

Brittle Fracture Tests in Welding Procedure Qualification

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

With regard to the approval tests of the welding procedures and specifications for butt welded joints, it is specified in M4.2.7, Part M of the Guidance that brittle fracture tests may be required in addition to impact tests in cases where thickness is more than 50mm but not exceeding 70mm. In addition, impact tests and brittle fracture tests deemed appropriate by the Society are to be carried out in cases where thickness exceeds 70mm. However, the definition of thickness used as the criterion of application is not clear.

With regard to the definition of thickness, it is specified that the multi-run technique of butt welding can be approved up to the double thickness of test assemblies. Therefore, it is believed that impact tests can evaluate the butt welding up to the double thickness of test assemblies. On the other hand, it is appropriate that conduct of brittle fracture tests is determined by the maximum thickness to be approved.

Accordingly, relevant requirements have been amended so as to clarify the scope of thickness as related to impact tests and brittle fracture tests.

Outline of Amendment

- (1) It has been specified that brittle fracture tests are to be carried out at the maximum thickness to be approved.
- (2) It has been specified that the application of impact test requirements is to be determined by the thickness of test assemblies.