Structural Strength of Liquefied Gas Carriers

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Parts A, C and N
Guidance for the Survey and Construction of Steel Ships Part N

Reason for Amendment

Steels for low temperature service which have minimum specified yield stresses greater than 235 N/mm^2 are used for certain parts of low-temperature-type liquefied gas carriers. Although the scantlings of hull structures in such cases were typically decided in accordance with the requirements for high tensile steel use, relevant requirements were amended to clarify the requirements in cases where steels for low temperature service whose minimum specified yield stresses were greater than 235 N/mm^2 are used.

In addition, it is specified that the scantling requirements of cargo tanks of liquefied gas carriers with independent prismatic tanks are to be decided in accordance with the requirements for deep tank specified in Chapter 14, Part C of the Rules for the Survey and Construction of Steel Ships. These requirements are based upon ones for "tanks primarily designed using classical ship-structural analysis procedures" found in the IGC Code. Therefore, the requirements for the deep tanks specified in Chapter 14, Part C as well as the requirements for loads and allowable stresses specified in Part N were generally also correspondingly applied to liquefied gas carriers with independent prismatic tanks. In order to clarify the formulae used for the scantling calculations for independent prismatic tanks, relevant requirements were, therefore, amended.

Outline of Amendment

(1) Material factors were specified for cases where the steels for low temperature service were used for hull structures.
(2) The formulae used for the scantling calculation for independent prismatic tanks were specified.

Amended Requirements

Rules for the Survey and Construction of Steel Ships
Part A: 1.2.3
Part C: 1.1.7
Part N: 4.21.3
Guidance for the Survey and Construction of Steel Ships
Part N: 4.21.3