

**Bulker Q&As and CIs on the IACS CSR Knowledge Centre**

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
188	1/1.1.1.1.1 & 1/1.3.1.1.1	Question	length	2006/10/2	Which length is correct? 150m or 90m?	Both are correct. The CSR for bulk carriers apply to ships of 90m or above in general. Sub-sec.[3.1.1] corresponds to UR S25 which applies to ships of 150m or above. These definitions are kept as they are.	
189	1/1.1.1.2	Question	application of CSR	2006/10/2	Does CSR apply to the bulk carrier with box shape which does not have bilge hopper tank and top side tank?	No, the CSR for bulk carriers do not apply to a bulk carrier which does not have hopper side tank and topside tank in cargo holds length area.	
190 attc	1/1.1.1.2	Question	application of CSR	2006/10/2	With bulk carriers is intended sea going self-propelled ship which are constructed generally with single deck, double bottom, hopper side tanks and topside tanks and with single or double side skin construction in cargo length area and intended primarily to carry dry cargoes in bulk. Hybrid bulk carriers, where at least one cargo hold is constructed with hopper tank and topside tank, are covered by the present Rules. The structural strength of members in holds constructed without hopper tank and/or topside tank is to comply with the strength criteria defined in the Rules. (See <a href="#">attachment</a> )	No, the CSR for bulk carriers do not apply to such bulk carriers which are constructed with topside tank but without hopper side tank in cargo holds length area.	<a href="#">Y</a>
191	1/1.1.1.2	Question	application of CSR	2006/10/2	Are the following ships not subject to CSR due to their cross section design? - ore carrier - combination carrier - cement carrier - wood chip carrier - open hatch carrier	No, such ships are not subject to the CSR for bulk carriers.	
192 attc	1/1.1.1.5	Question	hull materials	2006/10/2	Ships whose hull materials are different than those given in [1.1.4] and ships with novel features or unusual hull design are to be individually considered by the society, on the basis of the principles and criteria adopted in the present Rules. (1) Is the word "ships" the bulk carriers as defined in [1.1.2]? (see drawing 1 in <a href="#">attachment</a> ) (2) Can "Novel features" and "unusual hull shapes" be used to include vessels as shown? See drawing 2 in <a href="#">attachment</a> - Can this design be included in the term novel feature?	(1) Yes, the ships with cross sections indicated in figure are defined as bulk carriers. (2) The treatment of "Novel features" and "unusual hull shapes" depends on the discretion of each Classification Society.	<a href="#">Y</a>
193	1/4.3.3.3	Question	length	2006/10/2	The midship part of a ship is the part extending 0.4L amidship, unless otherwise specified." Could you elaborate on what this means?	The midship part is the extent of 0.3L to 0.7L from the aft end (A.E.) of the rule length L.	
279 attc	1/1.1.1	Question	application	2006/11/13	Is CSR applicable for VLOO (Very Large Oil or Ore) carrier having configuration very similar to VLCC, but with hatch opening in center hold/tank? See <a href="#">attached</a> sketch.	CSR Tanker or Bulker Rules are not applicable for Ore-Oil Carriers.	<a href="#">Y</a>

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
361 attc	1/3.2.2.2	Question	Flooding Scenario	2009/9/4	<p>According to this functional requirement, we assume that flooding scenario should be taken care of for all ships. It is unclear how this is taken care of for BC-C vessels and for small ships with length below 150 m. It should be explained and included in the rules or if applicable, the functional requirement should be modified for sake of clarity.</p> <p>Meantime, please confirm if our understanding of the current CSR is correct as summarized in the table attached. In the following questions we also highlight our concerns.</p>	<p>1. Your comments have been noted and we will clarify the application of the flooding requirement in a future revision of the rules.</p> <p>2. Regarding the summarized table as attached, the answer is as follows.                      (1) Design still water bending moment and shear forces, your understanding is correct.                      (2) Design wave bending moments and shear forces, your understanding is correct.                      (3) Longitudinal strength (Yielding), your understanding is correct.                      (4) Longitudinal strength (Buckling), your understanding is correct.                      The answer to the question in the "Remark" box in the attached document is as follow.                      No, the axial buckling check according to UR S17 is not applied to. Hull girder ultimate strength check should be carried out in stead of the axial buckling check.                      (5) Hull girder ultimate strength, your understanding is correct.                      The answer to the question in the "Remark" box in the attached document is as follow.                      Yes, hull girder ultimate strength applies to BC-C ships.                      (6) Design loads for corrugations of transverse bulkhead: your understanding is correct.</p> <p>(7) Strength of corrugation of transverse watertight bulkhead: your understanding is correct.                      (8) Shear buckling strength of corrugation of transverse watertight bulkhead: this is applied to all ships according to "Corrigenda 2 approved by IACS Council on 27 January 2007."                      (9) Flooding scenario for double bottom: your understanding is correct.                      (10) Design load and strength of double bottom: your understanding is correct.                      (11) Design load for boundaries of dry compartment: your understanding is correct.                      The answer to the question in the "Remark" box in the attached document is as follow.                      Where sigma x is not defined for longitudinal members, sigma-x for intact condition is used.                      The M<sub>wH,f</sub> is not considered.                      Combination factor for intact condition is used.                      (12) Design load and strength of primary supporting members on the boundaries of dry compartment; your understanding is correct. There is no requirement in CSR.                      (UPDATED OCT 2009)</p>	<p><a href="#">Y</a></p>
410 attc	1/1.1.2	Question	Lime Stone Ship	2007/3/15	<p>Is CSR/Bulker applied to the attached self-unloading lime stone ship ?</p>	<p>No, the CSR is not applicable to the concerned design of the self-unloading lime stone ship.</p>	<p><a href="#">Y</a></p>

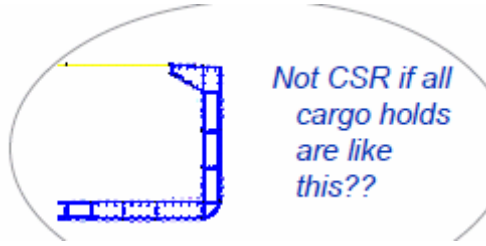
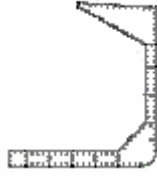
KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
436 attc	1/1.1.1.2	Question	Self-unloading bulk carrier	2007/4/6	Is the self-unloading bulk carrier, showed in the <b>attached</b> file, NOT a CSR-bulk carrier like the lime stone carrier of question #410?	Your interpretation is right. This self-unloading bulk Carrier is not a CSR-bulk carrier as defined in Ch 1, Sec 1, 1.1.2.	<a href="#">Y</a>
473 attc	1/1.1.1.2	CI	Structural arrangement of bulk carrier in midship hold and hold adjacent to engine room.	2007/10/24	Ch.1 Section.1 1.1.2: Please see <b>attachment</b> for structural arrangement of bulk carrier in midship hold and hold adjacent to engine room. Please note: - Vessel has no hopper tank in parallel midship area - Vessel has a sloped hopper-like shape in bilge area due to hull shape. Hopper shape is extending the entire cargo hold. Please advice if the vessel falls within the category "hybrid bulk carrier" as stated in 1.1.2. and whether or not CSR is mandatory for this design. Common guidelines urgently needed	According to the clause in Ch.1, Sec.1 [1.1.2], the subject design needs to comply with the CSR for Bulk Carrier.	<a href="#">Y</a>
511 attc	1/1.1.1.2	Question	Midship section & Sections in cargo holds	2007/9/25	The midship section and sections in cargo holds other than NO.1(Foremost) cargo holds are as per No.1) Midship in the <b>attached</b> sketches. There are 5 kinds of designs of NO.1 cargo hold as shown in No.2) through No.6) in the attached sketches. Please advise whether the respective designs No.2) through No.6) need to comply with the CSR requirements.	In case of designs as per the sketches No.3) thru 6) for No.1 cargo hold section CSR needs not be applied. However CSR needs to be applied for the case of sketches No.2.	<a href="#">Y</a>
514	1/4.2.1.1	CI	Definition of Ship's speed V	2007/8/28	Ship's speed, V, is defined in Ch1 Sec4, 2.1.1 as Maximum ahead service speed, in knots. My understanding is that the definition of V in CSR is same as the one in 2.1.1 of UR S10, namely maximum service speed (knots) with the ship on summer load waterline. Is my understanding correct?	Yes, your understanding is correct. <b><u>Also Included in Corrigenda 5</u></b>	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
548	1/1.1.1.2	Question	Ship not being Hybrid-BC	2007/10/9	<p>If a ship is not an hybrid-BC according to CSR definition in Chapter 1, 1.1.2 (i.e. for the considered ship no one hold has hopper tank and topside tank), it is not required to apply the CSR.</p> <p>In case an owner intends to build a ship longer than 90 m having all cargo holds of box type and expected to carry cargo in bulk for a number of travels a year, i.e. a bulk carrier according to SOLAS chapter XII, the following questions are to be answered:</p> <p>1.if the Shipyard or Ship-owner asks - for any commercial reason - to classify the ship (which is not hybrid because all the holds are without hopper and lower tanks) as Bulk Carrier, can each Society decide to classify the ship as Bulk Carrier without applying the CSR? Applicable Rules would be each Society's Rules for BC and the URs to Bulk Carriers.</p> <p>2.if the Shipyard or Shipowner asks to classify the ship (which is not hybrid because all the holds are without hopper and lower tanks) as Bulk Carrier with scantlings according to CSR, can each Society decide to classify the ship as Bulk Carrier applying the CSR even if Chapter 1, 1.1.2 does not require it? The CSR can be applied, because in 1.1.2 is stated that "The structural strength of members in holds constructed without hopper tank and/or topside tank is to comply with the strength criteria defined in the Rules.", meaning therefore that the CSR scantling can be applied to such holds. It is to be noted that in no case ESP will apply as this is not required under SOLAS XI-1 Reg.2.</p>	The questions are considered to be outside of PT1's scope of work. It is requested to Hull Panel to provide answer to your questions.	
586 attc	1/1.1.1.2	CI	Longitudinal Bulkhead	2008/4/24	<p>In case we have an inclined longitudinal bulkhead, is it possible to consider there is no hopper tank and therefore not to apply CSR Rules?</p> <p>If this inclined longitudinal bulkhead is made with small change with two slopes, is it possible to consider there is no hopper tank?</p>	A few similar questions have already raised to IACS KC. IACS works on an entire answer for the application of the CSR-BC for different ship designs, considering a clear definition of the hopper tank.	<a href="#">Y</a>
587 attc	1/1.1.1.2	CI	Structure of bulk carrier in midship, aft and fore body hold	2007/10/24	<p>Please see <a href="#">attachment</a> for structure of bulk carrier in midship hold and aft and fore body hold.</p> <p>In this case, whether or not is CSR mandatory?</p>	A few similar questions have already raised to IACS KC. IACS works on an entire answer for the application of the CSR-BC for different ship designs, considering a clear definition of the hopper tank.	<a href="#">Y</a>

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
601	1/1.1.1.2	Question	Application to convert ships	2008/3/14	<p>CSR Application to converted ship;                      In response to the recent demands of the bulker market, there are many conversion plan of the existing tanker into bulk carrier. The most of such plans indicate that hull envelope (i.e., bottom, side and portions of deck structures) of the existing ship is retained as original and inner bottom structures and TST/hopper tank shaped structures (void) are newly installed for satisfactorily comply with the grain stability. Such conversion is considered as a "major conversion" under the statutory requirements. However, it is not clear in application of CSR for bulk carrier. Please advise of your views for the following inquiries:</p> <p>Q1: In line with the definition of "alterations and modifications" of the statutory requirements, such as SOLAS II-2Reg. 1.2.3.2.(FP), is CSR for bulk carriers required to be applied to the converted bulk carrier? Please advise your views.</p> <p>Q2: There is no clear statement in the current text on applicability of CSR for bulk carriers which undergo alterations and modifications or conversion from other type of ship into bulk carrier. We would think such statement should be indicated in the text.</p> <p>Q3: Is such applicability related to the extent of conversion ? If yes, we would think that definition of "(Minor) Conversion" or "Major Conversion" should be defined in the application of CSR for bulk carrier with the clear extent of conversion, e.g., new cargo hold structures replace the existing cargo area construction for XX% of the entire hull structures</p>	The issue is being discussed at Hull Panel for Council decision on the IACS procedures to be followed.	
604	1/4.2.1.1 & 4/3.2.4	Question	Longitudinal Strength Calculation	2008/5/6	<p>It is mandatory to make Longitudinal Strength Calculation for one flooded hold for Bulk Carriers having length of 150 m or above; according to SOLAS Ch. XII Reg. 5. For that calculation the length of the ship is to be taken as Loadline Length according to SOLAS Ch. XII Reg. 1</p> <p>SOLAS Rule Reference: SOLAS Ch. XII Reg. 1 (for length definition) &amp; SOLAS Ch. XII Reg. 5 (for Strength Calculation).</p> <p>According to CSR for Bulk Carriers the same calculation for flooded hold should be carried out but in CSR it is stated that the length of the ship is to be taken as the Rule Length.</p> <p>CSR Rule Reference: CSR Ch.1 Sec. 4 2.1.1 (for length definition) &amp; CSR Ch.4 Sec. 3 2.4 (for Strength Calculation)</p> <p>In our project, the Rule Length &lt; 150 m while the Loadline Length &gt; 150 m. Would you please advise what kind of application should be followed? Should the strength calculation be made in this particular case? Which length should be taken into consideration?"</p>	The rule length as defined in Ch 1, Sec 4, [3.1.1] should be used for the determination of still water bending moment and still water shear force in flooded condition according to Ch 4, Sec 3, [2.4].	
680	1/1.1.1.2	Question	Bilge hopper tank and VOID	2008/6/19	<p>This bulk carrier is arranged with bilge hopper tank and VOID or TRUNK space at deck as attached.</p> <p>Please confirm whether CSR should be applied to the bulk carrier or not.</p>	As stated in Ch1 Sec1, 1.1.2, CSR should be applied to a bulk carrier with topside tanks. The questioned bulk carrier also has the configuration of topside tanks, where VOID or TRUNK space is arranged in your sketch. The usage of the space does not affect the application of CSR. Accordingly, the ship should be applied with CSR.	

KCID No.	Ref.	Type	Topic	Date completed	Question/CI	Answer	Attachment
692	1/1.1.1.2	CI	combination carrier	2008/9/10	Reference is made to Ch.1 Sec. 1 [1.1.2] . Vessel in question is a 7 hold Bulk carrier where 3 holds are arranged for carriage of Caustic Soda. Vessel has traditional bulk carrier cross section with top wing and hopper tank in cargo area . According to [1.1.2] CSR is not applicable for combination carriers. However, combination carrier according to SOLAS definition is a vessel that can carry both dry bulk and oil. As Caustic soda is characterized as a chemical and not oil we are of the opinion that above vessel can not be considered a combination carrier. Following this, we consider that this vessel shall comply with CSR in addition to be designed to carry Caustic soda in the specified cargo holds. Design loads from the liquid cargo will be used and based on the principles as given in CSR. Please advice.	As the ship is 7 hold Bulk carrier having cross section with top wing and hopper tank in cargo area, even if some holds are arranged for carriage of Caustic Soda, it should be considered as a CSR bulk carrier, if intended primarily to carry dry cargoes in bulk, which seems to be the case. An additional consideration to necessary equipment and hydrodynamic load due to loading of caustic soda solution, if applicable, should be made , which should be subject to the review and approval of the class.	
982	1/1.1.1.6	CI	Definition of "assigned freeboard"	2010/6/29	Ch 4 Sec.7, 1.2.3 specifies that "the maximum loading condition draught is to be taken as the moulded summer load line draught." In the above context, Ch1 Sec1, 1.1.6 defines that "the scantling draught considered when applying the present Rules is to be not less than that corresponding to the assigned freeboard." We understand that the term "assigned freeboard" means the moulded summer load line draught. On the other hand, we understand that the draught of ships to which timber freeboards are assigned corresponds to the loading condition of timber, and that the requirements of the individual Classification Society may apply to this draught. Please confirm that our understanding is correct.	Your understanding is correct. The term "assigned freeboard" means the moulded summer load line draught. The draught of ships to which timber freeboards are assigned corresponds to the loading condition of timber, and the requirements of the individual Classification Society may apply to this draught.	
1027	1/1.3.2.1	RCP	Additional GRAB notation for ships using grab	2010/3/30	According to CSR BC Chap1/1.3.2.1 additional class notation GRAB[X], GRAB is mandatory for ships having notation "BC-A" or "BC-B". I understand that this requirement is result from UI SC208 and SOLAS XII/6.5.1 and there are no restrictions for GRAB in UI SC208 if any ships want to have notation GRAB. Chap1/1.3.2.1 for ships with notation BC-C causes confusion. For example, the notation GRAB is not mandatory for ships with BC-C to carry coal of cargo density less than 1.0 t/m3. All of us know that grab may be used to discharge coal.  Therefore, Please correct a few sentences of Chap1/1.3.2.1 as follows: Mandatory for ships having one of the additional service features BC-A or BC-B, according to [3.1.2]. => Mandatory for ships using GRAB.	As said in the CSR BC, Ch.1 Sec.1 [3.2.1], the assignment of the GRAB notation to a BC-C ship is voluntary and is intended to scope heavy grabs (over 20t of unladen weight). Making this notation mandatory for all ships loaded or unloaded by grabs may induce increases in scantlings even for lighter grabs; this is not the intent of these rules.  The text is kept as it is.	

KC#190

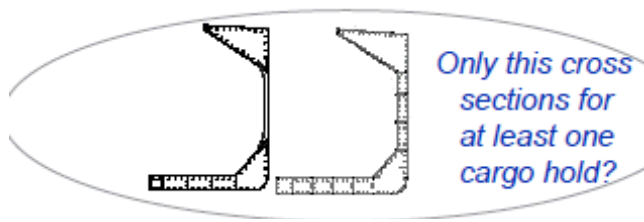


*Not CSR if all  
cargo holds  
are like  
this??*

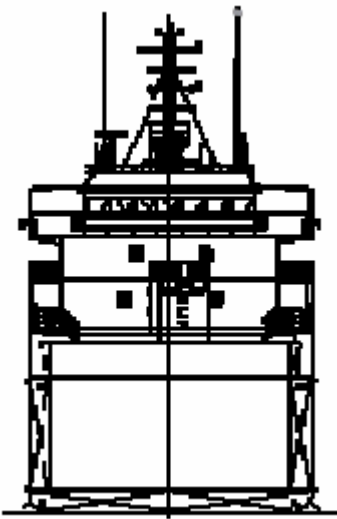
KC#192

attachment \_\_\_\_\_

Drawing 1:

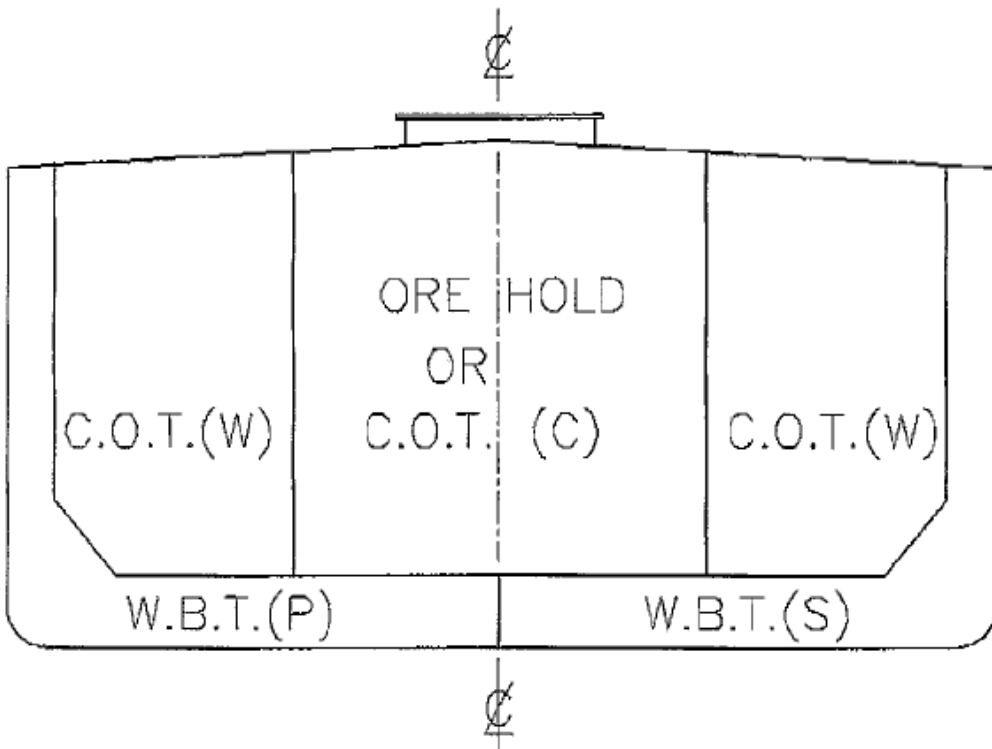


Drawing 2:





KC#279



MIDSHIP SECTION OF VLOO

# KC#361

## Flooding requirements of CSR Bulker

### Q1 Ch 1 Sec 3 [2.2.2]

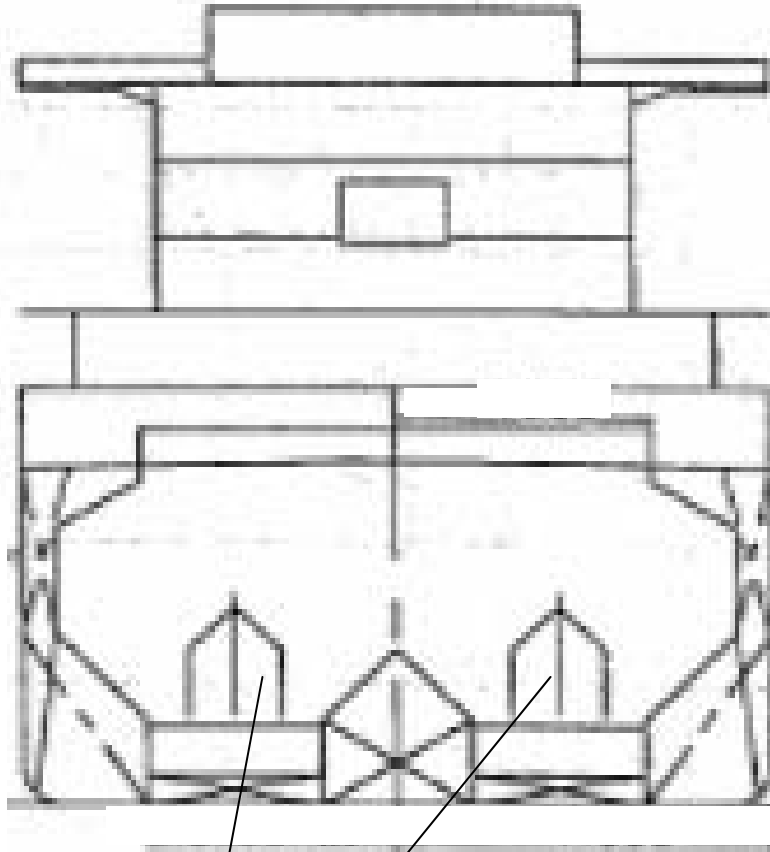
According to this functional requirement, we assume that flooding scenario should be taken care of for all ships. It is unclear how this is taken care of for BC-C vessels and for small ships with length below 150 m. It should be explained and included in the rules or if applicable, the functional requirement should be modified for sake of clarity. Meantime, please confirm if our understanding of the current CSR is correct as summarized in the table below. In the following questions we also highlight our concerns.

<Summary of flooding requirements (strength requirements are highlighted)>

Item	Rule ref.	BC-A and BC-B	BC-C	L < 150 m	Remark
Design still water bending moments and shear forces	Ch 4 Sec 3 [2.4]	X	X	X	
Design wave bending moments and shear forces	Ch 4 Sec 3 [3.1.2] and [3.2.2]	X	X	X	
Longitudinal strength (yielding)	Ch 5 Sec 1 [2.1.3], [2.2.3], [4.2.2], [4.3.1] and [5.3]	X	--	--	
Longitudinal strength (buckling)	Ch 6 Sec 3 [1.1.2]	--	--	--	Axial buckling check according to URS17?
Hull girder ultimate strength	Ch 5 Sec 2	X	X	--	Apply to BC-C?
Design load for corrugations of transverse watertight bulkheads	Ch 4 Sec 6 [3.3]	X	X	X	
Strength of corrugations of transverse watertight bulkheads	Ch 6 Sec 1 [3.2.3] and Sec 2 [3.2.6]	X	X	X	Above URS18
Shear buckling strength of corrugations of transverse watertight bulkheads	Ch 6 Sec 3 [6]	X	--	--	As per URS18
Flooding scenario for double bottom	Ch 4 Sec 6 [3.4]	X	X	X	
Design load and strength of double bottom	Ch 6 Sec 4 [3]	X	--	--	As per URS20
Design load for boundaries of dry compartments	Ch 4 Sec 6 [3.2.1]	X	X	X	The az for intact?
Strength of local plates and stiffeners on the boundaries of dry compartments	Ch 6 Sec 1 [3.2.2] and Ch 6 Sec 2 [3.2.5]	X	X	X	The sig-x not defined for longitudinal members? Apply same $M_{SW,F}$ for flooding of a dry hold and duct keel? Is $M_{WH,F}$ considered? How about combination factors/
Design load and strength of primary supporting members on the boundaries of dry compartments	?	?	?	?	Example: Fore end bulkhead of foremost hold or aft end bulkhead of aftermost hold.

Note: "X" : applicable, "--" : not applicable, "?" : unclear.

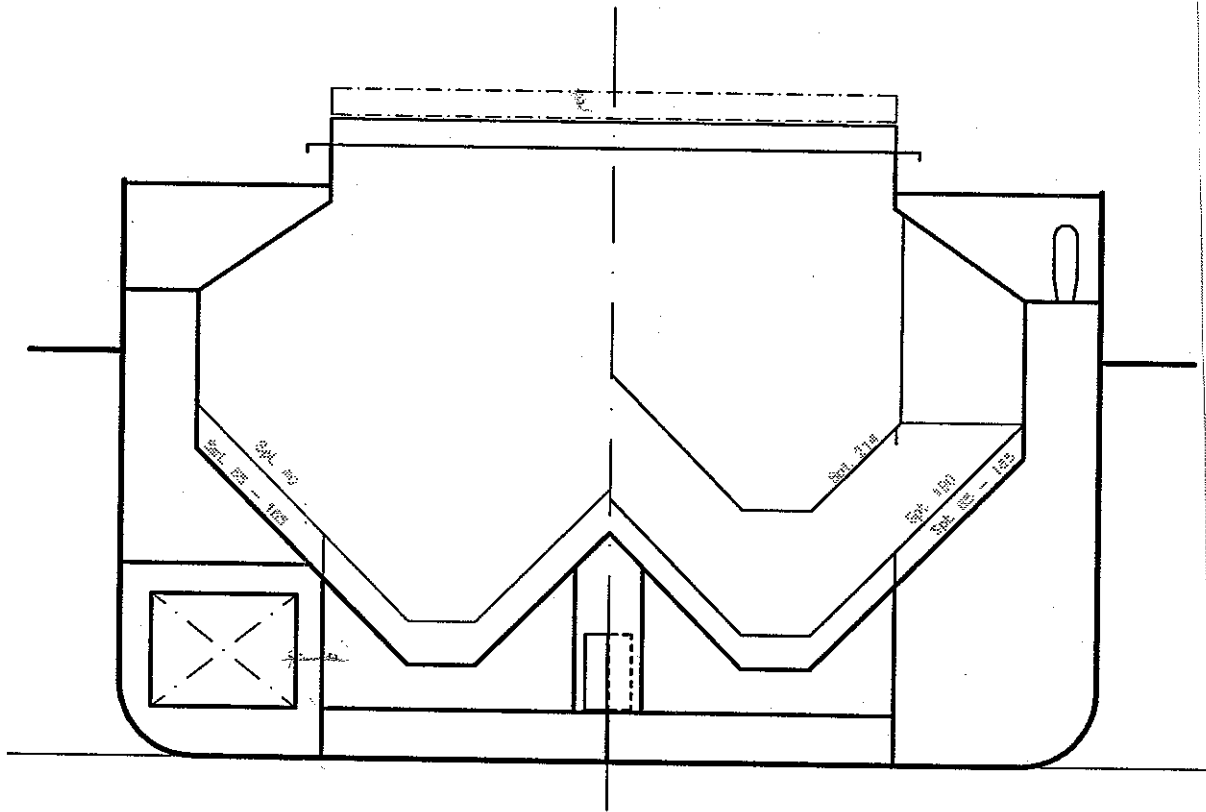
KC#410



1. Machinery Space

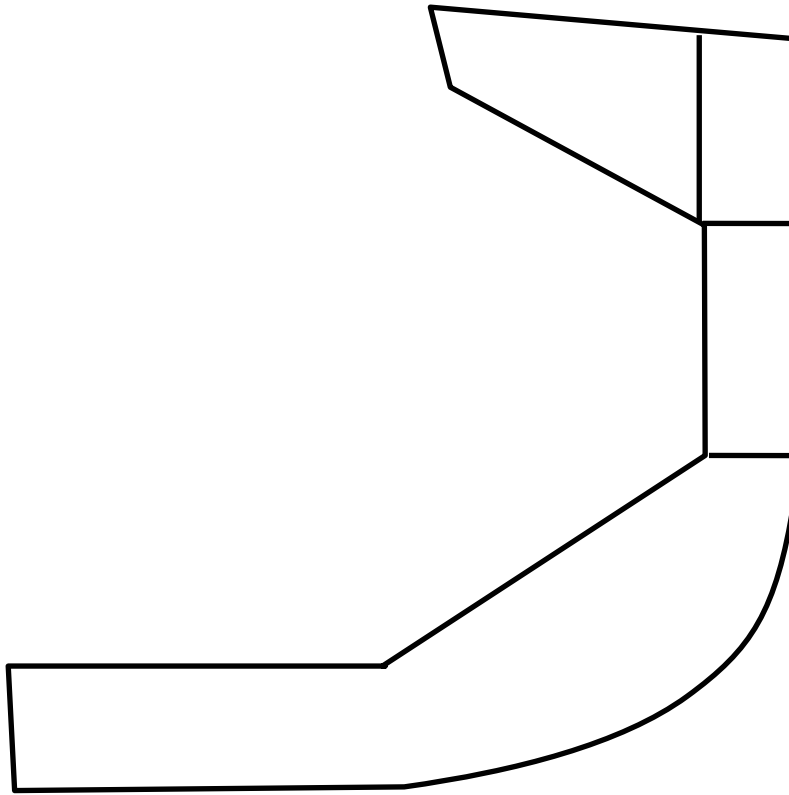
2. Belt Conveyor Space is penetrating through all bulkheads in cargo holds and continuing through Cargo Area.

KC#436

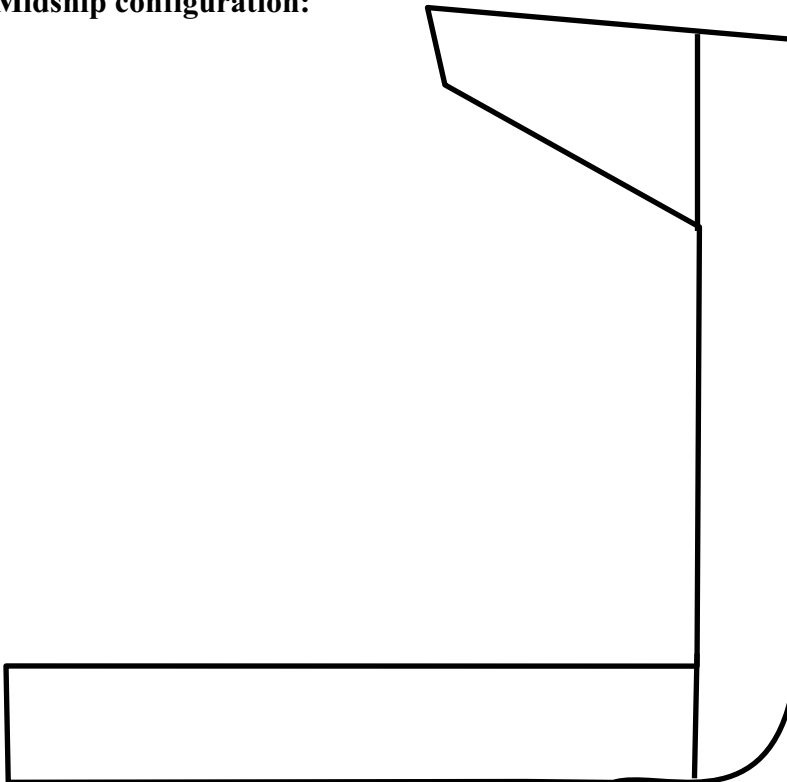


KC#473

**End hold configuration. Sloped "hopper" due to shape in bilge:**



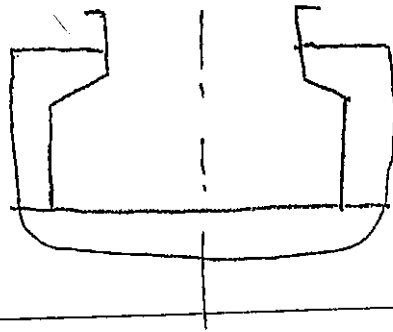
**Midship configuration:**



Filename: Document in Windows Internet Explorer  
Directory: C:\Documents and Settings\IACSTUser\My Documents  
Template: C:\Documents and Settings\IACSTUser\Application  
Data\Microsoft\Templates\Normal.dot  
Title: End hold configuration  
Subject:  
Author: Hans Olav Strømme  
Keywords:  
Comments:  
Creation Date: 22/10/2007 10:56 AM  
Change Number: 3  
Last Saved On: 22/10/2007 10:56 AM  
Last Saved By: 9705  
Total Editing Time: 1 Minute  
Last Printed On: 25/10/2007 10:14 AM  
As of Last Complete Printing  
Number of Pages: 1  
Number of Words: 22 (approx.)  
Number of Characters: 128 (approx.)

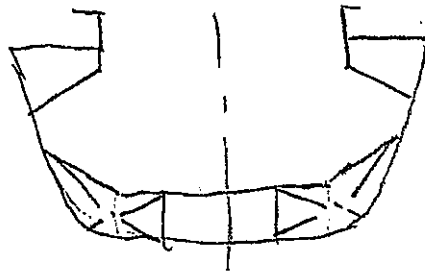
KC#511

1) Midship

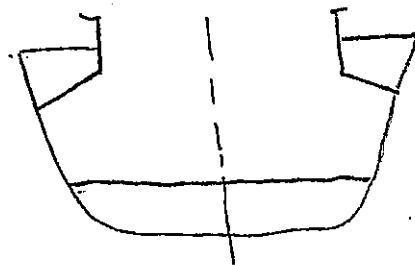


: no hopper

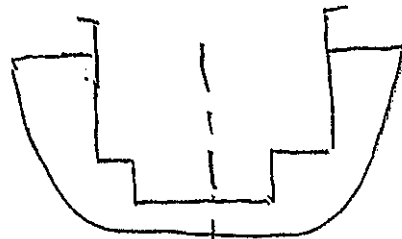
2) No.1 Hold



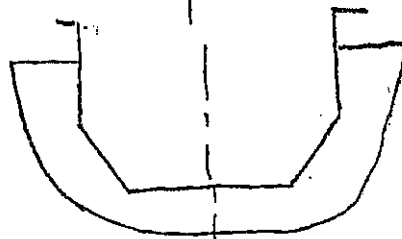
3) No.1 Hold



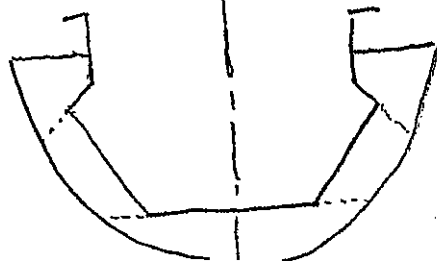
4) No.1 Hold



5) No.1 Hold

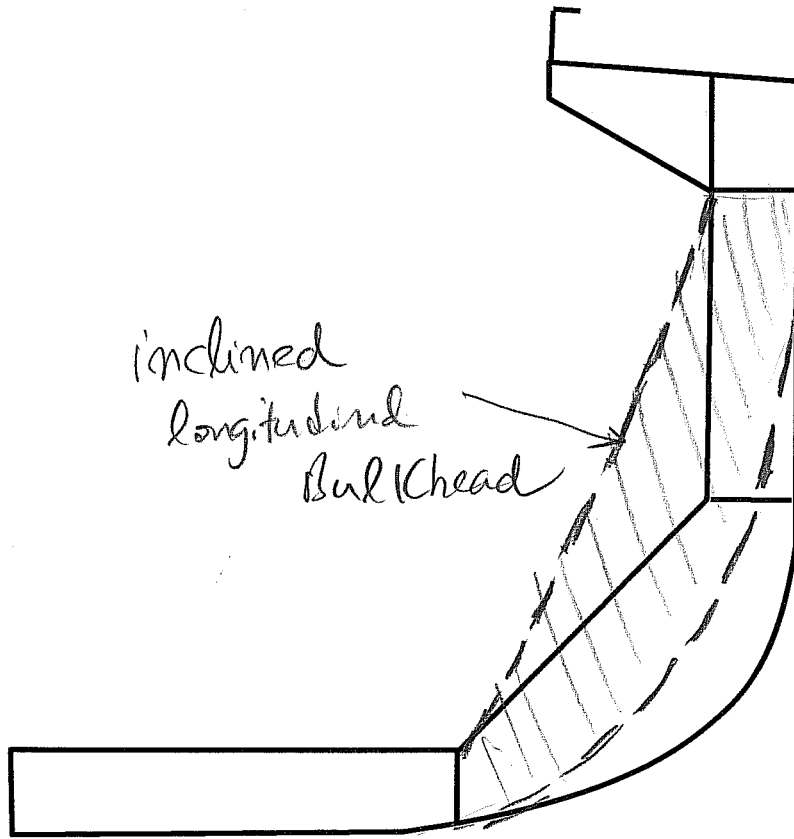


6) No.1 Hold

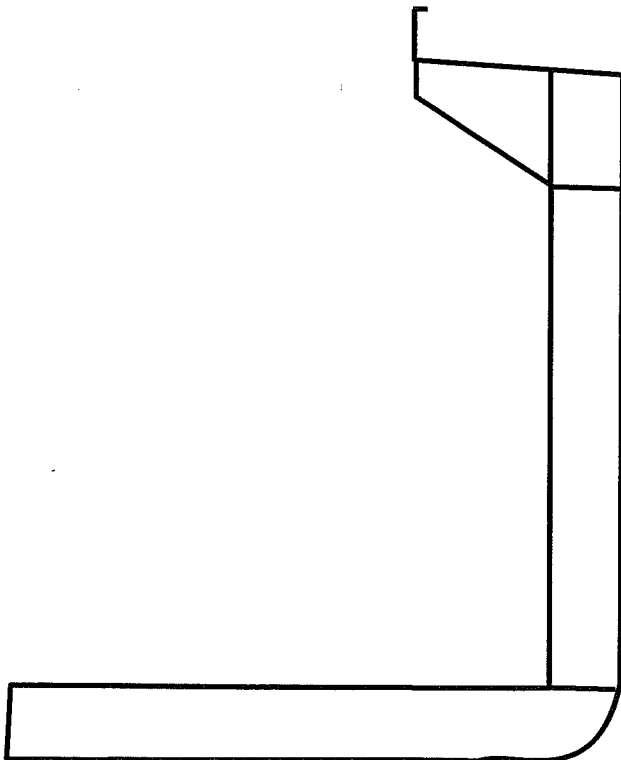


KC#586

**End hold configuration. Sloped "hopper" due to shape in bilge:**



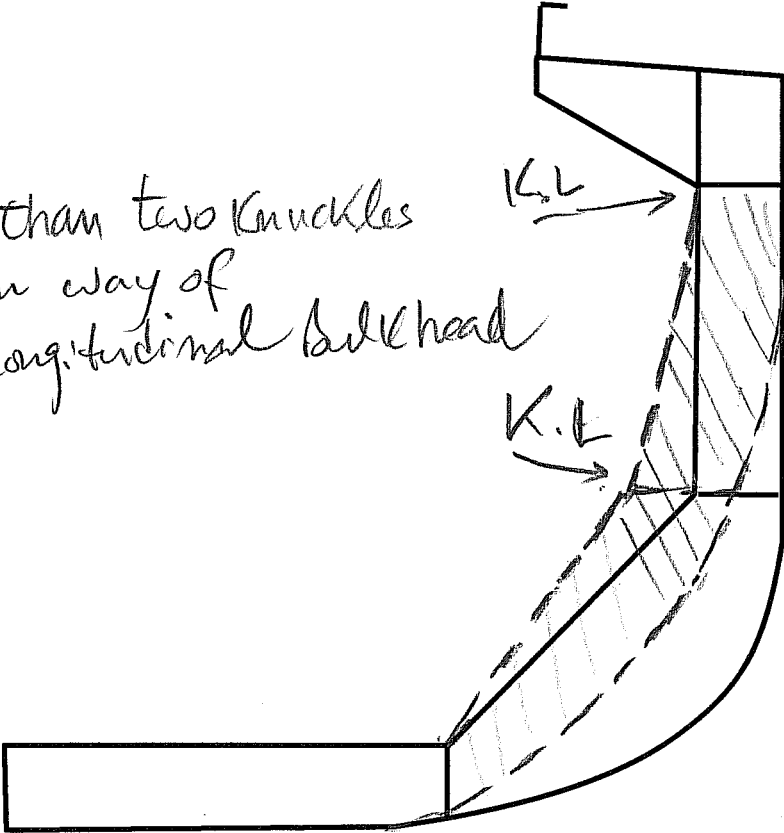
**Midship configuration:**



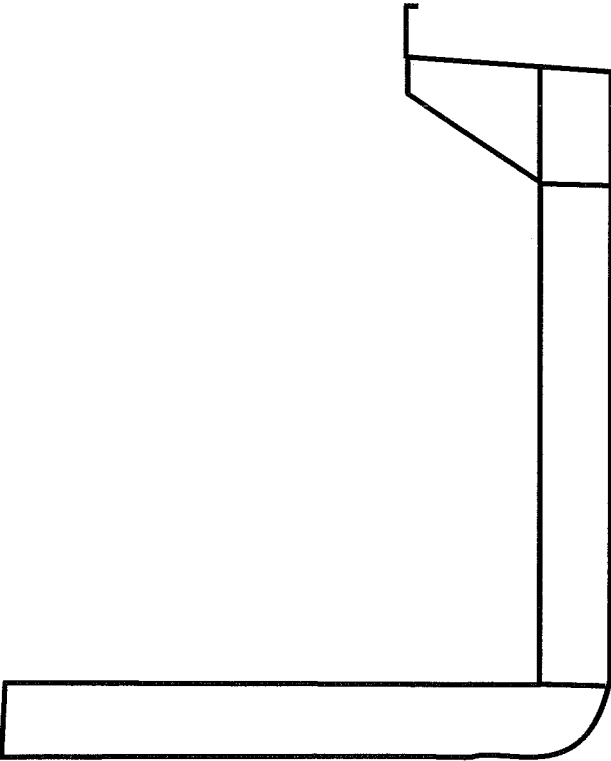


**End hold configuration. Sloped "hopper" due to shape in bilge:**

• More than two Knuckles  
in way of  
Longitudinal bulkhead

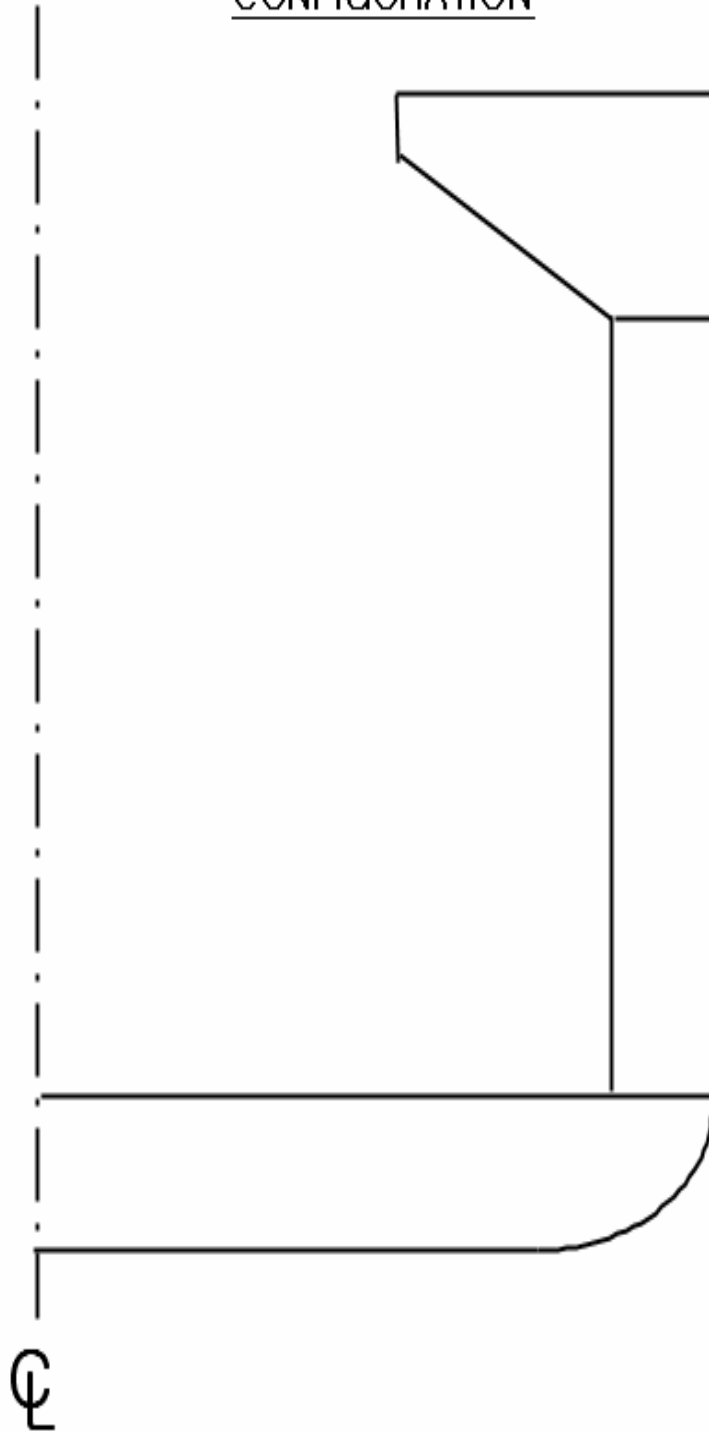


**Midship configuration:**



KC#587

MIDSHIP  
CONFIGURATION



END PART CONFIGURATION OF  
FORE AND AFT END HOLDS

