

Unified Requirements of Production and Application of Plastic Piping Systems

Amended Guidance

Guidance for the Survey and Construction of Steel Ships Part D
Guidance for the Survey and Construction of Passenger Ships
Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use

Reasons for Amendment

The IMO adopted a guideline for the application of plastic pipes on ships as Resolution A.753(18) in 1993. After the adoption of the guideline, the IMO further considered the application of synthetic rubbers as alternative to plastic piping, fire endurance, and other requirements. Based upon this further consideration, Resolutions MSC.313(88) and MSC.399(95) were adopted in 2010 and 2015 respectively. These resolutions have already been incorporated into the ClassNK Rules and the Society has already started to approve plastic pipes intended to be used on board ships.

IACS also adopted IACS Unified Requirement (UR) P4 which corresponds to Resolution A.753(18) in 1996. In addition, IACS then subsequently revised some requirements in the UR such as those requirements applicable to plastic pipes used for Exhaust Gas Cleaning Systems (EGCS) and those applicable to drinking water lines and others. The latest revision of the UR was adopted as UR P4 (Rev.5) in December 2018.

Accordingly, relevant requirements were amended in accordance with UR P4 (Rev.5). In addition, as a part of a comprehensive review of the ClassNK Rules, relevant provisions were relocated so as to make their respective numbering consistent with that used in UR P4 (Rev.5).

Outline of Amendment

- (1) Amended requirements for plastic piping systems used for drinking water lines so that requirements related to strength against external pressure and fire endurance are also applied to such piping systems.
- (2) Specified fire endurance requirements for plastic piping systems used for EGCS effluent lines and reductant agent transfer/supply systems (SCR installation).
- (3) Specified criteria for the maximum burning rate under ASTM procedures regarding flame spread characteristics.
- (4) Specified that requirements for strength against external pressure and fire endurance are also to be applied to piping systems used for services which are necessary for Safe Return to Port purposes for passenger ships.

Amended Requirements

Guidance for the Survey and Construction of Steel Ships
Part D: Annex D12.1.6-2
Guidance for the Survey and Construction of Passenger Ships
Part 5 1.1.1
Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use
Part 6 6.1.1, 6.2.3, 6.6.1, 6.9.1, Table 6.6