

# Requirements for Brittle Crack Arrest Design

## 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 Requirement (UR) S33(Rev.1) specifies requirements related to container ships incorporating extremely thick steel plates with thicknesses exceeding 50 mm. In addition, the UR also specifies requirements related to brittle crack arrest design when using extremely thick steel plates with thicknesses exceeding 50 mm but less than 100 mm as measures to prevent brittle fractures.

Despite the above, there has never been a unified requirement for brittle crack arrest properties when using steel plates with thicknesses exceeding 80 mm as brittle crack arrest steel, and such requirements have always been left to the discretion of each classification society. This, however, has created a situation where there may exist differences in requirements among classification societies.

In order to develop a common requirement for all classification societies to apply, IACS, therefore, held discussions related to brittle crack arrest properties when using steel plates with thicknesses exceeding 80 mm as brittle crack arrest steel. As a result of these discussions, a revised version of the UR as UR S33(Rev.2) was adopted in December 2019.

Accordingly, all relevant requirements were amended based upon UR S33(Rev.2).

## Outline of Amendment

Specified requirements related to brittle crack arrest properties when using steel plates with thicknesses exceeding 80 mm as brittle crack arrest steel.

## Amended Requirements

Rule for the survey and construction of steel ships  
Part C: 32.13.1, 32.13.2, 32.13.4, 32.13.5  
Guidance for the survey and construction of steel ships  
Part C: C32.13.3, C32.13.4, C32.13.5