

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

Chapter 4 of the Rules for the Survey and Construction of Steel Ships, Part M specifies requirements related to approval tests for the welding procedures and specifications of butt-welded joints and these requirements state that either brittle fracture tests or the technical documents related to such tests may be required in cases where the maximum thickness to be approved is more than 50 mm.

The aforementioned brittle fracture test requirements were stipulated in consideration of the fact that as the size of container carriers has continued to increase in recent years, there has also been a corresponding increase in the use of steel plates over 50 mm thick (hereinafter referred to as “extremely thick steel plates”) for the hatch side coamings, etc. of such ships. On the other hand, the use of such extremely thick steel plates for other structural members such as engine seats, stern frames and crane posts, etc. considered to have a low risk for brittle fracture has a long track record, and is believed to be sufficiently safe, even in cases where brittle fracture tests are omitted.

Accordingly, relevant requirements related to the application of brittle fracture test requirements in the approval tests of welding procedures were amended based upon the above in order to take into account the type of member to be welded.

In addition, the position of the line of measurement was amended for the approval tests of welding procedures for butt welded joints, fillet weld joints and T-joints with full penetration.

Outline of Amendment

- (1) Specified requirements stating that the brittle fracture tests and the technical documents related to such tests required as part of the approval tests of welding procedures for butt welded joints may be omitted for certain structural members deemed appropriate by ClassNK.
- (2) Amended the position of the line of measurement for the approval tests of welding procedures for butt welded joints, fillet weld joints and T-joints with full penetration.