

Approval Test Items for Quenched and Tempered High Tensile Steels for Structures

Amended Guidance

Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Reason for Amendment

Although requirements related to the product specifications of the quenched and tempered high tensile steels used for structures are standardized by IACS Unified Requirement, no requirements related to the approval of the manufacturing methods of such steels are either specified in UR W16 or in the IACS' rules in general. Therefore, in the absence of specific requirements from IACS, the ClassNK Rules have, up until now, been requiring brittle fracture tests such as CTOD tests, large-scale brittle fracture tests and NRL drop-weight tests for all grades (Grades A to F) of quenched and tempered high tensile steels.

On the other hand, the ClassNK Rules do not require brittle fracture tests (i.e., CTOD tests, large-scale brittle fracture tests and NRL drop-weight tests) for Grade A and D rolled steels used for hulls. This is because, based on the results of Charpy impact tests and the results of other approval tests conducted to date, it has been verified such rolled steel possesses the necessary degree of fracture toughness.

Since quenched and tempered high tensile steel is essentially just rolled steel used for large welded structures, and since it is manufactured using a rolling procedure similar to the one used for rolled steel used for hulls, it is desirable that their handling as uniform as possible. Therefore, relevant requirements were amended to unify testing procedure for both types of steel.

Outline of Amendment

- (1) Requirements related to brittle fracture tests such as CTOD tests, large-scale brittle fracture tests and NRL drop-weight tests for Grade A and D quenched and tempered high tensile steel for structures were deleted from the list of manufacturing method approval test items.
- (2) Errors in the text of relevant requirements were corrected.