**SeaTrust-FillingLimits**

Korean Register with its global reputation and extensive experience in the maritime software business, is your essential partner for calculation of LNGC filling limits.

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Providing the **best services,** Creating a **better world**


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# SeaTrust - FillingLimits

Easy and convenient calculation of LNGC filling limits


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# IGC code

The IGC Code sets out the international standards for the safety of LNG carriers. A section of the Code sets the filling limits of LNG tanks to 98%, but with the approval of the class society or the flag state, the filling limits can be increased if additional safety factors are taken into consideration.

To increase the filling limits by more than 98%, the following should be considered under the list (15°) and trim (0.015L) parameters given in the code.

» An isolated vapor pocket is not created in the cargo tank.
» The pressure relief valve (PRV) inlet is maintained as a vapor zone.
» Recognition of the allowance for cargo volume expansion at 1.2 times the set pressure of the safety valve of the cargo tank.
» Recognition of the allowance for operational margins of at least 0.1% of tank volume.
» Recognition of the tolerance of measuring instruments such as liquid level gauges and temperature gauges.

# SeaTrust-FillingLimits

SeaTrust-FillingLimits is a software solution that easily calculates filling limits by using the tank shape parameters and values for correction coefficients. Even for complex calculations, the software will derive the volumes of each tank in advance under the condition for trim & list and the correction factors for each vessel. Calculations are conducted by applying a "scenario in which isolated vapor pockets are not generated in cargo tanks" as required by the existing IGC as well as a "scenario where pressure relief valve inlets are maintained as vapor zones" as required by the new IGC. The software also includes a range of other auxiliary functions to ensure user practicality and convenience.

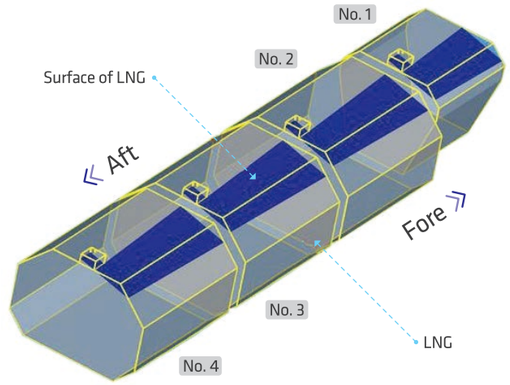
# Benefits

» Easy calculation of filling limits and loading limits for tanks such as KC-1, NO96, MARK Ⅲ
» Check loading limits according to loading temperature when loading LNG.
» Analyze and approve upstream filling limits through automatically generated result reports.
» Design modification through preliminary prediction of the filling limits during the vessel design phase.
» Analysis trends of the filling limits in various trim and list conditions.
» Intuitive understanding of the shape of LNG and tanks through 3D model.

# KEY FEATURES

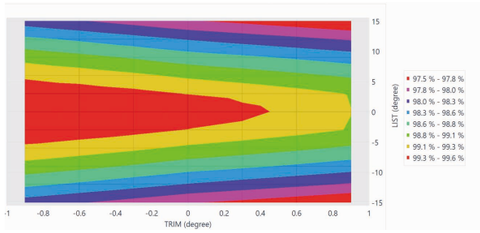
» Calculates the LNG filling limits and loading limits based on a 3D model.
» Offers appropriate data for various tank shapes (including membrane/cylindrical tanks, parallel/tapering types, hexahedron/cylinderical dome, vertical/horizontal PRV).
» Suitable for various tank layouts (lateral and rotational).
» Supports calculations for transverse slope and longitudinal slope conditions, simultaneously calculating data for multiple tankers.
» Provides a Result Table (including filling limits results, value of middle step, result table by height/volume)
» Includes 3D viewer (geometry model and dimension; full and partial result models)
» Gives a filling limits volumetric contour graph viewer according to transverse slope and longitudinal slope range.
» Generates a comprehensive result report (with optional output function)

**| Result 3d model**

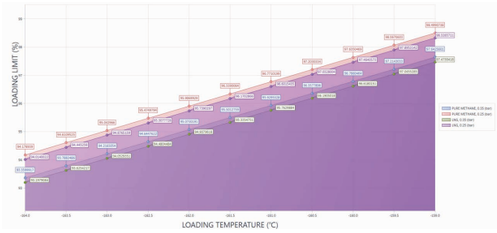



·GREEN(CONTACT PRV)
·WHITE(VAPOR POCKET)

**| Filling limits contour graph**

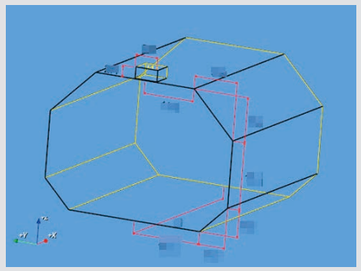



**| Loading limits graph**

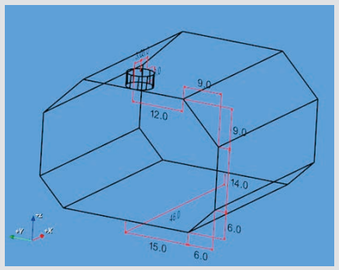



***LNGC** Liquefied Natural Gas Carrier
***IGC Code** The International Code of the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk

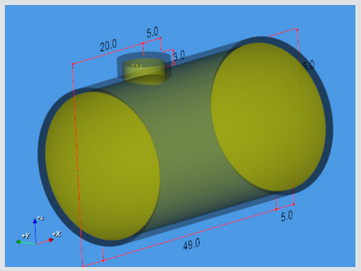
**| Membrane tank(GTT MARK Ⅲ)**



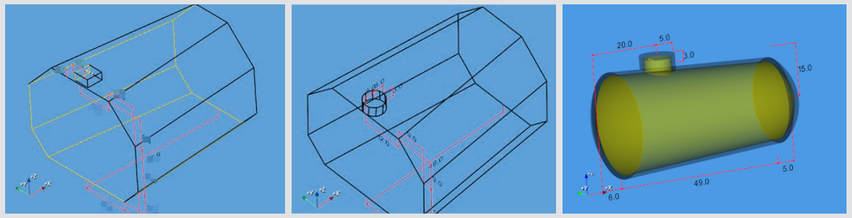
**| Membrane tank(GTT NO96)**




**| C-type(cylinderical tank)**




Tappering




PRV & dome