

# Measures for the Prevention of Brittle Fractures

## Amended Rules and Guidance

Rules for the Survey and Construction of Steel Ships Part C  
Guidance for the Survey and Construction of Steel Ships Part C

## Reason for Amendment

IACS Unified Requirements (UR) S33 and W31 specify the requirements related to the use of extremely thick steel plates in container carrier construction as well as requirements for application of YP47 steel plates (steel plates whose minimum specified yield points are 460 N/mm<sup>2</sup>), respectively. These requirements have already been incorporated into relevant parts of the NK Rules.

IACS reviewed the requirements in UR S33 so as to clarify which fillet welds are to be considered as the points of brittle crack initiation. In addition, IACS also reviewed UR S33 and W31 so as to move requirements related to material matters from UR S33 to UR W31 and move requirements related to design matters from UR W31 to UR S33. These amendments were adopted as UR S33 (Rev.1) and UR W31 (Rev.1) in September 2015.

Accordingly, relevant requirements were amended in accordance with UR S33 (Rev.1). The requirements related to material and design matters moved from one UR to the other, however, have already been incorporated into the NK Rules so no further action is required.

## Outline of Amendment

- (1) Amended the structural members of hatch side coaming related to the application of measures for the prevention of brittle fractures.
- (2) Specified the fillet welds which are to be considered as the points of brittle crack initiation.

## Amended Requirements

Rules for the Survey and Construction of Steel Ships  
Part C: 32.13.2, 32.13.3, Table C32.27  
Guidance for the Survey and Construction of Steel Ships  
Part C: C32.13.4, Table C32.13.4-1