RulesCalc 2009.2 Release Notes

Lloyd's Register Engineering Software

November, 2009

LIFE MATTERS

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1 What's New in RulesCalc 2009.2

Common Structural Rules for Double Hull Oil Tankers

Transverse structure definition and assessment

The modelling and assessment of transverse structures has been improved in RulesCalc 2009.2. Primary supporting members (PSM) are now assessed at 11 positions along the respective bending and shear spans. Calculations have been separated out into separate 'PSM shear area' and 'PSM section modulus' tabs, as applicable to the relevant structure types. Spans are entered manually (to be updated in a future release. More information can be found in the user guide in the sections relating to inserting transverse PSMs

Lloyd's Register Rules for the Classification of Ships

The newly added features cover specific LR Rules for following

Ship type	Rule book reference
Ferries / Roll-on, Roll-off / Passenger	Part 4, Chapter 2
Great Lakes' Bulk Carrier	Great Lakes Rules, Chapter 4
Ore Carrier	Part 4, Chapter 11

The Engineering Software team hopes all users enjoy using this latest version of RulesCalc.

Feedback - Please send all the comments about the software to es.support@lr.org

Ferries, Roll-on, Roll-off & Passenger Vessels

RulesCalc coverage of Lloyd's Register Rules for ferries, roll-on roll-off ships and passenger vessels has been extended to include:

1. Assessment of Deck structure as per Part 4, Chapter 2, Section 3,
2. Adding functionality of deck definition at Wizard level.
3. Assessment of Glass structure which involves balustrades and glass balconies as per Part 4, Chapter 2, Section 11.
4. Assessment of Shell plating involves assessing Superstructure Side as per Part 4, Chapter 2, Section 4.
5. Assessment of the collision bulkhead.
6. Assessment of pillars with new GUI layout for grouping similar pillars.
7. Assessing longitudinal strength as per Part 4, Chapter 2, Section 2.
8. Assessment of Shell framing as per Part 4, Chapter 2, Section 5.

Great Lakes' Bulk Carrier

Coverage of Rules and Regulations for the Classification of Ships for Service on the Great Lakes and the River St. Lawrence has been added for Bulk Carriers, including:

1. Creating a Great Lakes' BC ship type using wizard.
2. Implementation of the wave head calculation change, as per Great Lakes' Chapter 4 Section 1.
3. Assessing bulkheads as per Lakers Chapter 4 Section 9.
4. Implementation of longitudinal strength calculation changes as per Lakers Chapter 4 Section 3.
5. Assessing equipments as per Lakers Chapter 4 Section 14.
6. Assessing double bottom as per Lakers Chapter 4 Section 7 and 8.

7. Assessing shell plating, hull envelope plating and shell framing as per Chapter 4 Section 4, 5 and 6.
8. Miscellaneous enhancements to hatch coaming.

Ore Carrier

RulesCalc coverage of Lloyd's Register Rules for Ore Carrier has been extended to include,

1. Creating an OC ship type using wizard.
2. Assessing hull envelope plating as per part 4 chapter 11 Section 4.
3. Assessing hull framing as per part 4 chapter 11 Section 5.
4. Assessing double bottom as per part 4 chapter 11 Section 6.
5. Assessing longitudinal bulkhead as per part 4 chapter 11 Section 7.
6. Assessing transverse bulkhead as per part 4 chapter 11 Section 8.

2 System Requirements

Component	Requirements
Computer	2.2GHz processor (Core 2Duo recommended)
Windows®	• Microsoft® Windows® XP with Service Pack 2. ➢ Link to download MS XML 6 ➢ Link to download the .NET Framework 1.1 • Microsoft® Windows® Vista Business Edition. • Microsoft® Windows® 7.
Memory	2GB of RAM (4 GB recommended)
Disk space	200MB of available hard-disk space for installation.
Display	1024x768 display (1280x800 recommended)
Internet connectivity	Internet connection required for online updates

3 Resolved Issues

Log Number	Description
6222	LNG - Deck Structure ‘Ms Known’ value is now changing when new file created using existing wizard values are changed.
6621	Display of gunwale in the CSR-DHOT wizard is corrected when a radius greater than 1/2 of the length between the deck and side shell is entered.
6802	Function of F1 button (Help) in RulesCalc new ship wizard was resolved.
6827	Imperial option has been added to the default units’ dropdown in the new ship start up wizard.
6853	Strange setup around coaming, main deck and space boundary to centreline when creating a ship (single hull Bulk Carrier with Coaming) using the wizard is resolved.
6947	Longitudinally stiffened hatch coaming scantlings calculations are corrected for general cargo ships.
6972	For CSR - bulk carriers, ‘maximum stowage’ factor is corrected.
6979	Summer draught appearing in local scantlings – fore structure intermediate results, instead of scantling draft for converted to ‘Trawler ship’ types is corrected.
6991	Sloping topside tank is added to take into account in shear flow calculation for CSR - BC.
6997	Aspect ratio ‘alpha – buckling’ for transversely stiffened panels is corrected for CSR – DHOT.
7007	Drawing curved panel including bilge by dragging radius or endpoints is resolved for all ship types.
7035	The consideration of ‘Moulded displacement’ at summer draft instead of ‘Dead Weight’ for double bottom depth for CSR DHOT is resolved.
7080	For CSR – DHOT, material factor is corrected for ‘Slot Welding’.
7091	For CSR - BC, shear flow for poly panels is implemented.
7140	Inconsistency between distance from AP (LPP) and AP (Rule) was corrected for transverse sections and individual panels for all ship types.
7189	#Ref errors corrected in cargo hold properties, still water global loads and strake portions for CSR BC files.
7215	Weighted average thickness for equivalent buckling is corrected at gunwale and deck connection for general cargo ships.
7224	DHOT - Machinery space - weather deck – units were corrected to calculate value of Zdk-T, distance from the deck to still waterline.
7253	Selection of certain transverse brackets from the transverse view is resolved for CSR DHOT.
7268	LNG – implementation of inner bottom plating requirement according to LR 3.3-39(d) is corrected.
7323	LNG - steel grade for stringer plate at strength deck is corrected in accordance with Pt.3,Ch.2, 2.1.
7416	Curved panel drawing error is corrected for conditions when curvature is between 0.046 and 0.075 for special service crafts.
7417	LNG ship type - #Range errors for dynamic stress amplitude at inner deck for hull

	bending strength is corrected.
7418	Auto Recovery file pop – up window occurrence is modified to not show auto recovery file erroneously.
7419	Altered the 'Show Transverse Structure' and 'Show Spaces' buttons so that individually they can be turned on and off for all ship types.
7420	Pressure point location for side transverses along the length is corrected to consider mid tank location for CSR – DHOT.
7425	LPG Carrier (type 'A', independent tank - the "Tank definition" page's blank / incorrectly rendering is resolved.
7428	The rule reference for Load-Line length under Details -> Bulkhead Requirements is corrected from 3, 1, 6.1.7, to Pt 3, Ch1, 6.1.8. for LR ship types.
7433	For aft end -Shell -> deck strak -> bottom' is added to be selected as midship panel along with 'none' or 'deck 15 offered' as currently available for Passenger ships.
7448	The issue related with opening previously saved HTML ship file is resolved to open the HTML file in the default browser for all ship types.
7452	LNG ship type - the load height factor is corrected to be calculated according to Pt.3, Ch.10, Sect.5, Table 10.5.2.
7453	LNG -permissible stress is corrected according to Table 10.5.1, when vessel is categorized as oil tanker.
7470	Resolved issue to add user graphs to grids with calculations that are only rule requirements for all ship types.
7471	CSR Bulk Carrier and Ore Carrier - intermediate calculations of required thickness of main deck are modified to show required thickness for 'deck plating in way of ore hatchways.'
7480	LNG -#Range errors at total bending stress at inner deck is corrected for bending strength calculations.
7506	CSR BC - wrong rule reference for required other net thickness for keel plate is corrected.
7510	LNG – for direct stress in stiffener calculation, an additional attribute to calculate welding connection area is added.
7512	In CSR BC (and FRP) – inclusion of space boundaries in end connection tab for side stiffeners is removed.
7578	Some CSR-BC files - an issue related with incomplete calculations and several grids have items marked as #PENDING was resolved.
7530	CSR – BC - Critical torsional buckling stress of stiffeners using incorrect formula due to specs error was correct to use correct value.
6967	DHOT - An issue related with unit conversion is resolved for different gird values with a work around as shown in known limitation.
7593	DHOT - Required material for sheer strakes is corrected.
7587	LNG Tanker membrane-type tank - #REF errors for required modulus and required thickness for various panels are corrected.
7618	General cargo ships - Calculation of minimum web thicknesses of I-section pillars are corrected.
7277	CSR – BC, shear area calculation for stiffeners on shedder/gusset plates is corrected.
7278	CSR – BC, required section modulus of stiffener on shedder in flooding condition is. modified to consider correct pressure and alpha x lambda values.
6985	CSR – BC, minimum net web thickness requirement is correct to round the value to its nearest 0.5 digit.

7747	CSR – BC, Crash while selecting column header of corrugation configuration in TCB Wizard is resolved.
7748	CSR – BC, Crash while inserting transverse frame after adding TCB through wizard is resolved.
7749	CSR – DHOT, An issue related with note Indicator (blue dot) is shown in attribute values cell in pillar tool is resolved.
7750	For new ship with wizard - RulesCalc ‘start wizard’ doesn’t show ‘width’ values of strakes dialog.
5502	Panel co-ordinates are not restored when Undo/Redo is performed.
6629	When the stiffener group count of longitudinal bulkhead is 0, Shear calculations are not performed
6854	CSR-DHOT-For Transverse structure calculations of 'Actual net modulus' for stiffener are fixed.
6855	In CSR DHOT, ballast Dynamic Load Calculation Factor load set is to be used for Local Supporting Members and Primary Supporting Members in the way of ballast tank.
6856	Crash on CSR DHOT FMA centreline profile labelling is resolved.
6883	In CSR DHOT, the dynamic pressure calculation for BWE - flow through method is using incorrect reference points
6924	DHOT - An issue with placing secondary stiffener on primary stiffener hanging the calculation is resolved.
7082	CSR DHOT -Minimum thickness calculation for side stringer in double hull is corrected.
7086	CSR - DHOT - An issue related with recalculation of pressure after deletion of grid value, is resolved.
7100	CSR - DHOT - A crash related with insertion of stiffener_group on vertical web is resolved.
7116	CSR - DHOT - Calculation error due to load condition factor at Tight DB floor is corrected.
7126	CSR - DHOT - An input 'vertical distance supported by stringer, hk-I ’ is made not applicable for bulkhead requirements.
7135	Unit of the attribute "Required net thickness" for transverse stiffened panels in the intermediate calcs window should be displayed as mm.
7165	CSR - DHOT - An issue related with 'Import from ssx' is fixed.
7175	CSR DHOT - A crash related with opening the ship file is fixed
7178	CSR DHOT - Intermediate calculations for lower and upper shelf plates are modified to consider additional load cases.
7180	CSR DHOT - Corrugated BHD thickness are modified to consider 90% requirements for stool side plating.
7195	CSR - DHOT - A crash related with stiffener search tool is fixed.
7198	The value of permissible stress at Harbour should be 143/k when the section is located within 0.4L amidships
7202	RulesCalc application is terminated, when the menu "Show Rule Percentage" is clicked.
7204	The unit of Qv-net50 is displayed as mm and the unit of qv (Ref: Sec 8/1.3.2.2) is not displayed in the intermediate calculation window.
7205	The Transverse brackets on the reflection side are not reflected correctly.
7209	The value of acceleration to be used for converting the value of “Weight of cargo in cargo tanks, WCT” from tons to kN should be 9.81 m/s2.
7213	CSR - DHOT - Cs-pr and Ct-pr values for horizontal stringers on transverse bulkheads are included in the intermediate calcs window.
7214	CSR - DHOT - Buckling Factor (Kfä) and Aspect Ratio (fÑ) for critical buckling stress on panels and stiffeners are included in intermediate calculations.
7218	RulesCalc application is terminated, when undo/redo is performed.
7220	In CSR-DHOT, the position of y co-ordinate should be considered at waterline for P1-WL and P2-WL calculation.

7226	CSR - DHOT - Intermediate calculations of stress concentration factor for fatigue is included.
7228	CSR - DHOT -Calculated value of SWBM (Seagoing) under Full Load Condition and Normal Ballast Condition was made writable by user.
7235	in CSR-DHOT, internal pressure calculations on Longitudinal Bulkhead is using incorrect acceleration factors.
7237	In CSR-DHOT, the corrosion margin of the Corrugation BHD within the 3 metre's region is to be 4.0mm, not 2.5mm
7238	In CSR-DHOT, RuelsCalc is referring to section 8 2.5.7.6 and section 8 2.5.7.8 for maximum net thickness on corrugation portion instead of section 8 2.5.7.10 and section 8 2.5.7.2 respectively.
7239	In CSR-DHOT, the unit of maximum thickness on corrugation portion should be changed from cm^3 to mm
7240	The "Corresponding worst pressure load case" for Ballast Water Exchange (BWE Thickness) is not shown for the stiffeners.
7242	CSR-DHOT - An issue with attached plate thickness used in column buckling for bilge plate is fixed.
7258	CSR-DHOT - Distance from connection to plate to centre of flange (ef) in torsional buckling calculation for stiffener is included in intermediate calculations.
7266	In CSR-DHOT, the bending stress value is taken as 0 for the calculation of Required Flange Thickness, t-fnet
7289	In CSR-DHOT, Web width is used to calculate the Required Web Thickness of Corrugated BHD instead of using corrugation spacing.
7294	In CSR-DHOT, when calculating the required net section modulus of stiffeners on Watertight double bottom girder, the effective bending length of stiffeners should be used.
7297	In CSR-DHOT, when calculating the permissible still water shear force in harbour condition, the rule vertical wave shear force should be zero.
7298	In RulesCalc the length between perpendiculars denoted by Lpp and Rules length is denoted by L. However in some areas it's erroneously displayed as Lbp and Lr respectively.
7299	The HT steel zones are not picked up correctly.
7304	In CSR-DHOT, the welding details can be added to the Transverse sections branch.
7306	Sloshing calculations are not performed on Longitudinal and Transverse structures on the starboard side.
7311	#DIV0 errors are displayed for Net Section Modulus of Deck Transverse.
7312	RulesCalc application is terminated, when stiffener group is deleted.
7314	In CSR-DHOT, RulesCalc application is terminated when stiffener group is deleted.
7315	In calculating the sloshing pressures in cargo tank boundaries, RulesCalc incorrectly applies the maximum longitudinal & transverse sloshing pressure irrespective of structure member's location.
7317	RulesCalc application is terminated, when the frame number in a compartment is changed.
7318	When calculations finish in RulesCalc (for both the current view and overall), the Property pane resets its location to the first column / top row (although the selected cell remains selected) and Property Detail pane collapses any open tree.
7319	When the option "Show Transverse Structures" is turned off, the end points of stringers on Transverse BHD can be selected.
7320	In CSR-DHOT, f_2-dk is calculated incorrectly on stiffeners on deck.
7321	In CSR-DHOT, required net inertia calculation is not using the thickness of adjacent strake for calculation of average thickness in A_net calculation.
7325	When a ship is created using the option "Ship Project – Use Existing Wizard Data", the RulesCalc application is terminated when the Finish button in the wizard is closed.
7328	Breadth of flange outstand being calculated incorrectly for Longitudinal members.

7329	RulesCalc does not apply Minimum Hull Girder Stress.
7330	The value of Net Section Modulus (Offered) for vertical stiffeners is displayed as 0.
7331	RulesCalc application is terminated when a stiffener is drawn on a transverse panel when boundary on one side is not defined.
7332	RulesCalc crashes when a Strake is duplicated and deleted.
7336	The units for “Corresponding pressure for worst load case” for BWE is not displayed and unit of Ct for dominant load case for BWE is displayed as mm but Ct does not have units.
7337	CSR-DHOT - The value of “distance from connection to plate from flange (ef)” used in torsional buckling calculation is corrected.
7341	In CSR-DHOT, the Minimum Thickness Requirement for Side Stringer is incorrect.
7343	The pressure calculation on port side and starboard side tank is incorrect.
7345	When the starboard side is modelled, port side acceleration factors are used for pressure calculations.
7348	CSR-DHOT - Changed the label of “Msw - still water sagging bending moment" to "Msw-perm-sea” in Hull Girder Ultimate Strength.
7353	In CSR-DHOT, for Corrugated BHD the corrosion margin of void space stool plate should be 2.0 mm.
7355	In CSR-DHOT, the Shear Area requirement is not necessary for upper stool boundary.
7356	Design Load Combination (a) should use only ‘Msw – still water sagging bending moment, Msw-perm-sea’ instead of using “Max seagoing loading condition” and Design Load Condition (b) should use the maximum of SWBM’s defined. If SWBM’s are not defined then t
7357	RulesCalc is not considering the compartmental requirements (Eg void space and oil tank) while calculating the corrosion deduction thereby causing calculation errors to the resisting net area of stiffener and plate against shear
7362	The Minimum Thickness Requirement of Deck Transverse, Vertical Web and Side Transverse needs to be removed.
7367	RulesCalc terminates when Solution Finder is used.
7397	In CSR-DHOT, Design pressure P for the Design Load Set is calculated at the mid point of the effective shear span.
7401	External Pressure is not calculated for Deck Transverse on starboard side.
7402	#DIV0 errors are displayed for “Required shear area” in the Starboard side of the deck transverse.
7404	CSR-DHOT - Minimum thickness requirement stipulated in S8 Table 8.2.1is incorporated for corrugated bulkhead.
7405	CSR-DHOT - Net thickness requirement stipulated in S10/2.2.1.1 (a) is included for corrugated bulkhead.
7406	While calculating the bending coefficient c3 and cm3 according to S8, table 8.2.3, the cross sectional area for upper stool A-dl is incorrectly calculated.
7408	CSR-DHOT - For T with flanged profile - web depth, dwt , the upper limit is increased to include more integer digits in display.
7409	CSR-DHOT - PSM - An issue with bracket creation and tab order is corrected for cross tie definition via wizard.
7411	“#DIV0” error is displayed for “Required net section modulus, Z_net50-req”, “Required net section modulus, Zin_net50-req” and “Required net section modulus, Zex_net50-req” in the “PSM Section Modulus Details” tab in the property window.
7414	When DB Floor is selected, “#RANGE” errors are displayed in the “Shear Area Details” tab of property window.
7421	Vertical Web shear area calculation is using incorrect plate thickness.
7424	In calculating the cumulative fatigue damage, RC used the design life as 788940000 seconds. According to CSR-DHOT, the correct value is 788000000 seconds.
7426	Deck Transverse in Centre Tank is not calculating PSM requirements.

7429	Required Web Thickness calculation of longitudinal corrugation uses incorrect breadth of web plating.
7431	Deck Transverse Effective shear area calculation is averaging the 0.5t_corr for the web thickness.
7436	The value of “Transverse cross section area of space, A_tk-t-h” field is not calculated correctly.
7438	When right clicking a panel in the longitudinal view and selecting "copy" the image of the view is copied and the panel is deselected.
7440	#DIV0 errors are displayed in the buckling calculations of “Stiffener” tab in the property window.
7445	RulesCalc application is terminated when a construction line is drawn.
7454	Space considered for shear force calculation is displayed incorrectly in intermediate calculations.
7455	In CSR-DHOT, when calculating double bottom slamming calculation for plating uses wrong material yield stress.
7457	RulesCalc application is terminated when a custom chart with parameters is created.
7461	CSR-DHOT - RANGE error is corrected for calculation cells for 'T with flange profile'.
7467	Web depth shear calculation should use the net scantlings rather than gross scantlings.
7468	The Solution Finder button is not enabled in RulesCalc.
7469	The pressures calculation for the tank should be done at the mid point of tank.
7473	The effective bending span of the vertical web frame is to be taken as described in Fig. 8.2.7. RulesCalc uses a different interpretation for taking the bending span of vertical web.
7474	The length of side transverse (lst) should be taken as shown in Fig 8.2.7. RulesCalc calculates the length of side transverse in a different way.
7478	RulesCalc application is terminated when the mid ship section is right clicked.
7487	The effective bending span calculation for deck transverse in the centre cargo tank is incorrect.
7501	Longitudinal location used in the pressure calculations is incorrect.
7537	Required Net Thickness of upper stool plate incorrectly applies the rule Section 8/2.5.7.8(b).
7541	CSR-DHOT - 'Units and calculations for Weight of Cargo, WCT and Weight of Ballast, WCWBT, are changed to 'tonnes'.
7542	CSR-DHOT - For Hull Girder Shear Strength, 'Fdb' intermediate calculations are modified to remove unwanted attributes.
7547	In RulesCalc the overridden effective bending span of side transverse is not used in calculating the net moment of inertia of side transverse.
7548	In CSR-DHOT, when Non-Water Tight hopper bulkhead function type is set to Side Transverse #REF errors are generated.
7552	Qcg in dynamic load case used in calculation of web thickness of Longitudinal Corrugation Bulkhead is wrong.
7553	The required Moment of inertia calculation for deck transverse in centre cargo tank is not using overridden values of ‘Effective bending span of deck transverse, l_bdg-dt’.

4 Known Limitations

Lloyd's Register Rules and Regulations for the Classification of Ships

Double Hull Oil Tanker

1. When the units are changed from tonnes to kN for the shear force column, odd numbered rows are converted correctly and even numbered rows are not. This seems to be because the even numbered rows have variables that are saved with kN units even though the column is set to tonnes. So when you convert to kN there is no change to the value for the even rows, but then if you convert back to tonnes then values are different to how they were when the file loaded. I am not sure how the ship file got confused like this. I am unable to recreate the problem in a new file. A workaround for this problem is to convert the column to kN and then back to tonnes and re-enter the values and save the file. The column will then have saved rows as tonnes and any further conversions should work correctly.
2. A Range Error is generated in the area of primary members supporting oil tight bulkheads.

Range of application in table 9.9.1 has been applied as a max/min range in the Phi items. Values outside this range cause #Range error in Phi items and all its dependent factors.

Bulk Carrier

When a Great Lakes' Bulk Carrier ship type is created using wizard, with the hull type selection as GLBC Custom 1 and with single hull form option, the following panel doesn't become part of the single hull form:

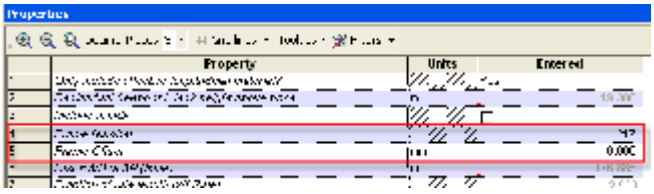
- Sloped side shell
- Sloped sheer strakes

These panels appear separately under the panel folder in the project explorer

Common Structural Rules for Bulk Carriers

Transverse Section Frame Number and Frame Offset

In RulesCalc, the assumption is that the frame offset is to be less than the frame spacing, for the region that the transverse section is located.



If a Transverse section with a frame offset greater than the frame spacing is placed, then the frame number should be increased so it is located closest to aft of the position under consideration and provide the appropriate frame offset, which is smaller than the frame spacing.

Transverse Structure Stiffeners / Stool Stiffeners

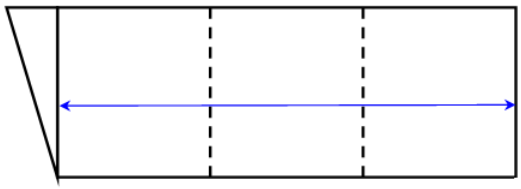


Fig 1 Single span stiffener not split by PSMs

Currently RulesCalc doesn't break the stiffener span where it crosses a PSM. The work around is to model individual stiffeners between each PSM.

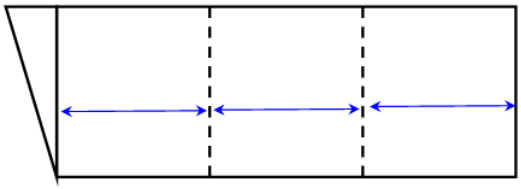


Fig 2 Work around model multiple stiffeners between PSMs

Transverse Corrugated Bulkheads - User Defined Loading Conditions for Flooded Condition & Cargo Hold Volume Curve are not verified

In RulesCalc, for Transverse Corrugated Bulkhead in Flooded Conditions, it is possible to define up to five user defined loading conditions.

However, please note that this has NOT been verified for this release so please use with caution.

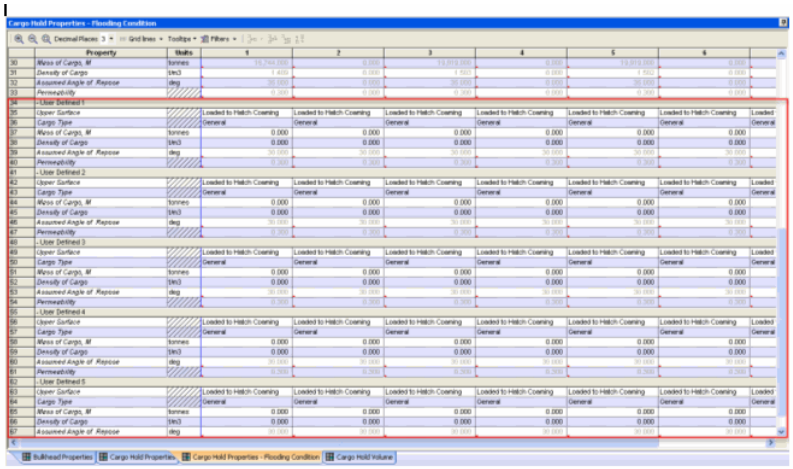


Figure 1 – Cargo Hold Properties – Flooding Condition: User Defined Load Conditions

Additionally it is possible to utilise a user defined 'Cargo Hold Volume' curve that can be applied to each loading condition.

However, please note that this has NOT been verified for this release so please use with caution.

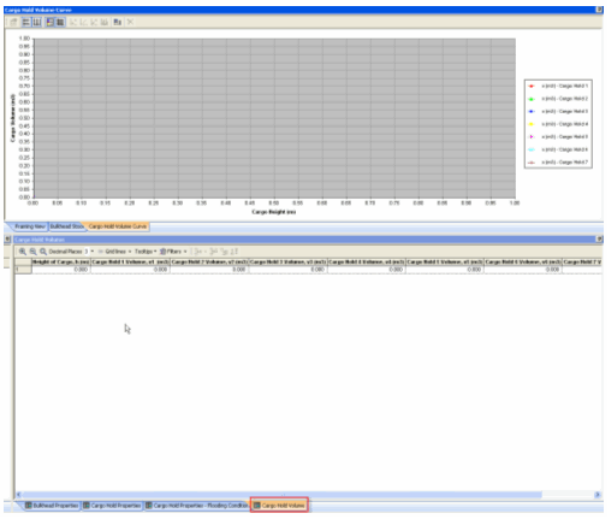
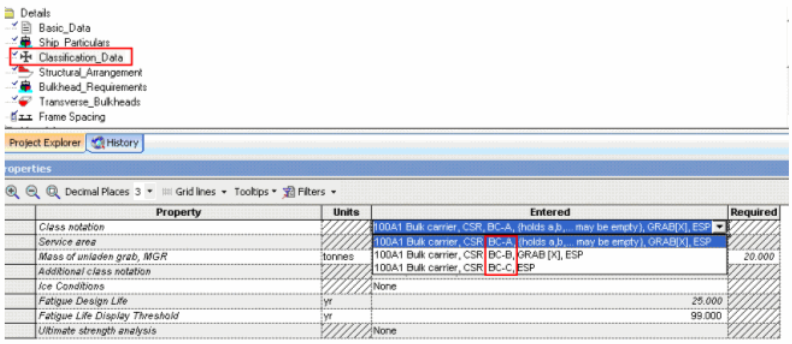


Figure 2 – Cargo Hold Volume for User Defined Loading Conditions

Corrugated Bulkhead Issues

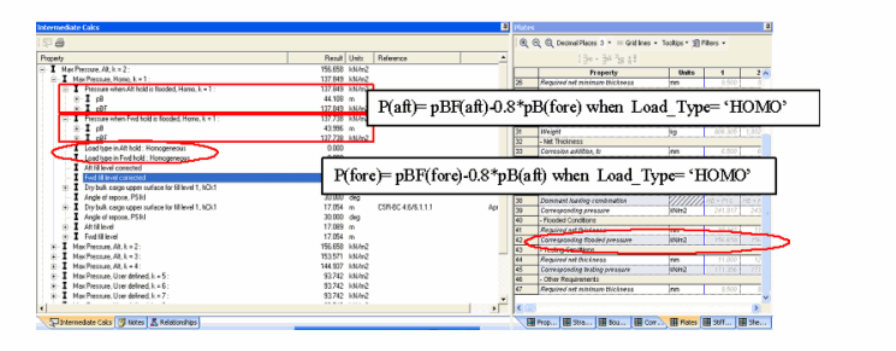
- Flooding condition requirement for BC-B and BC-C ships

Flooding Condition requirements for BC-B and BC-B ships are **NOT** verified for this release so please use with caution.

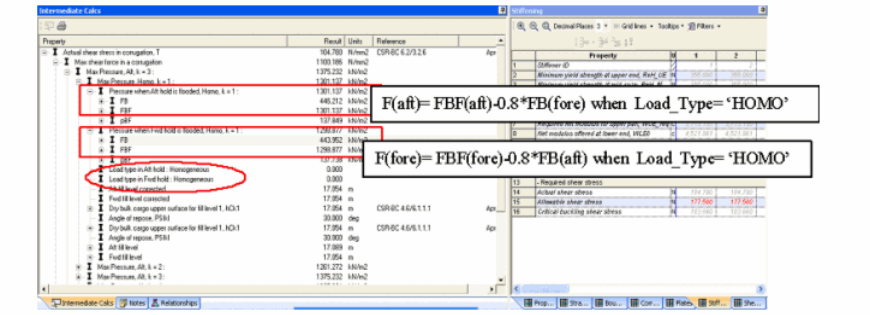


Resultant Pressure and Force is incorrect when Load Type = HOMO.

- pBF is to be reduced by 0.8*pB for Load Type = HOMO, However it is not proper in RulesCalc.

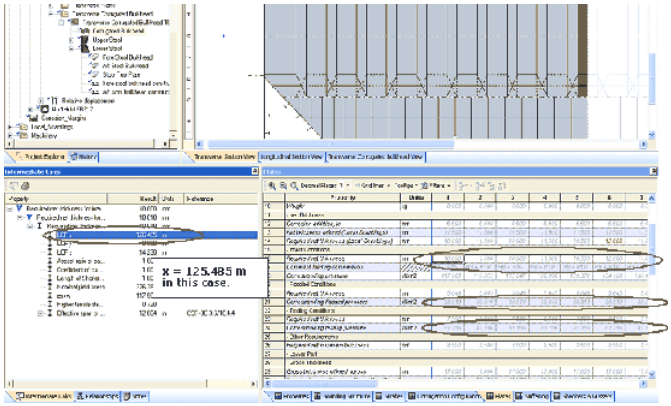


- FBF is to be reduced by 0.8*pB for Load Type = HOMO, However it is not proper in RulesCalc.



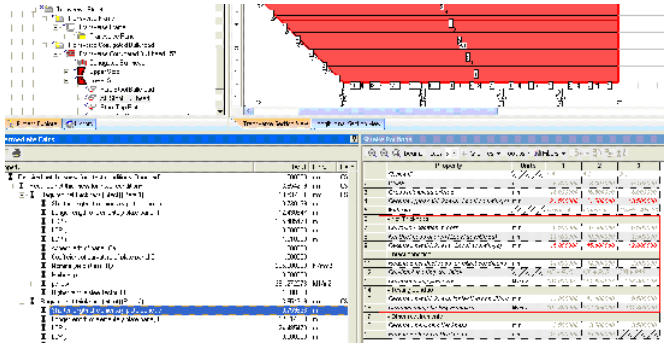
LCP (X) of Web / Flange (Lower Part)

LCP (X) of Web/Flange (Lower part) for shedder/gusset type = 1, 2, 3, 4, 5, 6 is not verified in current version of RulesCalc, so please use it with caution.



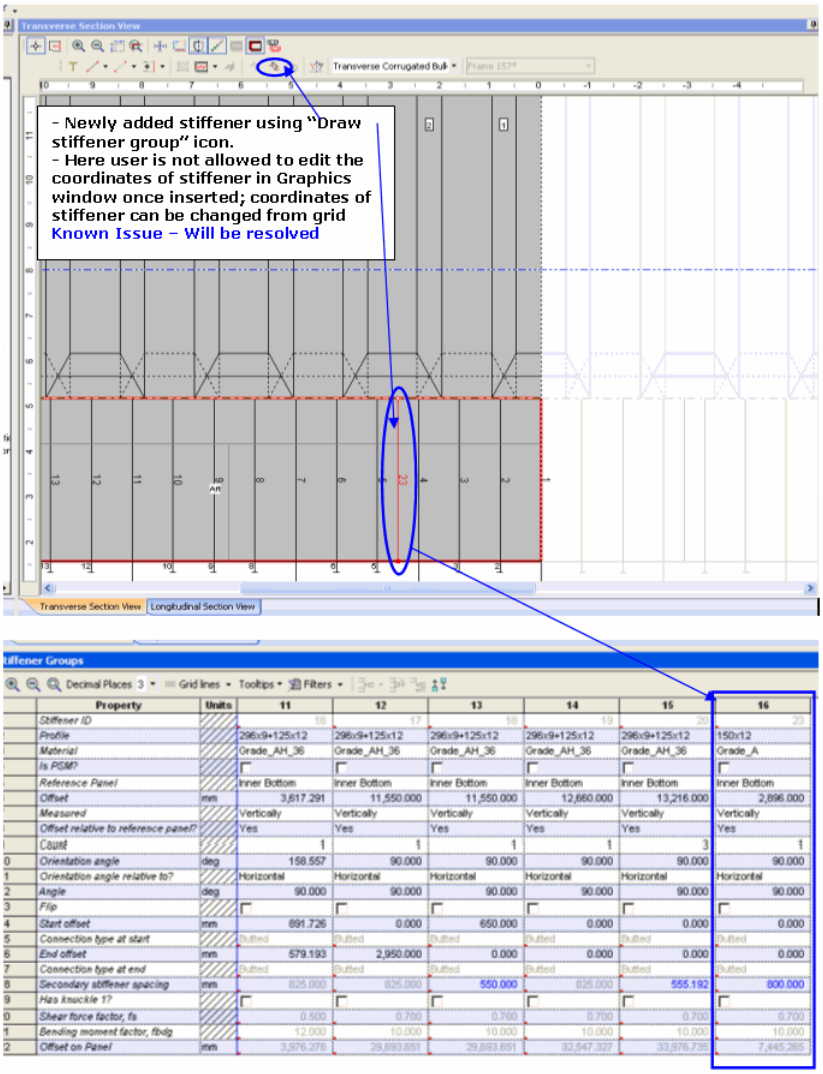
Upper and Lower Stools

Horizontal stiffening in lower stool Strake and stiffener requirement calculated for lower stool bulkhead when it is stiffened horizontally, are not verified for this release, please use with caution.



GUI Issue

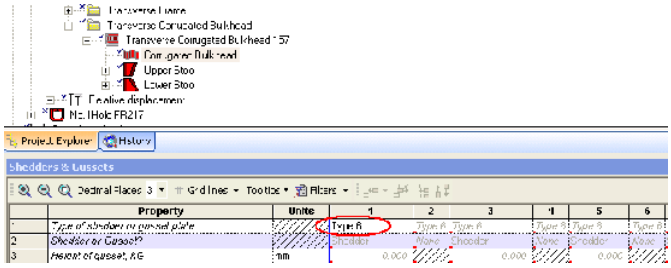
When a stiffener is added graphically by clicking the **Draw stiffener group** button, on the **Midship Editor** toolbar, the stiffener cannot be edited in the Graphics window, the current version of RulesCalc does not allow this.



Shedder and Gussets

Type 6 - Shedder and Gusset

Requirement for Shedder and Gusset Type 6 are not verified for this release, so please use with caution.



Common Structural Rules for Double Hull Oil Tankers

- The net section modulus calculation of horizontal stringers has offered section modulus limitations. In order to overcome the limitation, the value of the attribute “Modulus net offered (Local scantlings)” under the “Profile” tab can be overridden. The section “Insert Bulkhead Stringer” in the user guide provides detailed description on how to override the offered net section modulus.
- Calculation error of span of side transverse.

  For case 1 deck transverse fitted without bracket, l_{st} is calculated based on intersection of deck transverse face plate with inner hull.

  For case 3 deck transverse fitted with bracket, l_{st} is different from case 1 and appears to be calculated based on intersection point of bracket toe with deck transverse of deck transverse face plate. This point is slightly higher than for case 1 because the deck transverse face plate slopes up.

  However Case 3 should calculate the same way as case 1 because the bracket arm length is measured along inner hull.
- If the quick launch wizard is used and the slot detail is not included in the transverse panel, the Properties table, tab/web depth shows #REF errors or a huge number due to division by zero errors.
- Height of midpoint of effective bending span: the span reduction of the lower bracket should be taken into account in calculating the height of mid span above base.
- Calculation case 2d):

  Case of l_bdg-vw-ct <=0.7lbdg-vw [re] required design bending moments and required section modulus are incurred. Correct values of Cl =0.032 and Cu=0.016.
- Design slamming draught with different application as follows:

For a list of issues and their current status please go to:

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