

Welding Consumables for High Strength Rolled Steels for Offshore Structures

Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part M

Guidance for the Survey and Construction of Steel Ships Part M

Reason for Amendment

IACS Unified Requirement (UR) W23 (Rev.1) specifies requirements related to the standards, etc. for the welding consumables for high strength rolled steels used for offshore structures, and corresponding base metal standards are specified in UR W16 (Rev.3). UR W16 was fully amended in 2016 and grades of steel whose standard minimum proof stresses are 890N/mm^2 and 960N/mm^2 were added.

In accordance with above, IACS reviewed the consistency with the base metal standards and prepared requirements related to welding consumables standards for the newly added grades of steel. In addition, IACS clarified that, in consideration of actual welding practices, a joint whose welded metal strength is lower than that of the base metal may be used when selecting the welding consumables for high strength rolled steels used for offshore structures. Furthermore, IACS specified that hydrogen tests for welding consumables for which the standard minimum proof stress is 690N/mm^2 or more is to be carried out during annual inspections. The aforementioned revisions were adopted as UR W23 (Rev.2).

Accordingly, all relevant requirements were amended based upon Unified Requirement W23 (Rev.2).

Outline of Amendment

- (1) Specified grades and symbols of the base metals which can be used with welding consumables whose proof stresses are equivalent to 890N/mm^2 and 960N/mm^2 .
- (2) Specified requirements related to standard values, approval tests and annual inspections for above-mentioned consumables.
- (3) Specified that welded joints whose weld metal strengths are lower than that of their corresponding base metals may be used when selecting of the welding consumables for the high strength rolled steels used for offshore structures.
- (4) Amended relevant requirements to specify hydrogen tests are to be carried out during approval tests and/or annual inspections.

Amended Requirements

Rules for the Survey and Construction of Steel Ships

Part M: 2.4.1, Table M2.1, 4.2.5, Table M6.58, 6.9.4, Table M6.59 to M6.63, 6.9.15

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Part M: M2.4.1