

Application of Steels for Ships Intended to Operate in Areas with Low Air Temperatures

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part C

Reason for Amendment

IACS Unified Requirement (UR) S6 specifies requirements related to the grades of steel used for various hull structural members. These include requirements related to the grades of steel used for ships in general service and ships intended to operate in areas with low air temperatures. Regarding the grades of steel used for ships operating in areas with low air temperatures, material class is to be selected based upon the design temperature T_D , which is to be taken as the lowest daily average air temperature over a period of one year.

On the other hand, the Polar Code, which will take effect on 1 January 2017, specifies that the materials of exposed structures in low air temperatures are to comply with the polar service temperature (PST) newly defined in the code; moreover, the Polar Code does reference UR S6, but only refers to it as one of the applicable standards which satisfy the requirement described above. Therefore, IACS amended UR S6 to clarify the relationship between PST and T_D based upon the results of actual temperature measurements.

In addition to the above, although the grades of steel used for ships operating in areas with low air temperatures also naturally apply to ship structural members exposed to low air temperatures, the applicable structural members listed in UR S6 include ones (e.g., transverse bulkheads, longitudinal bulkheads, and top wing tank bulkheads) which are not exposed to low air temperatures at all. Therefore, IACS also amended UR S6 to clarify the extent of application for grades of steel used for low air temperature service based upon related requirements specified in IACS UR I2 that specifies structural requirements for polar class ships.

The aforementioned amendments were adopted together by IACS as UR S6 (Rev.8) in December 2015. Accordingly, relevant requirements were amended in accordance with IACS UR S6 (Rev.8).

Outline of Amendment

- (1) Clarified design temperature, T_D , according to its corresponding polar service temperature (PST).
- (2) Amended requirements related to the grades of steel used for the transverse bulkheads, longitudinal bulkheads, and top wing tank bulkheads of ships intended to operate in areas with low air temperatures.

Amended Requirements

Guidance for the Survey and Construction of Steel Ships
Part C: C1.1.12, Table C1.1.12-1(2)