2006)
 (Rev.2
 July 2008)

1. When calculating bow height, the sheer of the forecastle deck may be taken into account, even if the length of the forecastle is less than $0.15L$, but greater than $0.07L$, provided that the forecastle height is not less than one half of standard height of superstructure as defined in Regulation 33 between $0.07L$ and the forward terminal.
2. Where the forecastle height is less than one half of standard height of superstructure, as defined in Regulation 33, the credited bow height may be determined as follows (Figs 1 and 2 illustrate the intention of 2.1 and 2.2 respectively):

2.1 When the freeboard deck has sheer extending from abaft $0.15L$, by a parabolic curve having its origin at $0.15L$ abaft the forward terminal at a height equal to the midship depth of the ship, extended through the point of intersection of forecastle bulkhead and deck, and up to a point at the forward terminal not higher than the level of the forecastle deck. However, if the value of the height denoted h_t on Fig 1 is smaller than the value of the height denoted h_b , then h_t may be replaced in the available bow height.

2.2 When the freeboard deck has sheer extending for less than $0.15L$ or has no sheer, by a line from the forecastle deck at side at $0.07L$ extended parallel to the base line to the forward terminal.

Fig.1

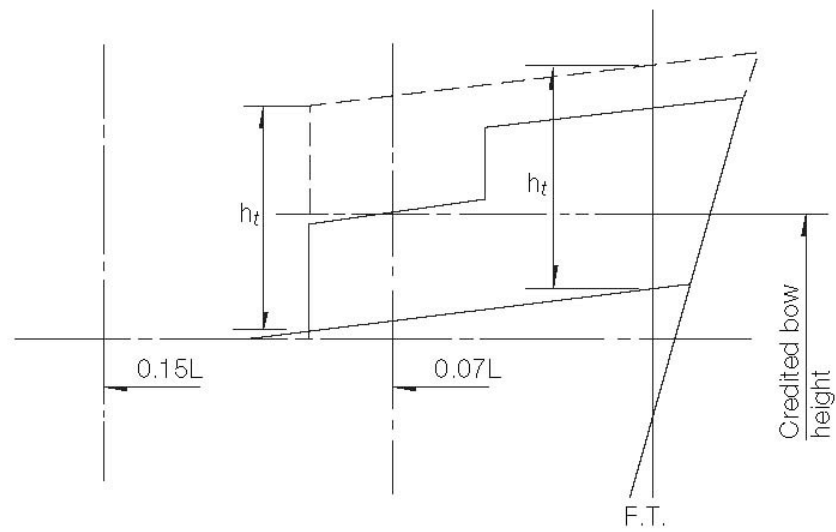


Footnote: This UI is applicable to Regulation 39(2) of the 1988 Protocol.

LL38

(cont)

Fig. 2



h_f = Half standard height of superstructure as defined in regulation 33.

$$h_t = Z_b \left(\frac{0.15L}{x_b} \right)^2 - Z_t$$

End of
Document

LL39 Structure of a lower freeboard deck (Regulation 3(9))

(1977)
(Rev.1
July 2008)

When a lower deck is designated as the freeboard deck, it shall be continuous in fore and aft direction as well as athwartships. Such a freeboard deck as a minimum shall consist of suitable framed stringers at the ship sides and transversely at each watertight bulkhead which extends to the upper deck, within cargo spaces. The width of these stringers shall not be less than can be conveniently fitted having regard to the structure and the operation of the ship. Any arrangement of stringers shall be such that structural requirements can also be met.

NOTE

Member Societies formulated this Interpretation in order to have a guide when judging whether a structure below the uppermost complete deck can be designated as a freeboard deck in terms of Regulation 3(9) for the application of tonnage regulations. This was done, although it is obvious that such a structure has no significance with regard to the philosophy of the Load Line Convention.

Nevertheless it is felt that it would be preferable if tonnage and load line matters could be clearly separated by deleting from the Load Line Convention the reference to a lower deck being designated as the freeboard deck.

Footnote: This UI is also applicable to Regulation 3(9) of the 1988 Protocol.

End of Document

LL40 Security of hatch covers (Regulation 15(13))

(1977)
(Rev.1
1980)
(Rev.2
July 2008)

Acceptable equivalent means to steel bars shall consist of devices and materials which will provide strength equivalent to, and elasticity not greater than that of, steel.

Steel wire ropes cannot be regarded as satisfactory equivalent means.

Care is to be taken that tarpaulins are adequately protected from the possibility of damage arising from the use of securing devices which do not provide a flat bearing surface.

Footnotes:

1. This UI is also applicable to Regulation 15(13) of the 1988 Protocol.
2. This UI is also applicable to Regulation 15(12) of the revised 1988 Protocol.

End of Document

LL41 Trunks (Regulations 29, 36 and 38)

(1978)
(Rev.1
July 2008)

- (a) Where the length of a trunk, corrected for breadth and height as may be appropriate, can be included in the effective length used for calculating the correction for superstructures in accordance with Regulation 37, it shall not be taken into account for calculating the total length S for the purpose of sheer correction according to Regulation 38(13).
- (b) The effective length of superstructures E which is used for calculating the freeboard correction according to Regulation 29 shall be determined excluding the length of trunks.
- (c) The inclusion of a trunk in the calculation of freeboard need not prohibit the fitting of openings in the bulkheads of adjacent superstructures such as poops, bridges or forecastles provided there is no direct communication between the superstructure and the trunk.
- (d) The sides of a trunk included in the calculations of freeboard shall be intact. Side scuttles of the non-opening type and bolted manhole covers may be allowed.

Footnote: This UI is also applicable to Regulations 29, 36 and 38 of the 1988 Protocol.

End of Document

LL42 Access openings on barges (Regulation 27(11))

(1978)
(Rev.1
July 2008)

(a) Since Regulation 27(11) does not contain any indication as to what size the term 'small access openings' refers it is recommended that such openings should not be greater than 1,5 m² where a freeboard reduction of 25% is granted.

(b) Access plates are considered as being equivalent to an intact deck for unmanned barges, thereby allowing for a 25% reduction in freeboard, provided they are secured by closely spaced bolts, their joining parts are properly gasketed and their arrangements, for all practical purposes, have equivalent structural integrity and tightness as an intact deck.

Footnote: This UI is also applicable to Regulation 27(14)(c) of the 1988 Protocol and the revised 1988 Protocol.

End of Document

LL43 Minimum bow height (Regulation 39)

(1978)
(Rev.1
July 2008)

On ships to which timber freeboards are assigned Regulation 39 should relate to the summer load waterline and not to the timber summer load waterline.

Footnote: This UI is also applicable to Regulation 39 of the 1988 Protocol.

End of Document

LL44 Freeing ports (Regulation 24(3))

(1978)
(Rev.1
July 2008)

The effectiveness of the freeing area in bulwarks required by Regulation 24(1) and (2) depends on free flow across the deck of a ship. Where there is no free flow due to the presence of a continuous trunk or hatchway coaming, the freeing area in bulwarks is calculated in accordance with Regulation 24(3).

The free flow area on deck is the net area of gaps between hatchways, and between hatchways and superstructures and deck houses up to the actual height of the bulwark.

The freeing port area in bulwarks should be assessed in relation to the net flow area as follows:

- i. If the free flow area is not less than the freeing area calculated from Regulation 24(3) as if the hatchway coamings were continuous, then the minimum freeing port area calculated from Regulation 24(1) and (2) should be deemed sufficient.
- ii. If the free flow area is equal to, or less than the area calculated from Regulations 24(1) and (2), then the minimum freeing area in the bulwarks should be determined from Regulation 24(3).
- iii. If the free flow area is smaller than that calculated from Regulation 24(3), but greater than that calculated from Regulation 24(1) and (2), the minimum freeing area in the bulwark should be determined from the following formula:

$$F = F_1 + F_2 - f_p \text{ (m}^2\text{)}$$

where F_1 is the minimum freeing area calculated from Regulations 24(1) and (2),
 F_2 is the minimum freeing area calculated from Regulation 24(3),
 f_p is the total net area of passages and gaps between hatch ends and superstructures or deckhouses up to the actual height of bulwark.

Footnote: This UI is also applicable to Regulation 24(3) of the 1988 Protocol.

End of Document

LL45 Presentation of stability data (Regulation 10(2))

(1978)
(Rev.1
1984)
(Rev.2
Aug 2008)

Regulation 10(2) of 1966 Convention and 1988 Protocol requires that:

"The master of every new ship which is not already provided with stability information under an international convention for the safety of life at sea in force shall be supplied with sufficient information in an approved form to give him guidance as to the stability of the ship under varying conditions of service, and a copy shall be furnished to the Administration."

Regulation 10(2) of the revised 1988 Protocol requires that:

"Information shall be provided to the master in a form that is approved by the Administration or a recognised organization. Stability information, and loading information also related to ship strength when required under paragraph (1), shall be carried on board at all times together with evidence that the information has been approved by the Administration."

Interpretation

To ensure that ships are provided with meaningful information which accords with the sense of Regulation 10(2) a document containing such information is to be prepared on the basis of MSC Circular 920.

Additionally full details of the stability criteria appropriate to the ship under all anticipated conditions of service shall be clearly stated in text supplemented as necessary by diagrams using the nomenclature adopted in the document.

Where requirements for wind and/or wave forces and ice accretion are specified by the administration full details are to be given.

Footnotes:

1. Rev.2 of this Unified Interpretation is to be applied by all Members and Associates on ship with a contract for construction on or after 1 September 2008.
2. The "contracted for construction" date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of "contract for construction", refer to IACS Procedural Requirement (PR) No. 29.

End of Document

LL46 Protection of openings in raised quarterdecks (Regulation 18(2) and Interpretation LL8)

(1979)

(Rev.1

1980)

(Rev.2

1997)

(Rev.3

July 2008)

Regarding the requirement to protect openings in superstructures (Regulation 18(2)) it is considered that openings in the top of a deckhouse on a raised quarterdeck, or on the deck of a superstructure or on the deck of a deckhouse of less than standard height, having a height equal to or greater than the standard quarterdeck height are to be provided with an acceptable means of closing but need not be protected by an efficient deckhouse or companionway as defined in the regulation provided the height of the deckhouse is at least the height of superstructure.

Footnote: This UI is also applicable to Regulation 18(2) of the 1988 Protocol.

End of Document

LL47 Guard Rails

(1979)
 (Rev.1
 1980)
 (Rev.2
 June
 2006)
 (Rev.2.1
 Oct 2006)
 (Corr.1
 Oct 2007)
 (Rev.3
 July 2008)

Content

- A. Guard Rails (Regulation 25(2) and (3) of 1966 ICLL and the 1988 Protocol)
- B. Guard Rails (Regulation 25(3)(b) of the 1988 Protocol to the ICLL 1966 as amended by resolution MSC.143(77))

A. Guard Rails (Regulation 25(2) and (3) of 1966 ICLL and the 1988 Protocol)

Regulation 25(2) and (3) of 1966 ICLL read:

(2) Efficient guard rails or bulwarks shall be fitted to all exposed parts of the freeboard and superstructure decks. The height of the bulwarks or guard rails shall be at least 1 m (39 inches) from the deck, provided that where this height would interfere with the normal operation of the ship, a lesser height may be approved if the Administration is satisfied that adequate protection is provided.

(3) The opening below the lowest course of the guard rails shall not exceed 230 mm (9 inches). The other courses shall be not more than 380 mm (15 inches) apart. In the case of ships with rounded gunwales the guard rail supports shall be placed on the flat of the deck.

Interpretation

- (a) Fixed, removable or hinged stanchions shall be fitted about 1,5 m apart.
- (b) At least every third stanchion shall be supported by a bracket or stay. In lieu of this, flat steel stanchions shall be of increased breadth as given in Figure 1, and aligned with member below deck unless the deck plating thickness exceeds 20 mm.
- (c) Wire ropes may only be accepted in lieu of guard rails in special circumstances and then only in limited lengths.
- (d) Lengths of chain may only be accepted in lieu of guard rails if they are fitted between two fixed stanchions and/or bulwarks.
- (e) The openings between courses should be in accordance with Regulation 25(3) of the Convention.

Note:

1. Rev.2 was withdrawn in Nov 2006, to remove ambiguity in referencing relevant regulations.
2. Rev.2.1 of this UI is to be uniformly applied by IACS Societies to ships contracted for construction on or after 1 April 2007. However, Societies are not precluded from applying this UI before such date.
3. The "contracted for construction" date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of "contract for construction", refer to IACS Procedural Requirement (PR) No. 29.

LL47

(cont'd)

- (f) Wires shall be made taut by means of turnbuckles.
- (g) Removable or hinged stanchions shall be capable of being locked in the upright position.

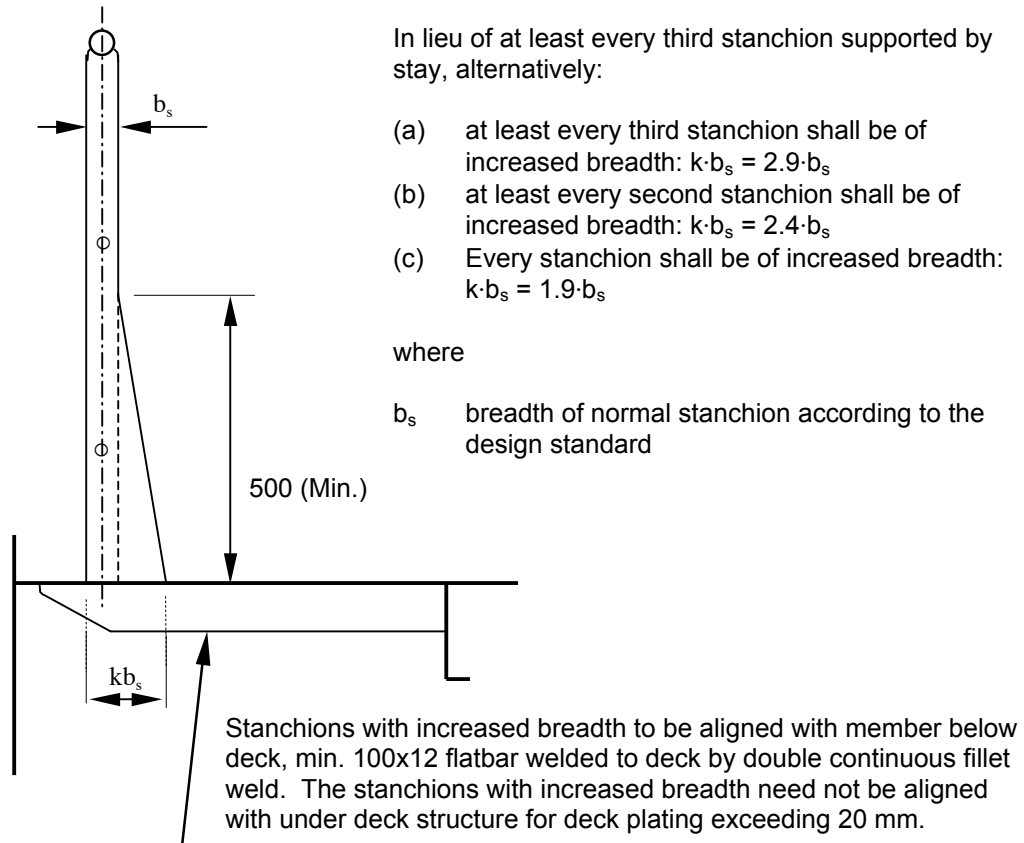


Fig. 1 Guardrail stanchion of increased breadth, welded to deck with double continuous fillet weld with leg size of min. 7 mm or as specified by the design standard.

B. Guard Rails (Regulation 25(3)(b) of the 1988 Protocol to the ICLL 1966 as amended by resolution MSC.143(77))

Regulation 25(3)(b) of the 1988 Protocol to the ICLL 1966 as amended by resolution MSC.143(77) reads:

- (b) At least every third stanchion shall be supported by a bracket or stay.

Interpretation

As alternate arrangements (required by Regulation 25(3)(b)), flat steel stanchions shall be of increased breadth as given in Figure 1, and aligned with member below deck unless the deck plating thickness exceeds 20 mm.

End of
Document

LL48

(1980)
(Rev.1
1983)
(Rev.2
July 2008)

Moulded Depth (Regulation 3(5)(c) and 3(9) and Freeboard Calculation (Regulation 40(1))**Discontinuous Freeboard Deck, Stepped Freeboard Deck.**

1. Where a step exists in the freeboard deck, creating a discontinuity extending over the full breadth of the ship, and this step is in excess of one metre in length, Reg 3(9) shall apply. (Fig 1). A step one metre or less in length shall be treated as a recess in accordance with paragraph 2.
2. Where a recess is arranged in the freeboard deck, and this recess does not extend to the side of the ship, the freeboard calculated without regard to the recess is to be corrected for the consequent loss of buoyancy. The correction would be equal to the value obtained by dividing the volume of the recess by the waterplane area of the ship at 85% of the least moulded depth. (Fig 2).
 - 2.1 The correction would be a straight addition to the freeboard obtained after all other corrections have been applied, except bow height correction.
 - 2.2 Where the freeboard, corrected for lost buoyancy as above, is greater than the minimum geometric freeboard determined on the basis of a moulded depth measured to the bottom of the recess, the latter value may be used.
3. Recesses in a second deck, designated as the freeboard deck, may be disregarded in this Interpretation provided all openings in the weather deck are fitted with weathertight closing appliances.
4. Due regard is to be given to the drainage of exposed recesses and to free surface effects on stability.
5. This Interpretation is not intended to apply to dredgers, hopper barges or other similar types of ships with large open holds, where each case would require individual consideration.

Footnotes:

1. This UI is also applicable to Regulations 3(5)(c), 3(9) and 40(1) of 1988 Protocol.
- 2 Paragraph 1 should be replaced with the following sentence: "A step one metre or less in length shall be treated as a recess in accordance with Reg. 32-1." when this UI applies to the revised 1988 Protocol. Paragraphs from 2 to 5 are not applicable to the revised 1988 Protocol.

LL48

(cont)

Fig. 1 (Para. 1)

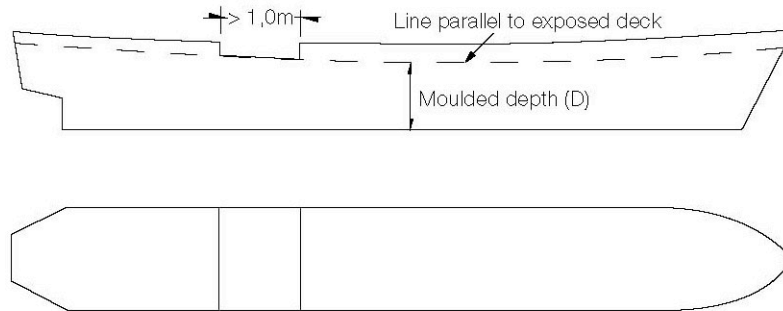
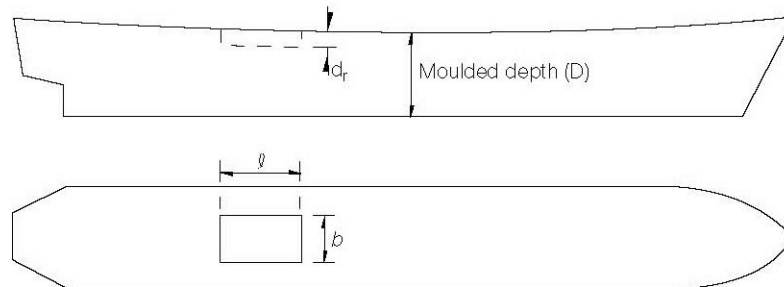


Fig. 2 (Para. 2)



Correction is addition to freeboard equal to:

$$\frac{l \times b \times d_r}{\text{WP Area @ } 0,85D}$$

End of Document

LL49 Air pipe closing devices (Regulation 20)

(1980)
(Rev.1
July 2008)

Where required by Regulation 20 air pipe closing devices shall be weathertight. Closing devices shall be automatic if, while the vessel is at its draught corresponding to summer load line, the openings of air pipes to which these closures are fitted submerge at angles up to 40° or up to a lesser angle which may be agreed on the basis of stability requirements. Pressure-vacuum valves (PV valves) may, however, be accepted on tankers.

Wooden plugs and trailing canvas hoses shall not be accepted in position 1 and position 2.

NOTE

The Member Societies in formulating this interpretation realise that pressure-vacuum valves (PV valves) presently installed on tankers do not theoretically provide complete watertightness. In view, however, of experience of this type of valve and the position in which they are normally fitted it was considered they could be accepted.

Footnotes:

1. This UI is also applicable to Regulation 20 of 1988 Protocol.
2. The first and last sentences of this UI are also applicable to Reg.20(3) of the revised 1988 Protocol.

End of Document

LL50

(1982)
 (Rev. 1
 1986)
 (Rev. 2
 1997)
 (Rev. 3
 1998)
 (Rev. 4.1
 October
 1998)
 (Rev. 5
 July 2008)

Protection of Crew (Load Line Convention Regulation 25(4), 26(2) and 27(7) and SOLAS II-1/3-3)

When applying Regulation 25(4), 26(2) and 27(7) of the ICLL 1966, as well as Regulation II-1/3-3 of SOLAS the protection of crew should be provided at least one of the means denoted in the table given below:

Type of Ship	Locations of access in Ship	Assigned Summer Freeboard	Acceptable arrangements according to type of freeboard assigned:			
			Type A	Type B-100	Type B-60	Type B&B+
All Ships other than Oil Tankers*, Chemical Tankers* and Gas Carriers*	1.1. Access to Midship Quarters	≤ 3000 mm	a b e	a b e	a b c(1) e f(1)	a b c(1) c(2) c(4) d(1) d(2) d(3) e f(1) f(2) f(4)
	1.1.1. Between poop and bridge, or					
	1.1.2. Between poop and deckhouse containing living accommodation or navigating equipment, or both.	> 3000 mm	a b e	a b e	a b c(1) c(2) e f(1) f(2)	
	1.2 Access to Ends	≤ 3000 mm	a b c(1) e f(1)	a b c(1) c(2) e f(1) f(2)	a b c(1) c(2) e f(1) f(2)	
	1.2.1. Between poop and bow(if there is no bridge),					
	1.2.2. Between bridge and bow, or					
	1.2.3. Between a deckhouse containing living accommodation or navigating equipment, or both, and bow, or	> 3000 mm	a b c(1) d(1) e f(1)	a b c(1) c(2) d(1) d(2) e f(1) f(2)	a b c(1) c(2) c(4) d(1) d(2) d(3) e f(1) f(2) f(4)	
	1.2.4. In the case of a flush deck vessel, between crew accommodation and the forward and after ends of ship.					

Footnotes:

1. This UI will be applied by all Members and Associates for ships that are subject to the referenced ICLL and SOLAS Regulations.
2. This UI is also applicable to Regulations 25(4), 26(2) and 27(8) of 1988 Protocol.

LL50

(cont)

Oil Tankers*, Chemical Tankers* and Gas Carriers*	2.1 Access to Bow		a
	2.1.1. Between poop and bow, or	$\leq (A_f + H_s)^{**}$	e f(1) f(5)
	2.1.2. Between a deckhouse containing living accommodation or navigating equipment, or both, and bow, or		a e f(1) f(2)
	2.1.3. In the case of a flush deck vessel, between crew accommodation and the forward ends of ship.	$> (A_f + H_s)^{**}$	
	2.2 Access to After End		
	In the case of a flush deck vessel, between crew accommodation and the after end of ship		as required in 1.2.4 for other types of ships

* Oil Tankers, Chemical Tanker and Gas Carrier as defined in SOLAS II-1/2.12, VII/8.2 and VII/11.2 respectively

** A_f : the minimum summer freeboard calculated as type A ship regardless of the type freeboard actually assigned.

H_s : the standard height of superstructure as defined in ICLL Regulation 33.

Note: Deviations from some or all of these requirements or alternative arrangements for such cases as ships with very high gangways (i.e. certain gas carriers) may be allowed subject to agreement case-by-case with the relevant flag Administration.

For oil tanker, as defined in SOLAS II-1/2.12, chemical tankers as defined in SOLAS VII/8.2 or gas carriers as defined in SOLAS VII/11.2, constructed before 1st July 1998, existing arrangements which complied with (b) or (c) may be accepted in lieu of (e) or (f) provided such existing arrangements are fitted with shelters and means of access to and from the deck as required for the arrangements (e) or (f) as defined below.

For tankers less than 100 m in length, the minimum width of the gangway platform or deck level walkway fitted in accordance with arrangement (e) or (f), respectively, may be reduced to 0.6 m.

Acceptable arrangements referred to in the table are defined as follows:

(a) A well lighted and ventilated under-deck passageway (clear opening 0.8 m wide, 2.0 m high) as close as practicable to the freeboard deck, connecting and providing access to the locations in question.

(b) A permanent and efficiently constructed gangway fitted at or above the level of the superstructure deck on or as near as practicable to the centre line of the ship, providing a continuous platform at least 0.6 m in width and a non-slip surface, with guard rails extending on each side throughout its length. Guard rails shall be at least 1 m high with courses as required in Load Line Regulation 25(3), and supported by stanchions spaced not more than 1.5 m; a foot-stop shall be provided.

(c) A permanent walkway at least 0.6 m in width fitted at freeboard deck level consisting of two rows of guard rails with stanchions spaced not more than 3 m. The number of courses of rails and their spacing are to be as required by Regulation 25(3). On Type B ships, hatchway coamings not less than 0.6 m in height may be regarded as forming one side of the walkway, provided that between the hatchways two rows of guard rails are fitted.

LL50

(cont)

(d) A 10 mm minimum diameter wire rope lifeline supported by stanchions about 10 m apart, or

A single hand rail or wire rope attached to hatch coamings, continued and adequately supported between hatchways.

(e) A permanent and efficiently constructed gangway fitted at or above the level of the superstructure deck on or as near as practicable to the centre line of the ship:

- located so as not to hinder easy access across the working areas of the deck;
- providing a continuous platform at least 1.0 m in width;
- constructed of fire resistant and non-slip material;
- fitted with guard rails extending on each side throughout its length; guard rails should be at least 1.0 m high with courses as required by Regulation 25(3) and supported by stanchions spaced not more than 1.5 m;
- provided with a foot stop on each side;
- having openings, with ladders where appropriate, to and from the deck. Openings should not be more than 40 m apart;
- having shelters of substantial construction set in way of the gangway at intervals not exceeding 45 m if the length of the exposed deck to be traversed exceeds 70 m. Every such shelter should be capable of accommodating at least one person and be so constructed as to afford weather protection on the forward, port and starboard sides.

(f) A permanent and efficiently constructed walkway fitted at freeboard deck level on or as near as practicable to the centre line of the ship having the same specifications as those for a permanent gangway listed in (e) except for foot-stops. On Type B ships (certified for the carriage of liquids in bulk), with a combined height of hatch coaming and fitted hatch cover of together not less than 1m in height the hatchway coamings may be regarded as forming one side of the walkway, provided that between the hatchways two rows of guard rails are fitted.

Alternative transverse locations for (c),(d) and (f) above, where appropriate:

- (1) At or near centre line of ship; or
Fitted on hatchways at or near centre line of ship.
- (2) Fitted on each side of the ship.
- (3) Fitted on one side of the ship, provision being made for fitting on either side.
- (4) Fitted on one side only.
- (5) Fitted on each side of the hatchways as near to the centre line as practicable.

Notes:

1. In all cases where wire ropes are fitted, adequate devices are to be provided to ensure their tautness.
2. Wire ropes may only be accepted in lieu of guard rails in special circumstances and then only in limited lengths.
3. Lengths of chain may only be accepted in lieu of guard rails if fitted between two fixed stanchions.
4. Where stanchions are fitted, every 3rd stanchion is to be supported by a bracket or stay.
5. Removable or hinged stanchions shall be capable of being locked in the upright position.
6. A means of passage over obstructions, if any, such as pipes or other fittings of a permanent nature, should be provided.
7. Generally, the width of the gangway or deck-level walkway should not exceed 1.5 m.

End of Document

LL51 Freeboards greater than minimum (Regulation 2(5))

(1983)
(Rev.1
1986)
(Rev.2
July 2008)

Where freeboards are required to be increased, because of such consideration as strength (Regulation 1), location of shell doors (Regulation 21) or side scuttles (Regulation 23) or other reasons then:

- (a) the height of
 - door sills Regulation 12
 - hatchway coamings Regulation 15(1)
 - sills of machinery space openings Regulation 17
 - miscellaneous openings Regulation 18
 - ventilators Regulation 19
 - air pipes Regulation 20
- (b) the scantlings of hatch covers Regulation 15 and 16,
- (c) freeing arrangements Regulation 24 and means for protection of crew Regulation 25,
- (d) windows and side scuttles

on the actual freeboard deck may be as required for a superstructure deck, provided the summer freeboard is such that the resulting draught will not be greater than that corresponding to the minimum freeboard calculated from an assumed freeboard deck situated at a distance equal to a standard superstructure height below the actual freeboard deck. Similar considerations may be given in cases of draught limitation on account of bow height (Regulation 39).

Footnote: This UI is also applicable to Regulation 2(5) of 1988 Protocol.

End of Document

LL52 Weathertight closing appliances for ventilators (Regulation 19(4))

(1983)
(Rev.1
July 2008)

Where required by Regulation 19, weathertight closing appliances for all ventilators in positions 1 and 2 are to be of steel or other equivalent materials.

Wood plugs and canvas covers are not acceptable in these positions.

Footnote: This UI is also applicable to Regulation 19(4) of 1988 Protocol.

End of Document

LL53 Treatment of moonpools

(1987)
(Rev.1
July 2008)

Where moonpools are arranged within the hull in open communication with the sea, the volume of the moonpool should not be included in calculation of any hydrostatic properties. An addition should be made to the geometric freeboard, if the moonpool has a larger cross-sectional area above the waterline at 0,85D than below, corresponding to the lost buoyancy. This addition for the excess portion above 0,85D should be made as prescribed for recesses in LL 48/rev 1.

If an enclosed superstructure contains part of the moonpool, deduction should be made from the effective length of the superstructure.

Footnotes:

1. This UI is also applicable to 1988 Protocol.
2. The reference "LL 48/rev 1" should be replaced with "Reg.32-1" when this UI applies to the revised 1988 Protocol.

End of Document

LL54 Effective length of superstructures (Regulation 35(3))

(1989)
(Rev.1
July 2008)

When calculating the freeboard for a ship with excessive sheer but without any superstructure at 0,2L amidships, the deduction for sheer per Regulation 38(15) is not to be granted. However, where a poop or forecastle of less than standard height is fitted, when applying Regulation 35(3), credit may be given to the height of the poop or forecastle by increasing it by the difference between the actual and the standard sheer profiles.

When the height of the superstructure, clear of the slope, is less than the standard height, its effective length E shall be its length S as obtained from (a)(i), reduced in the ratio of the actual height to the standard height.

Footnote: This UI is also applicable to Regulation 35(3) of the 1988 Protocol.

End of Document

LL55 Least Moulded Depth for a Ship with a Rake of Keel (Regulation 3(1))

(1993)
(Rev.1
July 2008)

For a ship with a rake of keel, least moulded depth, D_{mld} , is found by drawing a line parallel to the keel line of the vessel (including skeg) tangent to the moulded sheer line of the freeboard deck, as illustrated in the above sketch. The least moulded depth is the vertical distance measured from the top of the keel to the top of the freeboard deck beam at side at the point of tangency.

Depth for freeboard, D , may then be found.

Footnote: This UI is also applicable to Regulation 3(1) of the 1988 Protocol.

End of Document

LL56 Block Coefficient of a Pontoon (Regulation 3(7))

(1993)
(Rev.1
July 2008)

When calculating the block coefficient of a pontoon, according to the definition of Regulation 3(7), the 96%-length, if applicable, shall be used disregarding the fact that this might lead to a coefficient greater than 1,0.

Footnote: This UI is also applicable to Regulation 3(7) of the 1988 Protocol.

End of Document

LL57 Block Coefficient of a Multi-hull Craft (Regulation 3(7))

(1996)
(Rev.1
July 2008)

When calculating the block coefficient (C_b) of a multi-hull craft according to the definition of Regulation 3(7), the full breadth (B) as defined in regulation 3(4) is to be used and not the breadth of a single hull.

Footnote: This UI is also applicable to Regulation 3(7) of the 1988 Protocol.

End of Document

LL58 Machinery space and emergency generator
(1997) room ventilator coaming heights
(Rev.1 (Regulations 17(2), 19(3) and 19(4))
July 2008)

Regulation 17(2) requires that the coamings of machinery space ventilators situated in exposed positions on the freeboard and superstructure decks be as high above the deck as is reasonable and practicable.

In general, ventilators necessary to continuously supply the machinery space and, on demand, immediately supply the emergency generator room should have coamings which comply with regulation 19(3), without having to fit weathertight closing appliances.

However, where due to vessel size and arrangement this is not practicable, lesser heights for machinery space and emergency generator room ventilator coamings may be accepted with provision of weathertight closing appliances in accordance with regulation 19(4) in combination with other suitable arrangements to ensure an uninterrupted, adequate supply of ventilation to these spaces.

Footnote: This UI is also applicable to Regulations 17(2), 19(3) and 19(4) of the 1988 Protocol.

End of Document

LL59

(1997)
(Rev.1
Dec 2007)

Cargo manifold gutter bars - freeing arrangements and intact stability

(ICLL Regulation 24(1)(g) and Regulation 26)

ICLL 1988, as amended by res. MSC.143(77), Regulation 24 Freeing Ports

(1)(g) Gutter bars greater than 300 mm in height fitted around the weather decks of tankers in way of cargo manifolds and cargo piping shall be treated as bulwarks. Freeing ports shall be arranged in accordance with this regulation. Closures attached to the freeing ports for use during loading and discharge operations are to be arranged in such a way that jamming cannot occur while at sea.

ICLL 1966, Regulation 26 Special Conditions of Assignment for Type "A" Ships

Machinery Casings

(1) Machinery casings on Type "A" ships as defined in Regulation 27 shall be protected by an enclosed poop or bridge of at least standard height, or by a deckhouse of equal height and equivalent strength, provided that machinery casings may be exposed if there are no openings giving direct access from the freeboard deck to the machinery space. A door complying with the requirements of Regulation 12 may, however, be permitted in the machinery casing, provided that it leads to a space or passageway which is as strongly constructed as the casing and is separated from the stairway to the engine room by a second weathertight door of steel or other equivalent material.

Gangway and Access

(2) An efficiently constructed fore and aft permanent gangway of sufficient strength shall be fitted on Type "A" ships at the level of the superstructure deck between the poop and the midship bridge or deckhouse where fitted, or equivalent means of access shall be provided to carry out the purpose of the gangway, such as passages below deck. Elsewhere, and on Type "A" ships without a midship bridge, arrangements to the satisfaction of the Administration shall be provided to safeguard the crew in reaching all parts used in the necessary work of the ship.

(3) Safe and satisfactory access from the gangway level shall be available between separate crew accommodations and also between crew accommodations and the machinery space.

Hatchways

(4) Exposed hatchways on the freeboard and forecastle decks or on the tops of expansion trunks on Type "A" ships shall be provided with efficient watertight covers of steel or other equivalent material.

Note:

1. Rev.1 of this Unified Interpretation is to be uniformly implemented by all Members and Associates from 1 July 2008, unless otherwise instructed by a Flag State.

LL59

(cont)

Freeing Arrangements

(5) Type "A" ships with bulwarks shall have open rails fitted for at least half the length of the exposed parts of the weather deck or other effective freeing arrangements. The upper edge of the sheer strake shall be kept as low as practicable.

(6) Where superstructures are connected by trunks, open rails shall be fitted for the whole length of the exposed parts of the freeboard deck.

ICLL 1988, Regulation 26 Special conditions of assignment for type 'A' ships

Machinery casings

- (1) Machinery casings on type 'A' ships, as defined in regulation 27, shall be protected by one of the following arrangements:
 - (a) an enclosed poop or bridge of at least standard height; or
 - (b) a deckhouse of equal height and equivalent strength.
- (2) Machinery casings may, however, be exposed if there are no openings giving direct access from the freeboard deck to the machinery space. A door complying with the requirements of regulation 12 is acceptable in the machinery casing, provided that it leads to a space or passageway which is as strongly constructed as the casing and is separated from the stairway to the engine-room by a second weathertight door of steel or other equivalent material.

Gangway and access

- (3) A fore-and-aft permanent gangway, constructed in accordance with the provisions of regulation 25-1(2)(e), shall be fitted on type 'A' ships at the level of the superstructure deck between the poop and the midship bridge or deckhouse where fitted. The arrangement contained in regulation 25-1(2)(a) is considered an equivalent means of access to carry out the purpose of the gangway.
- (4) Safe access from the gangway level shall be available between separate crew accommodations and also between crew accommodations and the machinery space.

Hatchways

- (5) Exposed hatchways on the freeboard and forecastle decks or on the tops of expansion trunks on type 'A' ships shall be provided with efficient watertight covers of steel or other equivalent material.

Freeing arrangements

- (6) Type 'A' ships with bulwarks shall have open rails fitted for at least half the length of the weather deck or other equivalent freeing arrangements. A freeing port area, in the lower part of the bulwarks, of 33% of the total area of the bulwarks, is an acceptable equivalent freeing arrangement. The upper edge of the sheer strake shall be kept as low as practicable.
- (7) Where superstructures are connected by trunks, open rails shall be fitted for the whole length of the exposed parts of the freeboard deck.

LL59

(cont)

Interpretation

Where gutter bars are installed on the weather decks of tankers in way of cargo manifolds and are extended aft as far as the after house front for the purpose of containing cargo spills on deck during loading and discharge operations, the free surface effects caused by containment of a cargo spill during liquid transfer operations or of boarding seas while underway require consideration with respect to the vessel's available margin of positive initial stability (GMo).

Where the gutter bars installed are greater than 300 mm in height, they are to be treated as bulwarks according to the Load Line Convention with freeing ports arranged in accordance with Regulation 24 and effective closures provided for use during loading and discharge operations. Attached closures are to be arranged in such a way that jamming cannot occur while at sea, ensuring that the freeing ports will remain fully effective.

On ships without deck camber, or where the height of the installed gutter bars exceeds the camber, and for tankers having cargo tanks exceeding 60% of the vessel's maximum beam at midships regardless of gutter bar height, gutter bars should not be accepted without an assessment of the initial stability (GMo) for compliance with the relevant intact stability requirement taking into account the free surface effect caused by liquids contained by the gutter bars.

End of Document

LL60 Freeing ports in way of wells in combination with open superstructures (Regulation 24(1) and 24(4))

(1997)
(Corr.1
April
1998)
(Rev.1
July 2008)

In the case of vessels having open superstructures on the freeboard or superstructure decks, which open to wells formed by bulwarks on the peripheries of the open decks, the convention leaves to the satisfaction of the Administration how the freeing port areas for the open spaces within the superstructures are to be calculated.

Since water can enter only through the end bulkhead openings, the freeing port areas for the open spaces within the superstructures should be a function of the breadth of the end openings and the extent to which wells formed by the open decks and common spaces within the open superstructures are covered by the open superstructures.

To determine the minimum freeing port area on each side of the ship for the open superstructure (A_S) and for the open well (A_W), the following procedure is recommended:

1. Determine the total well length (l_t) equal to the sum of the length of the open deck enclosed by bulwarks (l_w) and the length of the common space within the open superstructure (l_s).
2. To determine (A_S):
 - 2.1 Calculate the freeing port area (A) required for an open well of length l_t in accordance with regulation 24(1) with standard height bulwark assumed.
 - 2.2 Multiply by the factor of 1.5 to correct for the absence of sheer, if applicable, in accordance with regulation 24(2).
 - 2.3 Multiply by the factor (b_o/l_t) to adjust the freeing port area for the breadth (b_o) of the openings in the end bulkhead of the enclosed superstructure. (Note: this cancels the l_t terms from the calculation.)
 - 2.4 To adjust the freeing port area for that part of the entire length of the well which is enclosed by the open superstructure, multiply by the factor:

$$1-(l_w/l_t)^2$$

where l_w and l_t are defined in 1 above.

- 2.5 To adjust the freeing port area for the distance of the well deck above the freeboard deck, multiply by the factor:

$$0.5 (h_s/h_w)$$

where h_w is the distance of the well deck above the freeboard deck and h_s is one standard superstructure height.

Footnote: This UI is also applicable to Regulation 24(1) and 24(4) of the 1988 Protocol.

LL60

(cont)

3. To determine (A_W):
- 3.1 The freeing port area for the open well (A_W) is to be calculated in accordance with step 2.1 above, using l_W to calculate (A'), and then adjusted for the actual height of the bulwark (h_b) by the application of one of the following area corrections, whichever is applicable:

For bulwarks greater than 1.2 m in height:

$$A_C = l_W ((h_b - 1.2) / (0.10)) (0.004) \text{ m}^2$$

For bulwarks less than 0.9 m in height:

$$A_C = l_W ((h_b - 0.9) / (0.10)) (0.004) \text{ m}^2$$

For bulwarks between 1.2 m and 0.9 m in height:

$$A_C = 0.00 \text{ m}^2$$

- 3.2 The corrected freeing port area, ($A_W = A' + A_C$), is then adjusted for absence of sheer, if applicable, and height above freeboard deck as in steps 2.2 and 2.5 above, using h_S and h_W .
4. The resulting freeing port areas for the open superstructure (A_S) and for the open well (A_W) are to be provided along each side of the open space covered by the open superstructure and each side of the open well respectively.
5. The above relationships are summarised by the following equations, assuming l_t , the sum of l_W and l_S , is greater than 20 m*:

Freeing port area A_W for the open well:

$$A_W = (0.07 l_W + A_C) (\text{sheer correction}) (0.5 h_S / h_W)$$

Freeing port area A_S for the open superstructure:

$$A_S = (0.07 l_t) (\text{sheer correction}) (b_O / l_t) (1 - (l_W / l_t)^2) (0.5 h_S / h_W)$$

* Where l_t is 20 m or less, the basic freeing port area is $A = 0.7 + 0.035 l_t$ in accordance with Regulation 24(1). Units are to be consistent with those in the Convention.

End of Document

LL61

(1997)
(Rev.1
July 2008)

Method of correction for the effect of free surface of liquids in tanks (Regulation 10(2), UR L3 and UI LL45)

- 1 For all loading conditions, the initial metacentric height and the righting lever curve should be corrected for the effect of free surfaces of liquids in tanks.
- 2 Free surface effects will exist whenever the filling level in a tank is less than 100% and greater than 0%. Where the total free surface effects of nominally full (i.e. 98% or above) tanks is small in relation to the metacentric height of the vessel, with the agreement of the administration the effects for such tanks may be ignored. Free surface effects should be considered whenever the filling level in a tank is less than 98%.
- 3 Tanks which are taken into consideration when determining the free surface correction may be in one of two categories:
 - 3.1 Tanks with filling levels fixed (e.g. liquid cargo, water ballast). The free surface correction should be determined for the actual filling level to be used in each tank.
 - 3.2 Tanks with filling levels variable (e.g. consumable liquids such as fuel oil, diesel oil, and fresh water, and also liquid cargo and water ballast during liquid transfer operations). Except as permitted in 5 and 6, the free surface correction should be the maximum value attainable between the filling limits envisaged for each tank, consistent with any operating instructions.
- 4 In calculating the free surface effects in tanks containing consumable liquids, it should be assumed that for each type of liquid at least one transverse pair or a single centreline tank has a free surface and the tank or combination of tanks taken into account should be those where the effect of free surfaces is the greatest.
- 5 Where water ballast tanks, including anti-rolling tanks and anti-heeling tanks, are to be filled or discharged during the course of a voyage, the free surface effects should be calculated to take account of the most onerous transitory stage relating to such operations.
- 6 For vessels engaged in liquid transfer operations, the free surface corrections at any stage of the liquid transfer operations may be determined in accordance with the filling level in each tank at that stage of the transfer operation.
- 7 The corrections to the initial metacentric height and to the righting lever curve should be addressed separately as follows:
 - 7.1 In determining the correction to initial metacentric height, the transverse moments of inertia of the tanks should be calculated at 0 degrees angle of heel according to the categories indicated in 3.

Footnote: This UI is also applicable to Regulation 10(2) of the 1988 Protocol and the revised 1988 Protocol.

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(cont)

7.2 The righting lever curve may be corrected by any of the following methods subject to the agreement of the Administration:

- .1 Correction based on the actual moment of fluid transfer for each angle of heel calculated.
- .2 Correction based on the moment of inertia, calculated at 0 degrees angle of heel, modified at each angle of heel calculated, (i.e.: $GG_1 \sin \theta$).
- .3 Correction based on the summation of M_{fs} values for all tanks taken into consideration, see 8.

With the exception of item 7.2.3 above, corrections may be calculated according to the categories indicated in 3.

Whichever method is selected for correcting the righting lever curve, only that method should be presented in the vessel's stability booklet. However, where an alternative method is described for use in manually calculating loading conditions, an explanation of the differences which may be found in the results, as well as an example correction for each alternative, should be included.

8 The values of M_{fs} for each tank may be derived from the formula:

$$M_{fs} = vb\rho k\sqrt{\delta}$$

where:

- M_{fs} is the free surface moment at any inclination in metre-tonnes
 v is the tank total capacity in cubic metres
 b is the tank maximum breadth in metres
 ρ is the mass density of liquid in the tank in tonnes/cubic metre
 δ is equal to v/blh (the tank block coefficient)
 h is the tank maximum height in metres
 l is the tank maximum length in metres
 k is the dimensionless coefficient to be determined from the following table according to the ratio b/h . The intermediate values are determined by interpolation.

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(cont)

Table of Values for Coefficient "k" for Calculating Free Surface Corrections

		$k = \frac{\sin \theta}{12} \left(1 + \frac{\tan^2 \theta}{2} \right) * \frac{b}{h}$													
		$k = \frac{\cos \theta}{8} \left(1 + \frac{\tan \theta}{b/h} \right) - \frac{\cos \theta}{12(b/h)^2} \left(1 + \frac{\cot^2 \theta}{2} \right)$													
		$\text{where } \cot \theta \geq b/h$													
		$\text{where } \cot \theta \leq b/h$													
θ b/h	5°	10°	15°	20°	30°	40°	45°	50°	60°	70°	75°	80°	85°	θ b/h	
20	0.11	0.12	0.12	0.12	0.11	0.10	0.09	0.09	0.07	0.05	0.04	0.03	0.02	20	
10	0.07	0.11	0.12	0.12	0.11	0.10	0.10	0.09	0.07	0.05	0.04	0.03	0.02	10	
5	0.04	0.07	0.10	0.11	0.11	0.11	0.10	0.10	0.08	0.07	0.06	0.05	0.04	5	
3	0.02	0.04	0.07	0.09	0.11	0.11	0.11	0.10	0.09	0.08	0.07	0.06	0.05	3	
2	0.01	0.03	0.04	0.06	0.09	0.11	0.11	0.11	0.10	0.09	0.09	0.08	0.07	2	
1.5	0.01	0.02	0.03	0.05	0.07	0.10	0.11	0.11	0.11	0.11	0.10	0.10	0.09	1.5	
1	0.01	0.01	0.02	0.03	0.05	0.07	0.09	0.10	0.12	0.13	0.13	0.13	0.13	1	
0.75	0.01	0.01	0.02	0.02	0.04	0.05	0.07	0.08	0.12	0.15	0.15	0.16	0.16	0.75	
0.5	0.00	0.01	0.01	0.02	0.02	0.04	0.04	0.05	0.09	0.16	0.18	0.21	0.23	0.5	
0.3	0.00	0.00	0.01	0.01	0.01	0.02	0.03	0.03	0.05	0.11	0.19	0.27	0.34	0.3	
0.2	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.04	0.07	0.13	0.27	0.45	0.2	
0.1	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.04	0.06	0.14	0.53	0.1	

9 Small tanks which satisfy the following condition using the values of "k" corresponding to an angle of inclination of 30 degrees, need not be included in the correction:

$$vb\rho k\sqrt{\delta} / \Delta_{\min} < 0.01 \text{ m}$$

where Δ_{\min} = the minimum ship displacement in tonnes.

10 The usual remainder of liquids in empty tanks need not be taken into account in calculating the corrections providing the total of such residual liquids does not constitute a significant free surface effect.

End of Document

LL62 Side Scuttles, Windows and Skylights (Regulation 23)

(1997)
(Rev.1
July 2008)
(Corr.1
Aug 2010)

(1) Side scuttles and windows together with their glasses, deadlights¹ and storm covers, if fitted, shall be of approved design and substantial construction in accordance with, or equivalent to, recognised national or international standards. Non-metallic frames are not acceptable.

(2) Side scuttles are defined as being round, or oval, openings with an area not exceeding 0.16 square metres. Round or oval openings having areas exceeding 0.16 square metres shall be treated as windows.

(3) Windows are defined as being rectangular openings generally, having a radius at each corner relative to the window size in accordance with recognised national or international standards, and round, or oval, openings with an area exceeding 0.16 square metres.

(4) Side scuttles to the following spaces shall be fitted with efficient hinged inside deadlights:

- (a) spaces below freeboard deck
- (b) spaces within the first tier of enclosed superstructures
- (c) first tier deckhouses on the freeboard deck protecting openings leading below or considered buoyant in stability calculations.

The deadlights shall be capable of being effectively closed and secured watertight if fitted below freeboard deck and weathertight if fitted above.

(5) Side scuttles shall not be fitted in such a position that their sills are below a line drawn parallel to the freeboard deck at side and having its lowest point 2.5 percent of the breadth B, or 500 mm, whichever is the greatest distance, above the summer load line (or timber summer load line if assigned).

(6) Side scuttles shall be of the non-opening type in ships subject to damage stability regulations, if calculations indicate that they would become immersed by any intermediate stage of flooding or the final equilibrium waterplane in any required damage case.

(7) Windows shall not be fitted below the freeboard deck, in the first tier end bulkheads or sides of enclosed superstructures and in first tier deckhouses² considered buoyant in the stability calculations or protecting openings leading below.

¹ 'Deadlights', in accordance with recognised standards, are fitted to the inside of windows and side scuttles while 'storm covers', of comparable specifications to deadlights, are fitted to the outside of windows, where accessible, and may be hinged or portable.

² Two members reserved their position for those cases where this first tier is not considered buoyant, provided efficient deadlights are fitted.

Footnotes:

1. This UI is also applicable to Regulation 23 of the 1988 Protocol.
2. Paragraph 7 of this UI is applicable to Reg. 23(7)(c) of the revised 1988 Protocol.
3. Paragraph 11 of this UI is applicable to Reg. 23(11) of the revised 1988 Protocol.

LL62
(cont)

- (8) Side scuttles and windows at the side shell in the second tier, protecting direct access below or considered buoyant in the stability calculations, shall be provided with efficient hinged inside deadlights capable of being effectively closed and secured weathertight.
- (9) Side scuttles and windows set inboard from the side shell in the second tier, protecting direct access below to spaces listed in paragraph (4), shall be provided with either efficient hinged inside deadlights or, where they are accessible, permanently attached external storm covers of approved design and of substantial construction and capable of being effectively closed and secured weathertight.
- (10) Cabin bulkheads and doors in the second tier separating side scuttles and windows from a direct access leading below may be accepted in place of deadlights or storm covers fitted to the side scuttles and windows.
- (11) Deckhouses situated on a raised quarter deck or on the deck of a superstructure of less than standard height or on the deck of a deckhouse of less than standard height, may be regarded as being in the second tier as far as the provision of deadlights is concerned, provided the height of the raised quarter deck, superstructure or deckhouse is equal to, or greater than, the standard quarter deck height.
- (12) Fixed or opening skylights shall have glass thickness appropriate to their size and position as required for side scuttles and windows. Skylight glasses in any position shall be protected from mechanical damage and where fitted in positions 1 or 2, shall be provided with robust deadlights or storm covers permanently attached.

End of Document

LL63

(July
1998)
(Rev.1
July 2004)
(Rev.2
July 2008)

Treatment of steps and recesses in transverse subdivision bulkheads: IMO Res. A.320 (IX), paragraphs 12(d) and 12(e), and Regulation 27(12)(d) and (e), Revised 1988 ICLL (MSC.143(77))

Regulation 27, paragraphs 12(d) of 1988 ICLL as amended by Res. MSC.143(77) reads:

“Except where otherwise required by paragraph (10)(a), the flooding shall be confined to a single compartment between adjacent transverse bulkheads, provided that the inner longitudinal boundary of the compartment is not in a position within the transverse extent of assumed damage. Transverse boundary bulkheads of wing tanks, which do not extend over the full breadth of the ship shall be assumed not to be damaged, provided that they extend beyond the transverse extent of assumed damage prescribed in subparagraph (b). If in a transverse bulkhead there are steps or recesses of not more than 3 m in length, located within the transverse extent of assumed damage as defined in subparagraph (b), such transverse bulkhead may be considered intact and the adjacent compartment may be floodable singly. If, however, within the transverse extent of assumed damage there is a step or recess of more than 3 m in length in a transverse bulkhead, the two compartments adjacent to this bulkhead shall be considered as flooded. The step formed by the afterpeak bulkhead and the afterpeak tank top shall not be regarded as a step for the purpose of this regulation.”

Regulation 27, paragraphs 12(e) of 1988 ICLL as amended by Res. MSC.143(77) reads:

“Where a main transverse bulkhead is located within the transverse extent of assumed damage and is stepped in way of a double bottom or side tank by more than 3 m, the double bottom or side tanks adjacent to the stepped portion of the main transverse bulkhead shall be considered as flooded simultaneously. If this side tank has openings into one or several holds, such as grain feeding holes, such hold or holds shall be considered as flooded simultaneously. Similarly, in a ship designed for the carriage of fluid cargoes, if a side tank has openings into adjacent compartments, such adjacent compartments shall be considered as empty and as being flooded simultaneously. This provision is applicable even where such openings are fitted with closing appliances, except in the case of sluice valves fitted in bulkheads between tanks and where the valves are controlled from the deck. Manhole covers with closely spaced bolts are considered equivalent to the unpierced bulkhead, except in the case of openings in topside tanks making the topside tanks common to the holds.”

Notes:

1. This UI shall be uniformly implemented by all IACS Members and Associates to ships contracted for construction after 1 January 1999.
2. The “contracted for construction” date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of “contract for construction”, refer to IACS Procedural Requirement (PR) No. 29.
3. Longitudinal distance of 3.0(m) referred in sub-item (a) and figures 1 to 4 should be replaced with 3.05(m), when this interpretation applies to Res. A.320.

Footnote: This UI is also applicable to Regulation 27(12)(d) and (e) of the 1988 Protocol.

LL63

(cont)

Interpretation

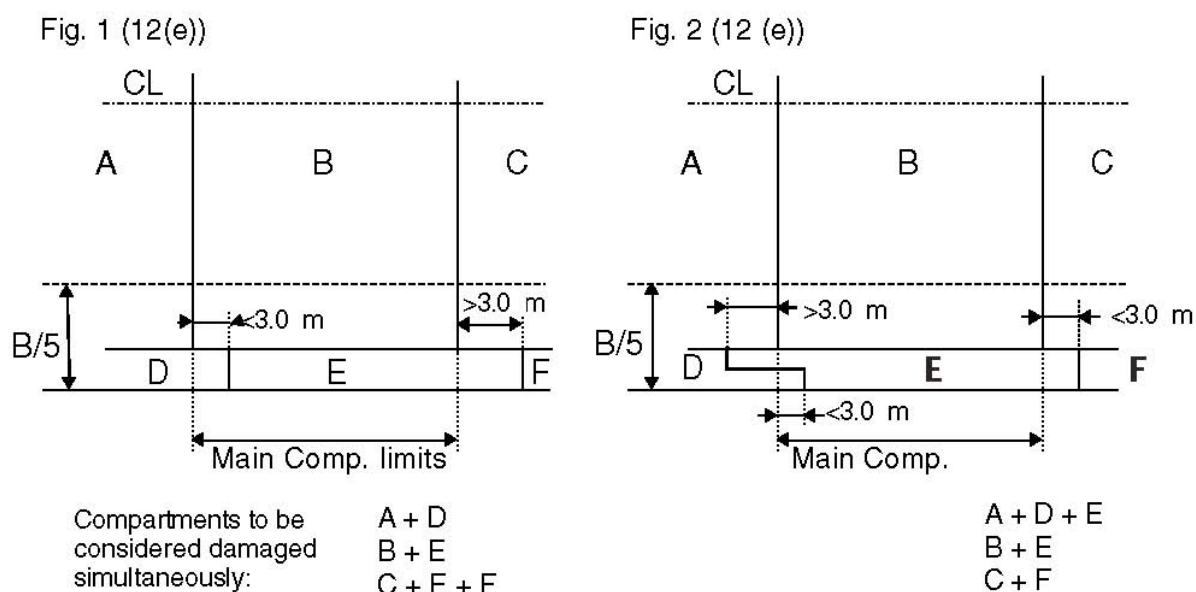
Where a transverse bulkhead forming the forward or aft limit of a wing tank or double bottom tank is not in line with the main transverse bulkhead of the adjacent in board compartment, it is considered to form a step or recess in the main transverse bulkhead.

Such a step or recess should be assumed not to be damaged provided that, either:

- the longitudinal extent of the step or recess, measured from the plane of the main transverse bulkhead, is not more than 3.0 metres, or:
- any longitudinal surface forming the step or recess is located inboard of the assumed damage.

Where, otherwise, the transverse and longitudinal bulkheads bounding a main inboard compartment are entirely in board of the assumed damage position, damage is assumed to occur between the transverse bulkheads of the adjacent wing compartment. Any step or recess in such wing tank shall be treated as indicated above.

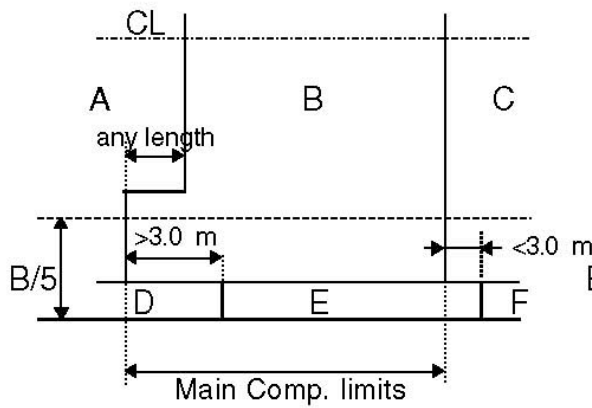
Representative examples to clarify treatment of steps within the transverse extent of damage



LL63

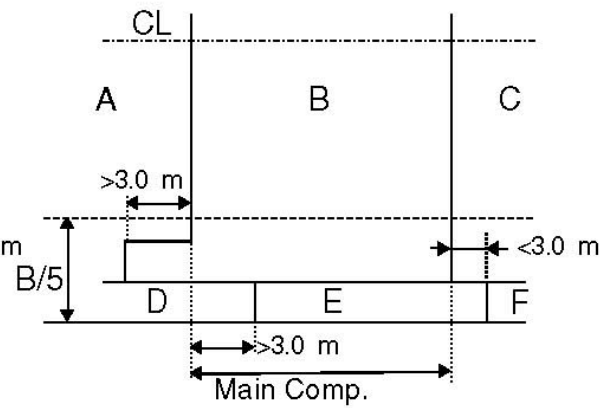
(cont)

Fig. 3 (12 (d) and 12 (e))



A + D
 B + D + E
 C + F

Fig. 4 (12 (d) and 12 (e))



A + B + D
 B + D + E
 C + F

End of
 Document

LL64

(December 1998)

(Rev.1, March 1999)

(Rev.2 June 2000)

(Rev.3 July 2001)

(Rev.4 July 2005)

(Rev.5 July 2008)

Non-weathertight hatch covers above superstructure deck (Load Line Convention 1966 Regulations 2(5) and 14(2))

The requirements for coaming height and weathertightness of hatch covers located above the superstructure deck are left to the satisfaction of the flag Administration by Regulations 2(5) and 14(2) of the Load Line Convention. Exposed coamings and hatch covers situated above the second tier of the superstructure, or equivalent, or above the third tier, or equivalent, in the forward quarter of the ship's length, may be regarded to be above the superstructure deck in the application of 14(2). Non-weathertight covers in these locations may be accepted subject to the approval of the flag Administration and conditional upon the following:

1. Their acceptance should be limited to use on container ships.
2. They may be fitted to hatchways located on weatherdecks which are at least two standard superstructure heights above an actual freeboard deck or an assumed freeboard deck from which a freeboard can be calculated which will result in a draught not less than that corresponding to the freeboard actually assigned. Where any part of a hatchway is forward of a point located one quarter of the ship's length (0.25L) from the forward perpendicular, that hatchway is to be located on a weatherdeck at least three standard superstructure heights above the actual or assumed freeboard deck. It is to be noted that the assumed freeboard deck is used only for the purpose of measuring the height of the deck on which the hatchways are situated and may be an imaginary, or virtual deck and in this case is not to be used for the actual assignment of freeboard. The vessels freeboard is to be assigned from an actual deck, designated as the freeboard deck, which is to be determined in accordance with the Convention and LL39.
3. The hatchway coamings should be not less than 600 mm in height.
4. The non-weathertight gaps between hatch cover panels should be considered as unprotected openings with respect to the requirements of intact and damage stability calculations. They should be as small as possible commensurate with the capacity of the bilge system and expected water ingress, and the capacity and operational effectiveness of the fire-fighting system and, generally, should not exceed 50 mm.

Notes:

1. This Unified Interpretation is to be uniformly implemented by all Members and Associates from 1 July 1999, unless otherwise instructed by a Flag State.
2. Changes introduced in Rev.3 are to be uniformly implemented by IACS Members and Associates from 1 January 2002.
3. Changes introduced in Rev.4 are to be uniformly implemented by IACS Members and Associate from 1 January 2006.

Footnote: This UI is also applicable to Regulations 2(5) and 14(2) of the 1988 Protocol and the revised 1988 Protocol.

LL64
(cont)

5. Labyrinths, gutter bars, or equivalents should be fitted proximate to the edges of each panel in way of the gaps to minimise the amount of water that can enter the container hold from the top surface of each panel.
6. Scantlings of the hatch cover panels are to be equivalent to those for weathertight covers and in accordance with the applicable requirements of UR S21 and UI LL70. The details on the securing arrangements to the vessel's support structure and coamings are provided in IACS Recommendation No. 14.
7. Bilge alarms should be provided in each hold fitted with non-weathertight covers.

End of Document

LL65

(June
2000)
(Rev.1
June
2007)
(Rev.2
July 2008)

Ships with assigned or reassigned reduced freeboards and intended to carry deck cargo

(SOLAS, Chapter II-1, Regulation 4, footnotes .6 and .7)

“Cargo ships shown to comply with the following regulations may be excluded from the application of part B-1:

.6 Damage stability requirements of regulation 27 of the 1966 Load Lines Convention as applied in compliance with resolutions A.320(IX) and A.514(13), provided that in the case of cargo ships to which regulation 27(9) applies, main transverse watertight bulkheads, to be considered effective, are spaced according to paragraph (12)(f) of resolution A.320(IX), except ships intended for the carriage of deck cargo; and

.7 Damage stability requirements of regulation 27 of the 1988 Load Lines Protocol, except ships intended for the carriage of deck cargo”.

General:

1. This UI pertains to ships intended to carry deck cargo and assigned or reassigned reduced freeboards in accordance with Regulation 27 of the International Convention on Load Lines, 1966 (ICLL 1966) or the ICLL 1966 as amended by the 1988 Protocol.
2. In .6 and .7 of the footnotes to SOLAS Chapter II-1, Regulation 4, ships shown to comply with ICLL 1966 Regulation 27 as applied in compliance with IMO Res. A.320 and A.514, may be excluded from the application of SOLAS Chapter II-1 Part B-1, except if they carry deck cargo.
3. Therefore ships identified in item 1), above, shall:
 - a) according to the assigned reduced freeboards, comply with damage stability requirements of Regulation 27 of ICLL 1966 and the 1988 Protocol to the ICLL 1966; and
 - b) according to the intended deck cargo capacity, be provided with the limiting GM or KG curve required by SOLAS Chapter II-1, Regulation 5-1.4 in compliance with the probabilistic damage stability analysis of SOLAS Chapter II-1 Part B-1.
4. The KG used for demonstrating compliance with the criteria in 3 a) shall be the same as that used for the criteria in 3 b) at the deepest subdivision load line.

Notes:

1. This UI LL 65 is to be uniformly implemented by IACS Members and Associates from 1 July 2001.
2. Revision 1 is to be uniformly implemented by IACS Members and Associates from 1 January 2009.

Footnote: This UI is also applicable to the revised 1988 Protocol.

End of Document

LL66
(Oct
2003)

Hatch Cover Stress/Deflection Calculation (Res. MSC.143(77), 2005 LL Protocol Regulation 16(5) (a) & (b))

Regulation 16 *Hatchways closed by weathertight covers of steel or other equivalent materials*

Hatch cover minimum design loads

(5) *All hatch covers shall be designed such that:*

- (a) *the product of the maximum stress determined in accordance with the above loads and the factor of 1.25 does not exceed the minimum upper yield point strength of the material in tension and the critical buckling strength in compression;*
- (b) *the deflection is limited to not more than 0.0056 times the span,*

Interpretation

In the calculation of stress and deflection from the prescribed mass per unit area, the design pressure is to be determined by using a vertical acceleration equal to 1.0g.

Note: This UI LL 66 is to be uniformly implemented by IACS Members and Associates from 1 January 2005.



SC183
(Nov 2003)
(Rev.1, Nov.
2005)

Endorsement of Certificates with the Date of Completion of the Survey on which they are Based

LL67
(Nov 2003)
(Rev.1, Nov.
2005)

MPC10
(Nov 2003)
(Rev.1, Nov.
2005)

“Resolutions MSC.170(79), MSC.171(79), MSC.172(79), MSC.174(79) through MSC.179(79) and MSC.181(79) through MSC.187(79) require that the identified certificates include the statement:

"Completion date of the survey on which this certificate is based:
dd/mm/yyyy".

Interpretation

For application of the above resolutions, the following IACS Unified Interpretation applies:

The “Completion date of the survey on which this certificate is based”, is the date of the last **initial/renewal** survey visit on which all statutory and class items, required to be surveyed, have been surveyed (regardless if they were found satisfactory or with minor deficiency).

Note:

1. This UI is to be uniformly implemented by IACS Members and Associates from 1 March 2004.
2. Revision 1 of this UI is to be uniformly implemented by IACS Members and Associates from 1 July 2006.



LL68 Position of Freeboard Deck on Float On/Float Off Barge Carriers

(Regulation 3(9))

(May
2004)
(Rev.1
July 2008)

Reg.3(9):

Freeboard Deck. The freeboard deck is normally the uppermost complete deck exposed to weather and sea, which has permanent means of closing all openings in the weather part thereof, and below which all openings in the sides of the ship are fitted with permanent means of watertight closing. In a ship having a discontinuous freeboard deck, the lowest line of the exposed deck and the continuation of that line parallel to the upper part of the deck is taken as the freeboard deck. At the option of the owner and subject to the approval of the Administration, a lower deck may be designated as the freeboard deck provided it is a complete and permanent deck continuous in fore and aft direction at least between the machinery space and peak bulkheads and continuous athwartships. When this lower deck is stepped the lowest line of the deck and the continuation of that line parallel to the upper part of the deck is taken as the freeboard deck. When a lower deck is designated as the freeboard deck, that part of the hull which extends above the freeboard deck is treated as a superstructure so far as concerns the application of the conditions of assignment and the calculation of freeboard. It is from this deck that the freeboard is calculated."

Interpretation:

1. Float On/Float Off Barge Carriers are designed to be ballasted such that the bottom of their cargo space(s) (well deck) submerges below the waterline to allow barges being floated in and out.
2. If such a ship is fitted with weathertight closures for the cargo space(s) and a watertight enclosure at the stern, the uppermost complete deck may be taken as the freeboard deck.
3. If such a ship is not fitted with weathertight closures for the cargo space(s) or a watertight enclosure at the stern, the well deck shall be taken as the freeboard deck, while buoyant spaces above may be considered as superstructures in accordance with UI LL 15 or 88 Prot. Reg. 34(1).
4. If such a ship is not fitted with weathertight closures for the cargo space(s) but has a watertight enclosure at the stern, the uppermost complete deck may be taken as the freeboard deck provided that:
 - the structure of the freeboard deck complies with the requirements of LL39;
 - the calculated freeboard is corrected for any missing buoyancy above the well deck in accordance with LL48, and
 - a satisfactory safety level at the resulting draught is demonstrated according to alternative concepts.

Note: This UI is to be uniformly implemented by IACS Members and Associates from 1 April 2005.

Footnote: This UI is also applicable to to Regulation 3(9) of the 1988 Protocol and the revised 1988 Protocol.

End of Document

LL69 Interpretation to 1966 ICLL Reg. 27

(May
2004)
(Rev.1
July 2008)

Reg.27 of ICLL 1966: IMO Res. A.320 paragraph 12:

“Damage Assumptions

(12) The following principles regarding the character of the assumed damage apply:

- (a) The vertical extent of damage in all cases is assumed to be from the base line upwards without limit.
- (b) The transverse extent of damage is equal to B/5 or 11.5 metres (37.7 feet), whichever is the lesser, measured inboard from the side of the ship perpendicularly to the centre line at the level of the summer load water line.
- (c) If damage of a lesser extent than specified in sub paragraphs (a) and (b) of this paragraph results in a more severe condition, such lesser extent shall be assumed.
- (d) Except where otherwise required by paragraph (10)(a) the flooding shall be confined to a single compartment between adjacent transverse bulkheads provided the inner longitudinal boundary of the compartment is not in a position within the transverse extent of assumed damage. Transverse boundary bulkheads of wing tanks, which do not extend over the full breadth of the ship shall be assumed not to be damaged, provided they extend beyond the transverse extent of assumed damage prescribed in sub paragraph (b) of this paragraph.

If in a transverse bulkhead there are steps or recesses of not more than 3.05 metres (10 feet) in length located within the transverse extent of assumed damage as defined in sub-paragraph (b) of this paragraph, such transverse bulkhead may be considered intact and the adjacent compartment may be floodable singly. If, however, within the transverse extent of assumed damage there is a step or recess of more than 3.05 metres (10 feet) in length in a transverse bulkhead, the two compartments adjacent to this bulkhead shall be considered as flooded. The step formed by the after peak bulkhead and the after peak tank top shall not be regarded as a step for the purpose of this Regulation.

Notes:

1. This UI is to be uniformly implemented by IACS Members and Associates from 1 April 2005.
2. The distance of 3.05 m referred in this UI should be replaced with 3.00 m, when this interpretation applies to the 1988 Protocol and the revised 1988 Protocol.

LL69

(cont)

- (e) Where a main transverse bulkhead is located within the transverse extent of assumed damage and is stepped in way of a double bottom or side tank by more than 3.05 metres (10 feet), the double bottom or side tanks adjacent to the stepped portion of the main transverse bulkhead shall be considered as flooded simultaneously. If this side tank has openings into one or several holds, such as grain feeding holes, such hold or holds shall be considered as flooded simultaneously. Similarly in a ship designed for the carriage of fluid cargoes, if a side tank has openings into adjacent compartments, such adjacent compartments shall be considered as empty and flooded simultaneously. This provision is applicable even where such openings are fitted with closing appliances, except in the case of sluice valves fitted in bulkheads between tanks and where the valves are controlled from the deck. Manhole covers with closely spaced belts are considered equivalent to the unpierced bulkhead except in the case of openings in topside tanks making the topside tanks common to the holds.
- (f) Where the flooding of any two adjacent fore and aft compartments is envisaged main transverse watertight bulkheads shall be spaced at least $1/3L^{2/3}$ or 14.5 metres (0.495L^{2/3} or 47.6 feet), whichever is the lesser, in order to be considered effective. Where transverse bulkheads are spaced at a lesser distance, one or more of these bulkheads shall be assumed as non-existent in order to achieve the minimum spacing between bulkheads.”

Interpretation:

Treatment of the volume of the forecastle, which is located over the foremost cargo hold for damage stability calculation in accordance with Reg.27 of ICLL 1966: IMO Res. A.320 paragraph 12.

In the case where the forecastle overlaps foremost cargo hold, provided the forecastle bulkhead is not more than 3.05 m aft of the forward bulkhead of the hold and the deck forming the step in way is watertight, then the bulkhead will be considered as continuous and not subject to damage.

End of Document

LL70(Jan
2005)**Corrosion Margin for Hatch Cover Design**

Reg. 16 (5)(d), amendments to the Protocol of 1988 relating to the International Convention on Load Lines, 1966 (Res. MSC. 143(77))

Regulation 16 (5) (d) reads:

Hatchways closed by weathertight covers of steel or other equivalent material

All hatch covers shall be designed such that:

- (a) the product of the maximum stress determined in accordance with the above loads and the factor of 1.25 does not exceed the minimum upper yield point strength of the material in tension and the critical buckling strength in compression;
- (b) the deflection is limited to not more than 0.0056 times the span;
- (c) steel plating forming the tops of covers is not less in thickness than 1% of the spacing of stiffeners or 6 mm if that be greater; and
- (d) an appropriate corrosion margin is incorporated.

Interpretation

The “appropriate corrosion margin” for hatch covers of cargo holds in position 1 and 2 and above, defined as the corrosion addition t_s which is to be added to the net thickness t_{net} required by (a), (b) and (c) is:

1. for Bulk Carriers, Ore Carriers and Combination Carriers, as defined in UR Z11.2:

- single skin hatch covers, a corrosion addition $t_s = 2.0$ mm for all plating and stiffeners;
- double skin hatch covers, a corrosion addition $t_s = 2.0$ mm for top and bottom plating and $t_s = 1.5$ mm for the internal structure.

2. for other vessels:

- single skin hatch covers, a corrosion addition $t_s = 2.0^i)$ mm for all plating and stiffeners;
- double skin hatch covers, a corrosion addition $t_s = 1.5^i)$ mm for top and bottom plating and $t_s = 1.0$ mm for the internal structure.

- i) Corrosion addition $t_s = 1.0$ mm for the hatch covers in way of cellular cargo holds intended for containers.

LL70
(C'td)

The above corrosion margins have been defined based on the assumption that corrosion protection and renewals as given in UR S21.6.1 is complied with for all ship types subject to regulation 16 (5) (d) of the 1988 Load Line Protocol.

For corrosion addition $t_s = 1.0$ mm it is assumed that the thickness for steel renewal is t_{net} and the thickness for coating or annual gauging is $t_{net} + 0,5$ mm.

Note: This UI LL70 is to be uniformly implemented by IACS Members and Associates on ships constructed (i.e. keel laid) from 1st January 2005.

END

“FAQ”

(Note: This paper is prepared by IACS for external use. 16 August 2005).

Hatch Cover Design for General Cargo Ships and Container Ships

Question 1

Bulk Carriers

IACS S21 Rev.3 (April 2003) entered into force on 1 January 2004, and applies to ships contracted for construction on or after 1 January 2004.

When the bulk carrier hatch covers are designed according to IACS S21 Rev.3 (April 2003), do they also fulfil the MSC.143 (77) Annex 3 – Regulation 16 requirements?

Answer

It is confirmed that when bulk carrier hatch covers are designed according to IACS UR S21 Rev.3 (April 2003), they also fulfil the MSC.143 (77) Annex 3 - Regulation 16 requirements.

Question 2

Container Carriers and General Cargo Ships

In Resolution MSC.143 (77) Annex 3 (Adopted on 5 June 2003) – Regulation 16 (5)(d), it is stated that “an appropriate corrosion margin is incorporated”.

Can the same corrosion margin as for the conventional 1.75t/m² weather

load (as per the current Classification Rules) be used for this purpose?

Answer

The current version of S21, applicable to bulk carriers, ore carriers and combination carriers, considers only the sea pressures but a new version is presently under development for application to all types of ships and at this purpose also loads other than sea loads will be taken into account.

The unified requirements that will be developed by IACS for the design of hatch covers will be based on a net scantling approach.

The corrosion additions in UR S21 to be used also for other types of ships will be the same as the ones presently adopted for bulk carriers.

Until the new version of UR S21 is adopted by IACS, hatch covers for ships different from bulk carriers, ore carriers and combination carriers are to be designed in accordance with:

- the requirements of ILLC, as far as sea loads are concerned ;
- the current Classification Societies Rules.

Question 3

Container Carriers – special features

Interpretation of Resolution MSC.143 (77) Annex 3 (Adopted on 5 June 2003) – Regulation 16 – **Table 16.2 for Container Carriers with L>100m:**

Can the following interpretation be applied?

	Longitudinal position		
	FP	0.25L	Aft of 0.25L
	L>100m		
Freeboard Deck	Equation in 16 (2)(a)	3.5 t/m ²	3.5 t/m ²
1 st superstructure deck	3.5 t/m ²	3.5 t/m ²	2.6 t/m ²
2 nd superstructure deck	2.6 t/m ²	2.6 t/m ²	2.1 t/m ²
3 rd superstructure deck	2.1 t/m ²	2.1 t/m ²	2.1 t/m ²

Answer

The design loads can be reduced from 2,6 t/m² to 2,1 t/m², as proposed above, for locations other than positions 1 and 2, as defined in ILLC.

The following considerations have been given for accepting a load reduction:

- Position 2 is defined in the Amendments to the Protocol of 1988 with respect to the exposed superstructure decks.
- The meaning of "located at least one (or two, when forward of 0,25L from forward perpendicular) standard height of superstructure above the freeboard deck", relevant to the "position 2" definition, should be interpreted as: decks of superstructures having height less than one (two) standard height(s) of superstructure are to be considered as being in "position 1".

In conclusion, locations more than two (or three, when forward of 0,25L from forward perpendicular) standard height of superstructure above the freeboard deck are not position 2 and the design loads in these locations may be reduced with respect to those specified in ILLC.

Question 4

To determine the hatch cover location, can we use the "assumed freeboard deck" as defined in IACS UI LL64?

Answer

It is confirmed that LL 64 is to be used to determine the hatch cover location.

END

LL71 Similar stage of construction

(April
2005)
(Rev.1
July 2008)

(1966 ILLC, Article 2(6))

(amended LL Protocol 1988, regulation 2, paragraphs (7) and (8))

1966 ILLC, Article 2(6):

New ship means a ship the keel of which is laid, or which is at a similar stage of construction, on or after the date of coming into force of the present Convention for each Contracting Government.

Amended 1988 LL Protocol, regulation 2, paragraphs (7) and (8):

- (7) Unless expressly provided otherwise, the regulations of this Annex shall apply to ships the keels of which are laid or which are at a similar stage of construction on or after 1 January 2005.
- (8) For ships the keels of which are laid or which are at a similar stage of construction before 1 January 2005, the Administration shall ensure that the requirements which are applicable under the International Convention on Load Lines, 1966, as modified by the Protocol of 1988 relating thereto, adopted by the International Conference on Harmonized System of Survey and Certification, 1988, are complied with.

Interpretation:

The term "similar stage of construction" means the stage at which:

- construction identifiable with a specific ship begins; and
- assembly of that ship has commenced comprising at least 50 tonnes or one per cent of the estimated mass of all structural material, whichever is less.

Note: This UI LL71 is to be uniformly implemented by IACS Members and Associate from 1 July 2005.

Footnote: This UI is also applicable to Article 2(6) of the 1988 Protocol and the revised 1988 Protocol.

End of Document

LL72 Interpretation to ICLL Regulation 27 (Sept 2005)

Regulation

Regulation 27(3) reads:

A type "A" ship, if over 150 m in length, and designed to have empty compartments when loaded to her summer load water line, shall be able to withstand the flooding of any one of these empty compartments at an assumed permeability of 0.95, and remain afloat in a condition of equilibrium considered to be satisfactory by the Administration. In such a ship, if over 225 m in length, the machinery space shall be treated as a floodable compartment but with a permeability of 0,85.

Interpretation

Members apply resolution A.320(IX) when certifying ships of non 1988 Protocol Parties under regulations 27(3) of the 1966 ICCL.

Note:

This UI is to be uniformly implemented by IACS Members and Associates to ships constructed on or after 1 January 2006.



SC224 Measurement of Distances

(Aug 2008)

LL74

(Aug 2008)

Several IMO instruments (e.g., ICLL, SOLAS and MARPOL Conventions, the IBC Code and the IGC Code, etc.) require distances to be measured such as tank length, height, width, ship (or subdivision or waterline) length, etc..

MPC95

(Aug 2008)

Interpretation

Unless explicitly stipulated otherwise in the text of the regulations in SOLAS, Load Line and MARPOL Conventions and any of their mandatory Codes, distances are to be measured by using moulded dimensions.

Note:

This Unified Interpretation is to be uniformly implemented by IACS Societies from 1 April 2009.

End of Document

LL75 Permeability of Store Space in the Damage Stability Calculation (Regulation 27(3) & (8.d))

(Sept 2008)
(Rev.1 Mar 2009)

Regulation

1. Reg.27(3) of 1988 protocol of 1966 ICLL and its amendment MSC.143(77) reads:

“(3) A type ‘A’ ship, if over 150 m in length, to which a freeboard less than type ‘B’ has been assigned, when loaded in accordance with the requirements of paragraph (11), shall be able to withstand the flooding of any compartment or compartments, with an assumed permeability of 0.95, consequent upon the damage assumptions specified in paragraph (12), and shall remain afloat in a satisfactory condition of equilibrium, as specified in paragraph (13). In such a ship, the machinery space shall be treated as a floodable compartment, but with a permeability of 0.85.”

2. Reg.27(8.d) of 1988 protocol of 1966 ICLL and its amendment MSC.143(77) reads:

“the ship, when loaded in accordance with the requirements of paragraph (11), shall be able to withstand the flooding of any compartment or compartments, with an assumed permeability of 0.95, consequent upon the damage assumptions specified in paragraph (12), and shall remain afloat in a satisfactory condition of equilibrium, as specified in paragraph (13). In such a ship, if over 150 m in length, the machinery space shall be treated as a floodable compartment, but with a permeability of 0.85.”

Interpretation

The permeability assumed in the damage stability calculation for the flooding of any store space shall be 0.95 under 1988 Protocol of 1966 ICLL.

Note:

1. This Unified Interpretation is to be uniformly implemented by IACS Members and Associates for ships contracted for construction on or after 1 July 2009.
2. The “contracted for construction” date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of “contract for construction”, refer to IACS Procedural Requirement (PR) No. 29.

End of Document

SC234 Initial Statutory Surveys at New Construction

(Apr 2009)
(Corr.1 Jul
2010)

1. Scope¹

The scope of this UI is to define the requirements for the initial statutory surveys at new construction as detailed in IMO Resolution A.997(25), which are not addressed in UR Z23 for the following as applicable:-

- (i) International Load Line Certificate (1966)
- (ii) Cargo Ship Safety Equipment Certificate
- (iii) International Oil Pollution Prevention Certificate

LL76

(Apr 2009)
(Corr.1 Jul
2010)

MPC96

(Apr 2009)
(Corr.1 Jul
2010)

This UI only covers the survey activities required and does not cover the technical interpretations of the statutory requirements or approval of plans, designs and manuals required by the Regulations.

2. This UI does not cover the requirements for type approval or certification at vendor's works and for which evidence of acceptance is to be provided as indicated in the survey tables.

3. Definitions used in the survey tables

Survey Item	A description of the survey item considered
Origin of the Requirement	Applicable Statutory Regulation
Approved Drawings /Documentation	Indicates whether approved drawings/documentation is required
Conformity Verification	This verification may consist of an examination of the certificate, a check of the marks or, for products which require type approval, to verify conformity of the product with the approved prototype or certification with Flag Administration requirements
Survey during construction or installation	Indicates whether the witness by surveyor of construction and installation on board is required
Tightness Testing	Indicates whether tightness testing is required to be witnessed by the surveyor for survey item
Survey after construction or installation	Indicates whether the survey item is examined by the Surveyor after completion of its construction and installation on board
Function Test	Indicates whether a survey item or system is to be subjected to a functioning and/or performance test or trial in the presence of a Surveyor after installation on board

¹Note: This UI is to be uniformly implemented by IACS Societies on ships contracted for construction (as defined in IACS PR 29) from 1st July 2010.

SC234

(cont)

Onboard Verification of documentation	Indicates whether the required documentation is to be verified on board by the surveyor
Series of Vessels	As defined by IACS PR 29

LL76

(cont)

MPC96

(cont)

4. Application

This UI applies to all vessels for which the statutory certificates listed in paragraph 1 are to be issued at new construction by IACS Societies.

5. Interpretation of the survey requirements are given in Appendix 1

Table 1 – Safety Equipment

Table 2 – Load Line

Table 3 – MARPOL Annex 1

6. Specific flag administration requirements, if any, supersede the requirements contained in this UI.

7. Qualification and monitoring of personnel

The surveys required by this UI shall be carried out by exclusive surveyors of the classification society, as defined in PR5. The surveyors are to be qualified to be able to carry out the tasks and procedures are to be in place to ensure that their activities are monitored. Details are specified in PR6 and PR7.

8. Inspection and test plan for new building activities

The shipbuilder is to provide inspection and test plans for the items which are required to be surveyed and/or tested prior to the commencement of the surveys and/or test.

9. Product and Type Approval Certificates

The shipbuilder is to provide product and type approval certificates for the applicable items listed in Appendix 1 to be placed on board.

10. Proof of the consistency of surveys

The classification society is to be able to provide evidence, e.g. through records, check lists, inspection and test records, etc. that its surveyors have complied with the requirements of this UI.

Enclosure: Appendix 1

Appendix 1 to Uls SC234, LL76 & MPC96

1. Description

COLUMN 1	A.997(25) Requirements	
COLUMN 2	Survey Item	A description of the survey item considered
COLUMN 3	Origin of the Requirement	Applicable Statutory Regulation
COLUMN 4	Correspondence with Approved Drawings/Documentation	Indicates whether approved drawings/documentation is required
COLUMN 5	Conformity Verification	This verification may consist of an examination of the certificate, a check of the marks or, for type approved products, to verify conformity of the product with the approved prototype or certification with National Requirements
COLUMN 6	Survey during construction or installation	Indicates whether the witness by surveyor of fabrication and installation on board is required
COLUMN 7	Tightness Testing	Indicates whether tightness testing is required to be witnessed by the surveyor for survey item
COLUMN 8	Survey after construction or installation	Indicates whether the survey item is examined by the Surveyor after completion of its installation on board and/or
COLUMN 9	Function Test	Indicates whether a system is to be subjected to a functioning and/or performance test or trial in the presence of a Surveyor after installation on board
COLUMN 10	Onboard Verification of documentation	Indicates whether the required documentation is to be verified on board by the surveyor

Table 1. Safety Equipment

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS / DOCUMENTATION	CONFORMITY VERIFICATION	INSPECTIONS DURING INSTALLATION	INSPECTION AFTER INSTALLATION	ONBOARD VERIFICATION OF DOCUMENTATION	FUNCTION TEST
(EI) 1.1.3.1	examining the fire pumps and fire main and the disposition of the hydrants, hoses and nozzles and the international shore connection and checking that each fire pump, including the emergency fire pump, can be operated separately so that two jets of water are produced simultaneously from different hydrants at any part of the ship whilst the required pressure is maintained in the fire main	Fire Pumps	(SOLAS 74/00 reg.II-2/10.2 FSSC chs.2 and 12) (SOLAS 74/88 regs.II-2/4 and 19)	X	X		X		X
		Fire Mains		X				X	
		Hydrants		X			X		
		Hoses and Nozzles		X	X		X		
		International Shore Connection		X			X		
(EI) 1.1.3.2	examining the provision and disposition of the fire extinguishers	Fire Extinguishers	(SOLAS 74/00 reg.II-2/10.3 FSSC ch.4) (SOLAS 74/88 reg.II-2/17)	X	X		X		
(EI) 1.1.3.3	examining the fire fighters' outfits and emergency escape breathing devices - EEBDs -	Fire Fighters' Outfits	(SOLAS 74/00 regs.II-2/10.10, 13.3.4 and 13.4.3 FSSC ch.3) (SOLAS 74/88 reg.II-2/17)	X	X		X		
		EEBDs - Emergency Escape Breathing Devices		X	X		X		
(EI) 1.1.3.4	checking the operational readiness and maintenance of fire-fighting systems	Operational Readiness and Maintenance of Fire-fighting System	(SOLAS 74/00 reg.II-2/14) (SOLAS 74/88 reg.II-2/21)					X	
(EI) 1.1.3.5	examining the fixed fire-fighting system for the machinery, cargo, vehicle, special category and ro-ro spaces, as appropriate, and confirming that the installation tests have been satisfactorily completed and that its means of operation are clearly marked	Fixed Fire fighting systems	(SOLAS 74/00 regs.II-2/10.4, 10.5, 10.7 and 20.6.1, FSSC chs.5 to 7) (SOLAS 74/88 regs.II-2/7 and 53)	X	X		X	X	X

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS / DOCUMENTATION	CONFORMITY VERIFICATION	INSPECTIONS DURING INSTALLATION	INSPECTION AFTER INSTALLATION	ONBOARD VERIFICATION OF DOCUMENTATION	FUNCTION TEST
(EI) 1.1.3.6	examining the fire-extinguishing and special arrangements in the machinery spaces and confirming, as far as practicable and as appropriate, the operation of the remote means of control provided for the opening and closing of the skylights, the release of smoke, the closure of the funnel and ventilation openings, the closure of power operated and other doors, the stopping of ventilation and boiler forced and induced draft fans and the stopping of oil fuel and other pumps that discharge flammable liquids	Remote means of opening and closing of Skylights	(SOLAS 74/00 regs.II-2/5.2, 8.3, 9.5 and 10.5) (SOLAS 74/88 regs.II-2/7 and 11)	X					X
		Fire Dampers and Funnel opening		X	X				X
		Closure of power operated and other doors		X	X				X
		remote stops for ventilation and boiler fans		X					X
		remote stops for FO pumps		X					X
(EI) 1.1.3.7	examining any fire detection and alarm system and any automatic sprinkler, fire detection and fire alarm system and confirming that installation tests have been satisfactorily completed	Fixed Fire Detection System	(SOLAS 74/00 regs.II-2/7.2, 7.3, 7.4, 7.5.1, 7.5.5, 19.3.3 and 20.4; FSSC ch.9) (SOLAS 74/88 regs.II-2/11, 13, 14, 53 and 54)	X	X		X		X
		Fire Alarm System		X	X		X		X
		Automatic Sprinkler		X	X		X		X
(EI) 1.1.3.8	examining the fire-extinguishing system for spaces containing paint and/or flammable liquids and deep-fat cooking equipment in accommodation and service spaces and confirming that installation tests have been satisfactorily completed and that its means of operation are clearly marked	Spaces containing Paint and/or flammable liquids: Fire Extinguishing System	(SOLAS 74/00 regs.II-2/10.6.3 and 10.6.4; FSSC chs.4 to 7) (SOLAS 74/88 reg.II-2/18.7)	X			X		
		Deep-Fat Cooking Equipment in Accommodation: Fire Extinguishing System		X			X		
(EI) 1.1.3.9	examining the arrangements for remote closing of valves for oil fuel, lubricating oil and other flammable oils and confirming, as far as practicable and as appropriate, the operation of the remote means of closing the valves on the tanks that contain oil fuel, lubricating oil and other flammable oils	Remote Closing Valves for: Oil Fuel	(SOLAS 74/00 reg.II-2/4.2.2.3.4) (SOLAS 74/88 reg.II-2/15.2.5)	X					X
		Remote Closing Valves for: Lubricating Oil		X					X
		Remote Closing Valves for: Other Flammable Oils		X					X

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(EI) 1.1.3.11	examining the fire protection arrangements in cargo, vehicle and ro-ro spaces and confirming, as far as practicable and as appropriate, the operation of the means for closing the various openings	Fire Detection and Alarm system	(SOLAS 74/00 regs.II-2/10.7, 20.2.1, 20.3 and 20.6.2) (SOLAS 74/88 reg.II-2/53)	X	X		X		X
		Fixed Fire Extinguishing System		X				X	
		Structural Fire Protection		X	X		X		
		Precaution against ignition of flammable vapours in closed vehicle spaces, closed ro-ro spaces and special category spaces		X			X		X
(EI) 1.1.3.11	examining, when appropriate, the special arrangements for carrying dangerous goods, including checking the electrical equipment and wiring, the ventilation, the provision of protective clothing and portable appliances and the testing of the water supply, bilge pumping and any water spray system	Water Supply	(SOLAS 74/00 reg.II-2/19 (except 19.3.8, 19.3.10 and 19.4) FSSC chs.9 and 10) (SOLAS 74/88 reg.II-2/54)	X					X
		Sources of Ignition		X	X		X		
		Detection System		X	X			X	
		Ventilation		X			X		
		Bilge system		X				X	
		Personnel Protection		X	X		X		
		Fire Extinguishers		X	X		X		
		Insulation of Machinery space boundaries		X	X		X		
Water Spray System	X	X	X	X		X			
(EI) 1.1.3.12	checking the provision and disposition of the survival craft, where applicable, marine evacuation systems and rescue boats	Survival Craft Provision and Disposition	(SOLAS 74/88 regs.III/11 to 16 and 31; LSAC section 6.2)	X	X		X		
		Rescue Boat Provision and Disposition		X	X		X		
		Marine Evacuation Systems Provision and Disposition		X	X		X		
(EI) 1.1.3.13	deployment of 50% of the MES after installation	Deployment of Marine Evacuation Systems	(LSAC paragraph 6.2.2.2)						X

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(EI) 1.1.3.14	examining each survival craft, including its equipment	Survival Craft Design	(SOLAS 74/88 reg.III/31 LSAC sections 2.5, 3.1 to 3.3 and 4.1 to 4.9)		X		X		
		Survival Craft Engine			X			X	
		Survival Craft Equipment			X		X		
(EI) 1.1.3.15	examining the embarkation arrangements for each survival craft and the testing of each launching appliance, including overload tests, tests to establish the lowering speed and the lowering of each survival craft to the water with the ship at its lightest sea-going draught, and, where applicable, launching underway at 5 knots, checking the recovery of each lifeboat	Survival Craft Launching and Recovery appliances	(SOLAS 74/00 regs.III/11, 12, 13, 16, 31 and 33 LSAC section 6.1)		X		X		X
		Survival Craft Embarkation Arrangements			X		X		X
(EI) 1.1.3.16	examining the embarkation arrangements for each marine evacuation device, where applicable, and the launching arrangements, including inspection for lack of side shell opening between the embarkation station and waterline, review of distance to the propeller and other life-saving appliances and ensuring that the stowed position is protected from heavy weather damage, as much as practicable	MES Launching and Recovery appliances	(SOLAS 74/00 reg.III/15; LSAC section 6.2)	X	X		X		X
		MES Embarkation Arrangements		X			X		
(EI) 1.1.3.17	examining each rescue boat, including its equipment	Rescue Boat Design	(SOLAS 74/88 reg.III/31; LSAC sections 2.5, 5.1 and 6.1)		X		X		
		Rescue Boat Engine			X		X		X
		Rescue Boat Equipment			X		X		
(EI) 1.1.3.18	examining the embarkation and recovery arrangements for each rescue boat and testing each launching and recovery appliance, including overload tests, tests to establish the lowering and recovery speeds and ensuring that each rescue boat can be lowered to the water and recovered with the ship at its lightest sea-going draught, launching underway at 5 knots	Rescue Boat Launching and Recovery appliances and Arrangements	(SOLAS 74/88 regs.III/14, 17 and 31; LSAC section 6.1)		X		X		X
(EI) 1.1.3.19	testing that the engine of the rescue boat(s) and of each lifeboat, when so fitted, start satisfactorily and operate both ahead and astern	Test of engines of lifeboat and Rescue Boat	(SOLAS 74/00 reg.III/19)						X
(EI) 1.1.3.20	confirming that there are posters or signs in the vicinity of survival craft and their launching stations and containers, brackets, racks and other similar stowage locations for life-saving equipment	Posters or Signs	(SOLAS 74/88 regs.III/9 and 20)				X		

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(EI) 1.1.3.21	examining the provision and stowage and checking the operation of portable on board communications equipment, if provided, and two-way VHF radiotelephone apparatus and radar transponders	Two-way VHF radiotelephone apparatus	(SOLAS 74/88 regs.II-2/12.2 and III/6)		X		X		X
		Radar Transponders			X		X		X
(EI) 1.1.3.22	examining the provision and stowage of the distress flares and the line-throwing appliance, checking the provision and operation of fixed on board communications equipment, if provided, and testing the means of operation of the general alarm system	Distress Flares and Line-Throwing Appliances	(SOLAS 74/00 regs.III/6 and 18; LSAC sections 3.1, 7.1 and 7.2)		X		X		
		On board Communications equipment			X		X		X
		General Alarm System		X		X		X	
(EI) 1.1.3.23	examining the provision, disposition and stowage of the lifebuoys, including those fitted with self-igniting lights, self-activating smoke signals and buoyant lines, lifejackets, and immersion suits	Lifebuoys	(SOLAS 74/00 regs.III/7 and 32 to 37; LSAC sections 2.1, 2.5 and 3.3)	X	X		X		
		Lifebuoys fitted with self-igniting lights		X	X		X		
		Lifebuoys fitted with self-activating smoke signals		X	X		X		
		Lifebuoys fitted with buoyant lines		X	X		X		
		Lifejackets		X	X		X		
		Immersion suits		X	X		X		
		Anti-exposure suits		X	X		X		

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(EI) 1.1.3.24	checking the lighting of the muster and embarkation stations and the alleyways, stairways and exits giving access to the muster and embarkation stations, including when supplied from the emergency source of power	Muster and Embarkation Station Lighting	(SOLAS 74/88 regs.II-1/43 and III/11)				X		X
		Alleyways and Stairways Lighting					X		X
		Exits giving Access to the Muster and Embarkation Stations Lighting					X		X
		Muster and Embarkation Station Lighting from Emergency Source of Power					X		X
		Alleyways and Stairways Lighting from Emergency Source of Power					X		X
		Exits giving Access to the Muster and Embarkation Stations Lighting from Emergency Source of Power					X		X
(EI) 1.1.3.25	examining the provision and positioning and checking the operation of, as appropriate, the navigation lights, shapes and sound signalling equipment	Navigation Lights	(International Regulations for Preventing Collisions at Sea (COLREG) in force, regs.20 to 24, 27 to 30 and 33)	X	X		X		X
		Shapes and Sounds signalling equipment			X		X		X
(EI) 1.1.3.26	checking that the minimum safe distances from the steering and standard magnetic compasses for all electrical equipment are complied with	Bridge	(SOLAS 74/00 regs.V/17 and 19)				X		
(EI) 1.1.3.27	checking the electromagnetic compatibility of electrical and electronic equipment on or in the vicinity of the bridge	Bridge	(SOLAS 74/00 reg.V/17)		X		X		

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(EI) 1.1.3.28	checking, as appropriate, the provision and operation of the following ship borne navigational systems equipment								
(EI) 1.1.3.28 .1	the magnetic compass, including examining the sighting, movement, illumination and a pylorus or compass bearing device	Navigation Equipment: Magnetic Compass	(SOLAS 74/00 reg.V/19)		X		X		
		Navigation Equipment: Pylorus or Compass Bearing Device			X				X
(EI) 1.1.3.28 .2	nautical charts and nautical publications necessary for the intended voyage are available and have been updated, and, where electronic systems are used, the electronic charts have been updated and the required back-up system is provided and updated	Navigation Equipment: ECDIS including back-up arrangements	(SOLAS 74/00 reg.V/19)		X				X
		Nautical Charts and Nautical Publications					X		
(EI) 1.1.3.28 .3	global navigation satellite system receiver or terrestrial radio navigation system	Navigation Equipment: GNSS receiver			X				X
(EI) 1.1.3.28 .4	sound reception system, when bridge is totally enclosed	Navigation Equipment: Sound Reception System			X				X
(EI) 1.1.3.28 .5	means of communication to emergency steering position, where provided	Navigation Equipment: Means of communication with Emergency Steering Position		X	X				X
(EI) 1.1.3.28 .6	spare magnetic compass	Navigation Equipment: Spare Magnetic Compass			X		X		
(EI) 1.1.3.28 .7	daylight signalling lamp	Navigation Equipment: Daylight Signalling Lamp			X				X
(EI) 1.1.3.28 .8	echo sounding device	Navigation Equipment: Echo-sounding Device			X				X
(EI) 1.1.3.28 .9	radar reflector	Navigation Equipment: radar reflector			X		X		

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(EI) 1.1.3.28 .10	radar(s), including examining the waveguide and cable runs for routing and protection and the display unit confirming lighting, correct operation of all controls, and functions	Navigation Equipment: Radar Installations			X		X		X
(EI) 1.1.3.28 .11	electronic plotting aid, automatic tracking aid or automatic radar plotting aid as appropriate, using the appropriate test facilities	Navigation Equipment: Electronic Plotting Aid			X				X
		Navigation Equipment: Automatic Tracking aid(s) or Automatic Radar Plotting Aid			X				X
(EI) 1.1.3.28 .12	speed and distance measuring devices "through the water" and "over the ground"	Navigation Equipment: Speed and Distance measuring Device			X				X
(EI) 1.1.3.28 .13	transmitting heading device providing heading information to radar, plotting aids and automatic identification system equipment and voyage data recorder	Navigation Equipment: Transmitting Heading Device			X				X
(EI) 1.1.3.28 .14	automatic identification system	Navigation Equipment: AIS Automatic Identification System			X				X
(EI) 1.1.3.28 .15	gyrocompass, including examining the alignment of the master and all repeaters	Navigation Equipment: Gyro Compass			X				X
		Navigation Equipment: Gyro Compass Repeaters			X				X
(EI) 1.1.3.28 .16	rudder angle indicator	Navigation Equipment: Rudder Angle Indicator			X				X
(EI) 1.1.3.28 .17	propeller rate of revolution indicator	Navigation Equipment: Propeller rate of Revolution Indicator			X				X
(EI) 1.1.3.28 .18	propeller, operational mode, thrust, and pitch indicator	Navigation Equipment: Variable-Pitch propeller pitch and operational mode indicator			X				X
(EI) 1.1.3.28 .19	rate-of-turn indicator	Navigation Equipment: Rate of Turn Indicator			X				X

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(EI) 1.1.3.28 .20	heading or track control system	Navigation Equipment: Heading or Track Control System			X				X
(EI) 1.1.3.29	checking for the provision and operation of the voyage data recorder	VDR - Voyage Data Recorder	(SOLAS 74/00 reg.V/20)		X				X
(EI) 1.1.3.31	checking navigation bridge visibility	Navigation Bridge Visibility	(SOLAS 74/00 reg.V/22)	X					
(EI) 1.1.3.32	checking the provision and, as appropriate, the deployment or operation of the pilot ladders and hoists/pilot transfer arrangements	Pilot ladders and hoists/pilot transfer arrangements	(SOLAS 74/00 reg.V/23)	X	X		X		X
(EI) 1.1.4.1	checking the deck foam system, including the supplies of foam concentrate, and testing that the minimum number of jets of water at the required pressure in the fire main is obtained (see (EI) 1.1.3.1) when the system is in operation	Deck Foam System: Foam Tanks	(SOLAS 74/00 reg.II-2/10.8; FSSC ch.15) (SOLAS 74/88 reg.II-2/61)	X			X		
		Deck Foam System: Monitors			X		X		X
		Deck Foam System: Applicators			X		X		X
		Deck Foam System: Foam Concentrates			X				
(EI) 1.1.4.2	examining the inert gas system and in particular:	Cargo Tank Protection: Venting	(SOLAS 74/00 reg.II-2/4.5.5; FSSC ch.15) (SOLAS 74/88 reg.II-2/62)	X	X				
(EI) 1.1.4.2. 1	examining externally for any sign of gas or effluent leakage	Signs of Gas or effluent Leakage					X		X
(EI) 1.1.4.2. 2	confirming the proper operation of both inert gas blowers	Inert Gas Blowers							X
(EI) 1.1.4.2. 3	observing the operation of the scrubber-room ventilation system	Scrubber Room Ventilation							X
(EI) 1.1.4.2. 4	checking the deck water seal for automatic filling and draining	Deck Water Seal					X		X

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(EI) 1.1.4.2. 5	examining the operation of all remotely operated or automatically controlled valves and, in particular, the flue gas isolating valves	Remote or Automatic Control Valves Flue Gas Isolating Valve					X		X X
(EI) 1.1.4.2. 6	observing a test of the interlocking feature of soot blowers	Interlocking of soot Blowers							X
(EI) 1.1.4.2. 7	observing that the gas pressure-regulating valve automatically closes when the inert gas blowers are secured	Gas Pressure-Regulating Valve							X
(EI) 1.1.4.2. 8	checking, as far as practicable, the following alarms and safety devices of the inert gas system using simulated conditions where necessary:								X
(EI) 1.1.4.2. 8.1	high oxygen content of gas in the inert gas main	Simulation Test for Alarms and Safety Devices							X
(EI) 1.1.4.2. 8.2	low gas pressure in the inert gas main	Simulation Test for Alarms and Safety Devices							X
(EI) 1.1.4.2. 8.3	low pressure in the supply to the deck water seal	Simulation Test for Alarms and Safety Devices							X
(EI) 1.1.4.2. 8.4	high temperature of gas in the inert gas main	Simulation Test for Alarms and Safety Devices							X
(EI) 1.1.4.2. 8.5	low water pressure or low water-flow rate	Simulation Test for Alarms and Safety Devices							X
(EI) 1.1.4.2. 8.6	accuracy of portable and fixed oxygen-measuring equipment by means of calibration gas	Simulation Test for Alarms and Safety Devices			X				X
(EI) 1.1.4.2. 8.7	high water level in the scrubber	Simulation Test for Alarms and Safety Devices							X

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(EI) 1.1.4.2. 8.8	failure of the inert gas blowers	Simulation Test for Alarms and Safety Devices							X
(EI) 1.1.4.2. 8.9	failure of the power supply to the automatic control system for the gas regulating valve and to the instrumentation for continuous indication and permanent recording of pressure and oxygen content in the inert gas main	Simulation Test for Alarms and Safety Devices							X
(EI) 1.1.4.2. 8.10	high pressure of gas in the inert gas main	Simulation Test for Alarms and Safety Devices							X
(EI) 1.1.4.2. 9	checking the proper operation of the inert gas system on completion of the checks listed above	IGS Operating Procedure						X	
(EI) 1.1.4.3	examining the fixed fire-fighting system for the cargo pump room, confirming that the installation tests have been satisfactorily completed and that its means of operation are clearly marked and, when appropriate, checking the operation of the remote means for closing the various openings	Cargo Pump Room Fire Extinguishing	(SOLAS 74/00 reg.II-2/10.9; FSSC chs.5, 6, 7 and 8, as applicable)	X			X		
		Cargo Pump Room Means of Closing Various Opening				X		X	
(EI) 1.1.4.4	examining the protection of the cargo pump-rooms and confirming that the installation tests have been satisfactorily completed	temperature sensing devices	(SOLAS 74/00 reg.II-2/4.5.10) (SOLAS 74/88 regs.II-2/55 to 58)	X	X				X
		Interlock between lighting and ventilation						X	
		monitoring of hydrocarbon gas			X			X	
		Bilge monitoring						X	
(EI) 1.1.5.1	confirming that the fire control plans are permanently exhibited or, alternatively, emergency booklets have been provided and that a duplicate of the plans or the emergency booklet are available in a prominently marked enclosure external to the ship's deckhouse	Required Documentations	(SOLAS 74/00 reg.II-2/15.2.4) (SOLAS 74/88 reg.II-2/20)					X	
(EI) 1.1.5.2	confirming that maintenance plans have been provided	Required Documentations	(SOLAS 74/00 regs.II-2/14.2.2 and 14.4)					X	
(EI) 1.1.5.3	confirming that the training manuals and the fire safety operational booklets have been provided	Required Documentations	(SOLAS 74/00 regs.II-2/15.2.3, 16.2 and 16.3)					X	

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(EI) 1.1.5.4	confirming, where appropriate, that the ship is provided with a document indicating compliance with the special requirement for carrying dangerous goods	Required Documentations	(SOLAS 74/00 reg.II-2/19.4) (SOLAS 74/88 reg.II-2/54(3))					X	
(EI) 1.1.5.5	confirming that emergency instructions are available for each person on board, that the muster list is posted in conspicuous places and they are in a language understood by the persons on board	Required Documentations	(SOLAS 74/00 regs.III/8 and 37)					X	
(EI) 1.1.5.6	confirming that the training manual and training aids for the life-saving appliances have been provided	Required Documentations	(SOLAS 74/00 reg.III/35)					X	
(EI) 1.1.5.7	confirming that the instructions for on board maintenance of the life-saving appliances have been provided	Required Documentations	(SOLAS 74/88 reg.III/36)					X	
(EI) 1.1.5.8	confirming that a table or curve of residual deviations for the magnetic compass has been provided, and that a diagram of the radar installations shadow sectors is displayed	Required Documentations	(SOLAS 74/00 reg.V/19)					X	
(EI) 1.1.5.9	checking that operational and, where appropriate, maintenance manuals for all navigational equipment are provided	Required Documentations	(SOLAS 74/00 reg.V/16)					X	
(EI) 1.1.5.10	checking that the charts and nautical publications necessary for the intended voyage are available and have been updated	Required Documentations	(SOLAS 74/88 reg.V/27)					X	
(EI) 1.1.5.11	checking that the International Code of Signals and a copy of Volume III of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual have been provided	Required Document	(SOLAS 74/00/02, reg.V/21)					X	
(EI) 1.1.5.12	checking that arrangements are provided to maintain records of navigational activities and daily reporting	Required Documents	(SOLAS 74/00/03, reg.V/28)					X	
(EI) 1.1.5.13	checking that the life-saving signals to be used by ships, aircraft or persons in distress are available	Required Documents	(SOLAS 74/00, reg.V/29)					X	
(EI) 1.1.5.14	confirming that continuous synopsis record is provided	Required Documents	(SOLAS 74/02, reg.XI-1/5)					X	
(EI) 1.1.6.1	confirming, when appropriate, that the instruction manuals for the inert gas system have been provided	Required Documents	(FSSC ch.15 paragraph 2.4.4) (SOLAS 74/88, reg.II-2/62.21)					X	

Table 2. Load Line

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS / DOCUMENTATION	CONFORMITY VERIFICATION	SURVEY DURING CONSTRUCTION OR INSTALLATION	TIGHTNESS TEST	SURVEY AFTER CONSTRUCTION OR INSTALLATION	FUNCTION TEST	ON BOARD VERIFICATION OF DOCUMENTATION
(LI) 1.1.2	For the load line the survey during construction and after installation should consist of:									
(LI) 1.1.2.2	confirming that the deck line and load line mark are properly positioned	Positioning of Deck Line and Load Line Mark	(LLC 66/88 regs.4 to 9)	X				X		
(LI) 1.1.2.3	witnessing the inclining experiment or lightweight survey	Inclining Experiment	(LLC 66/88/03 reg.10)	X				X		
(LI) 1.1.2.4	examining the superstructure end bulkheads and the openings therein	Superstructure End Bulkheads	(LLC 66/88 regs.11 and 12)							
		Superstructure Openings		X	X		X	X		
(LI) 1.1.2.5	examining the means of securing the weather tightness of cargo hatchways, other hatchways and other openings on the freeboard and superstructure decks	Freeboard Deck - Means of Securing the weather tightness of Cargo Hatchways	(LLC 66/88 regs. 13 to 18)	X		X	X		X	
		Freeboard Deck - Means of Securing the weather tightness of Other Hatchways		X			X		X	
		Freeboard Deck - Means of Securing the weather tightness of Other Openings		X			X		X	
		Superstructure Deck - Means of Securing the weather tightness of Cargo Hatchways		X		X	X		X	
		Superstructure Deck - Means of Securing the weather tightness of Other Hatchways		X			X		X	
		Superstructure Deck - Means of Securing the weather tightness of Other Openings		X			X		X	
(LI) 1.1.2.6	examining the ventilators and air pipes, including their coamings and closing appliances	Ventilators and air pipes including their coamings and closing appliances	(LLC 66/88 regs.19 and 20)	X	X			X		

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS / DOCUMENTATION	CONFORMITY VERIFICATION	SURVEY DURING CONSTRUCTION OR INSTALLATION	TIGHTNESS TEST	SURVEY AFTER CONSTRUCTION OR INSTALLATION	FUNCTION TEST	ON BOARD VERIFICATION OF DOCUMENTATION
(LI) 1.1.2.7	examining the watertight integrity of the closures to any openings in the ship's side below the freeboard deck	Closures to any openings in the ship's side below the freeboard deck	(LLC 66/88 reg.21)	X	X		X	X	X	
(LI) 1.1.2.8	examining the scuppers, inlets and discharges	Scuppers, Inlets and Discharger	(LLC 66/88 reg.22)	X	X			X		
(LI) 1.1.2.9	examining the garbage chutes	Garbage chute	(LLC 66/88/03, reg. 22-1)	X		X	X			
(LI) 1.1.2.10	examining the spurling pipes and cable lockers	Spurling Pipe	(LLC 66/88/03, reg. 22-2)	X		X	X			
		Cable Locker		X		X	X			
(LI) 1.1.2.11	examining the side scuttles and deadlights	Side Scuttles and Deadlights	(LLC 66/88 reg.23)	X	X		X	X		
(LI) 1.1.2.12	examining the bulwarks including the provision of freeing ports, special attention being given to any freeing ports fitted with shutters	Bulwarks	(LLC 66/88/03 reg.24, 25)	X				X		
		Freeing Ports		X				X		
		Freeing Ports fitted with shutters		X				X	X	
(LI) 1.1.2.13	examining the guardrails, gangways, walkways and other means provided for the protection of the crew and means for safe passage of crew	Guardrails	(LLC 66/88/03 reg.25, 25-1)	X					X	
		Gangways								
		Walkways								
		Other means								
(LI) 1.1.2.14	special requirements for ships permitted to sail with type "A" or type "B-minus" freeboards	Machinery Casings	(LLC 66/88/03 reg.26, 27)	X			X	X		
		Gangway and Access								
		Hatchways								
		Freeing arrangements								

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS / DOCUMENTATION	CONFORMITY VERIFICATION	SURVEY DURING CONSTRUCTION OR INSTALLATION	TIGHTNESS TEST	SURVEY AFTER CONSTRUCTION OR INSTALLATION	FUNCTION TEST	ON BOARD VERIFICATION OF DOCUMENTATION
(LI) 1.1.2.15	checking, when applicable, of the fittings and appliances for timber deck cargoes	Uprights	(LLC 66/88 regs.42 to 45)	X				X		
		Lashings		X					X	
		Stability		X					X	
		Protection of Crew		X				X		
(LI) 1.1.3.1	checking that the loading and ballasting information has been supplied to the master	Loading and Stability Manual	(LLC 66/88 reg.10)	X					X	

Table 3. MARPOL Annex 1

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS/DOCUMENTATIONS	CONFORMITY VERIFICATION	SURVEY DURING CONSTRUCTION OR INSTALLATION	SURVEY AFTER CONSTRUCTION OR INSTALLATION	ON BOARD VERIFICATION OF DOCUMENTATION	FUNCTION TEST
Requirements for All Ships									
(OI) 1.1.3.1	confirming the satisfactory installation and operation of, as appropriate, oil filtering equipment and when appropriate the operation of the automatic means provided to stop the discharge of effluent and the satisfactory operation of the alarm - or other installation	oil filtering equipment Automatic Stopping Device Alarm	MARPOL 90/04 Annex I regs. 14 and 15	X	X			X	X
(OI) 1.1.3.2	confirming, when applicable, that the oil content meter and its recording device are operable and that there is a sufficient supply of consumables for the recording device on board	Oil Content Meter	MARPOL 90/04 Annex I regs. 14 and 15		X	X			X
		Recording Device			X	X			X
		Consumables						X	
(OI) 1.1.3.3	testing, where fitted, the automatic stopping device required for discharges in Special Areas	Stopping Device	MARPOL 90/04 Annex I reg. 15						X
(OI) 1.1.3.4	confirming the segregation of the oil fuel and water ballast system and the non-carriage of oil in forepeak tanks	Segregation of WB and Oil Carriage of Oil in FP Tank	MARPOL 90/04 Annex I reg. 16	X		X			
(OI) .1.1.3.5	confirming that the oily residue (sludge) tank and its discharge arrangements are satisfactory and, when the size of the sludge tank is approved on the basis of such installations, confirming the satisfactory operation of homogenizers, sludge incinerators or other recognised means for the control of sludge	Oily residue (sludge) tank	MARPOL 90/04 Annex I reg. 12	X			X		
		Discharge Arrangement		X			X		
		Approved Sludge Tank's Size		X			X		
		Incinerators/Homogenisers		X	X		X		X
(OI) 1.1.3.6	confirming the provision of the standard discharge connection	Standard Discharge Connection	MARPOL 90/04 Annex I reg. 13				X		
(OI) 1.1.3.7	confirming oil fuel tank protection arrangements	Tank Arrangements	MARPOL 90/04 Annex I reg. 12A	X		X			

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS/DOCUMENTATIONS	CONFORMITY VERIFICATION	SURVEY DURING CONSTRUCTION OR INSTALLATION	SURVEY AFTER CONSTRUCTION OR INSTALLATION	ON BOARD VERIFICATION OF DOCUMENTATION	FUNCTION TEST
Additional Requirements for Oil Tankers									
(OI) 1.1.4.1	confirming that the arrangements of slop tanks or cargo tanks designated as slop tanks and associated piping systems are satisfactory	Slop Tanks Cargo Tanks designated as slop tanks	MARPOL 90/04 Annex I regs. 29 and 34	X X			X X		
(OI) 1.1.4.2	confirming the satisfactory installation and operation of the oil discharge monitoring and control system, including any audible or visual alarms, the automatic and manual means to stop the discharge of effluent, the starting interlock and the accuracy of the flow meter and the applicable resolution's requirements for installation survey	Discharge Monitoring and Control System Audible and Visual Alarms Automatic and manual means to stop discharge of Effluent Starting Interlock Accuracy Flow Meter	MARPOL 90/04 Annex I regs. 31 and 34	X	X		X X X X		X X X X
(OI) 1.1.4.3	confirming that the oil content meter and its recording device are operable and that there is a sufficient supply of consumables for the recording device on board	Oil Content meter and recording device	MARPOL 90/04 Annex I regs. 31 and 34		X		X		X
(OI) 1.1.4.4	confirming that the approved oil/water interface detectors are on board and are operational	Oil/water interface detectors	MARPOL 90/04 Annex I reg. 32		X		X		
(OI) 1.1.4.5	confirming that the arrangements of pumps, pipes and valves are in accordance with the requirements for segregated ballast systems and that there are no cross-connections between the cargo and segregated ballast systems	Segregated Ballast Tanks: Pumps, Piping and Valves	MARPOL 90/04 Annex I reg. 18	X			X		
(OI) 1.1.4.6	where a portable spool piece is provided for the emergency discharge of segregated ballast by connecting the segregated ballast system to a cargo pump, confirming that non-return valves are fitted on the segregated ballast connections and that the spool piece is mounted in a conspicuous position in the pump room with a permanent notice restricting its use	Segregated Ballast Tanks: Emergency Discharge	MARPOL 90/04 Annex I reg. 18	X			X		

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS/DOCUMENTATIONS	CONFORMITY VERIFICATION	SURVEY DURING CONSTRUCTION OR INSTALLATION	SURVEY AFTER CONSTRUCTION OR INSTALLATION	ON BOARD VERIFICATION OF DOCUMENTATION	FUNCTION TEST
(OI) 1.1.4.7	testing ballast pipelines that pass through cargo tanks and those cargo pipelines that pass through ballast tanks to ensure there is no cross contamination	Pipelines	MARPOL 90/04 Annex I reg. 18	X			X		
(OI) 1.1.4.8	confirming that the crude oil washing system is installed in accordance with the approved plans and, in particular:		MARPOL 90/04 Annex I regs. 18 & 33	X					
(OI) 1.1.4.8.1	examining crude oil washing piping, pumps, valves and deck mounted washing machines for signs of leakage and to check that all anchoring devices for crude oil washing piping are intact and secure;	Piping, Pumps Valves & Anchoring Devices					X		
(OI) 1.1.4.8.2	carrying out pressure testing of the crude oil washing system to 1.5 times the working pressure;	Pressure Test					X		
(OI) 1.1.4.8.3	confirming in those cases where drive units are not integral with the tank washing machines, that the number of operational drive units specified in the Manual are on board;	Operational Drive Units					X		
(OI) 1.1.4.8.4	checking that, when fitted, steam heaters for water washing can be properly isolated during crude oil washing operations, either by double shut-off valves or by clearly identifiable blanks;	Steam Heaters					X		X
(OI) 1.1.4.8.5	checking that the prescribed means of communications between the deck watch keeper and the cargo control position is operational;	Means of Communication					X		X
(OI) 1.1.4.8.6	confirming that an overpressure relief device (or other approved arrangement) is fitted to the pumps supplying the crude oil washing system;	Overpressure Relief Device					X		X
(OI) 1.1.4.8.7	verifying that flexible hoses for supply of oil to the washing machines on combination carriers are of an approved type, are properly stored and are in good condition;	Flexible Hoses			X		X		

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS/DOCUMENTATIONS	CONFORMITY VERIFICATION	SURVEY DURING CONSTRUCTION OR INSTALLATION	SURVEY AFTER CONSTRUCTION OR INSTALLATION	ON BOARD VERIFICATION OF DOCUMENTATION	FUNCTION TEST
(OI) 1.1.4.9	verifying the effectiveness of the crude oil washing system and, in particular:	COW-Crude Oil Washing: Effectiveness	MARPOL 90/04 Annex I reg. 33						
(OI) 1.1.4.9.1	checking that the crude oil washing machines are operable and to observe the proper operation of the washing machines by means of the movement indicators and/or sound patterns or other approved methods;						X		X
(OI) 1.1.4.9.2	checking the effectiveness of the stripping system in appropriate cargo tanks by observing the monitoring equipment and by hand-dipping or other approved means;								X
(OI) 1.1.4.9.3	verifying by internal tank inspection after crude oil washing that the installation and operational procedures laid down in the Operations and Equipment Manual are satisfactory;								X
(OI) 1.1.4.10	confirming that, where there is a crude oil washing system, an inert gas system has been installed and tested in accordance with the requirements of SOLAS 74/88/2000 (see (EI) 1.1.4.2 in Annex 1);	COW-Crude Oil Washing: General			X		X		X
(OI) 1.1.4.11	confirming, as appropriate, that the arrangements for the prevention of oil pollution in the event of collision or stranding are in accordance with the approved plans	Pollution due to Collision or Stranding	MARPOL 90/04 Annex I regs. 19 to 22	X			X		
(OI) 1.1.4.12	confirming that the piping systems associated with the discharge of dirty ballast water or oil-contaminated water are satisfactory	Pumping, Piping and Discharge	MARPOL 90/04 Annex I reg. 30	X			X		
(OI) 1.1.4.13	confirming that the observation and discharge control positions for visually observing the discharge of oil-contaminated water, including the testing of the communication system between the two positions are satisfactory	Observation and Discharge Control	MARPOL 90/04 Annex I reg. 30				X		X

	A.997(25) REQUIREMENT	SURVEY ITEM	ORIGIN OF THE REQUIREMENT	CORRESPONDENCE WITH APPROVED DRAWINGS/DOCUMENTATIONS	CONFORMITY VERIFICATION	SURVEY DURING CONSTRUCTION OR INSTALLATION	SURVEY AFTER CONSTRUCTION OR INSTALLATION	ON BOARD VERIFICATION OF DOCUMENTATION	FUNCTION TEST
(OI) 1.1.4.14	confirming that the means of draining cargo pumps and cargo lines, including the provision of a stripping device and the connections for pumping to the slop or cargo tanks or ashore are satisfactory	Means of Draining and Stripping means for pumping ashore / slop / cargo tanks	MARPOL 90/04 Annex I reg. 30	X X			X X		
(OI) 1.1.4.16	confirming that closing devices installed in the cargo transfer system and cargo piping, as appropriate, are satisfactory	Closing arrangements	MARPOL 90/04 Annex I regs. 23 & 26						X
(OI) 1.1.4.17	confirming that the subdivision and stability arrangements, in addition to the provision of (OI) 1.1.4.16, to prevent progressive flooding are satisfactory	Stability Manual Tank Arrangement	MARPOL 90/04 Annex I regs. 23 & 26	X			X	X	
(OI) 1.1.4.18	confirming the arrangements for cargo pump-room bottom protection (double bottom where required)	Tank Arrangements	MARPOL 90/04 Annex I reg. 22	X			X		
Requirements for All Ships									
(OI) 1.1.5.1	confirming that certificates for type approval for the oil filtering equipment and oil content meters are available	Type Approval Certificates	MARPOL 90/04 Annex I reg. 14		X			X	
(OI) 1.1.5.2	confirming that the Oil Record Book (Part I) has been provided	Oil Record Book	MARPOL 90/04 Annex I reg. 17					X	
(OI) 1.1.5.3	confirming that the shipboard oil pollution emergency plan or, in the case of a chemical/product tanker, a shipboard marine pollution emergency plan has been provided	SOPEP/SMPEP	MARPOL 90/04 Annex I reg. 37	X				X	
(OI) 1.1.5.4	confirming, as appropriate, that the Operating and Maintenance manuals for the 15ppm bilge separator and 15ppm bilge alarm are available	Operations Manual						X	
Additional Requirements for Oil Tankers									
(OI) 1.1.6.2	confirming that, if applicable, a Crude Oil Washing Operations and Equipment Manual has been provided	COW-Crude Oil Washing: Operations & Equipment Manual	MARPOL 90/04 Annex I reg. 35	X				X	

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(OI) 1.1.6.3	confirming that an operations manual for the oil discharge monitoring and control system has been provided together with any other documentation requested by the applicable resolution	ODM Operation Manual	MARPOL 90/04 Annex I reg. 31	X				X	
(OI) 1.1.6.4	confirming that certificates for type approval for the oil content meters, oil discharge monitoring and control system and oil/water interface detectors are available	Type Approval Certificates	MARPOL 90/04 Annex I regs. 31 and 32					X	
(OI) 1.1.6.5	confirming that an Oil Record Book (Part II) has been provided	Oil Record Book	MARPOL 90/04 Annex I reg. 36					X	
(OI) 1.1.6.7	confirming that the information and data concerning the loading and damage stability has been provided	Loading and Damage Stability Data	MARPOL 90/04 Annex I reg. 28	X				X	
(OI) 1.1.6.8	confirming that the shipboard oil pollution emergency plan or in the case of a chemical/product tanker a shipboard marine pollution emergency plan has been provided	SOPEP/SMPEP	MARPOL 90/04 Annex I reg. 37	X				X	
(OI) 1.1.6.9	confirming, for oil tankers of 5,000 deadweight and above delivered on/after 1 February 2002, that the intact stability has been approved	Stability Information	MARPOL 90/04 Annex I reg. 27	X				X	
(OI) 1.1.6.10	confirming, for oil tankers of 5,000 deadweight and above, that arrangements are in place to provide prompt access to shore-based damage stability and residual structural strength computerized calculation programmes	Shore based emergency support arrangements	MARPOL 90/04 Annex I reg. 37.4					X	

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