

Welders and Welder Qualification Tests

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 requirements related to welding procedure qualification tests are specified in Unified Requirement (UR) W28, and requirements related to the approval of welding consumables are specified in UR W17. These requirements were established to ensure the quality of welded joints used for hull construction, etc. and are mandatory requirements for all IACS member classification societies. Requirements related to welder qualification tests specified in Recommendation (Rec) No.104 and Rec. No.105, on the other hand, are only recommended requirements and the actual handling of welder qualifications and qualification tests are to be as deemed appropriate by each IACS member. For example, requirements related to welder qualification tests specified in the ClassNK Rules and Guidance are based on Japanese Industrial Standards (JIS), while requirements related to the maintenance of welder qualifications are based on ClassNK's own requirements.

Under such circumstances, IACS has established a new UR to specify a uniform qualification scheme for all welders of hull structural steels. The discussions related to this new UR took into account the requirements given in the aforementioned Rec. No.104 above and considered the requirement of ISO 9606-1/EN 287-1 (Qualification testing of welders - Fusion welding - Part 1: Steels), and IACS newly adopted UR W32 in September 2016, as a result of these discussions. Accordingly, relevant requirements were amended in accordance with UR W32.

Although UR W32 does specify requirements related to the welder qualification schemes for welders engaged in the fusion welding, it only does so for the welding of plates as well as for carbon/low alloy steel castings, carbon/low alloy steel forgings, and rolled steels for hulls. The current NK Rules, on the other hand, not only specify such requirements, but also specify requirements related to the welder qualifications for tubes and aluminium alloys based on the JIS. Therefore, amending relevant requirements only in accordance with UR W32 will create a difference in handling with respect to the qualification schemes for tubes and aluminium alloys and the qualification scheme for other materials and products because there is a systemic difference between the JIS and ISO. For this reason, in addition to incorporating the requirements specified in UR W32, requirements relevant to tube and aluminium alloys were also amended based on ISO 9606-1 considering consistency with the qualification scheme requirements of UR W32.

Outline of Amendment

The main details of the amendment are as follows:

- (1) Amended all requirements related to welder qualification tests.
- (2) Added requirements related to the qualifications and qualification test procedures for the automatic welding and tack welding processes.
- (3) Added requirements related to the qualifications and qualification test procedures for the fillet welding process.
- (4) Specified the ranges of qualification for welding positions according to the welding

- positions of test assemblies.
- (5) Specified requirements related to the verification of the validity of qualification certificates.

Amended Requirements

Rules for the Survey and Construction of Steel Ships

Part M: 3.2.3, 3.3.2, Table M3.2, Table M3.3, Fig. M3.4, 4.1.4, Chapter 5

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Part M: M4.1.4, Table M4.1.4-2, Fig. M4.1.4, M5, M6.1.3, Table M6.1.3-1