

Draft amendments of the Guidance for Approval of Manufacturing Process and Type Approval, etc.

(for external opinion inquiry)



Jan. 2024

Hull Rule Development Team

- Main Amendments -

(1) **Effective date : 1 July 2024** (For ships contracted for construction)

● IACS UI SC299(New July 2023) reflected

- the requirements for type approval of watertightness test where materials readily rendered ineffective by heat used for pipe penetrations through watertight bulkheads or decks on passenger ships are newly added.

Present	Amendment	Note
<p>CHAPTER 3 TYPE APPROVAL</p> <p>Section 1 ~ Section 40 <omitted></p> <p><u><newly added></u></p>	<p>CHAPTER 3 TYPE APPROVAL</p> <p>Section 1 ~ Section 40 <same as the current Guidance></p> <p><u>Section 41 Watertight bulkheads or deck pipe penetrations on passenger ships (2024)</u></p> <p>4101. Application</p> <p><u>1. The requirements of this Section apply to tests and inspection for type approval of watertightness test where materials (PVC, FRP, aluminium alloy, lead, etc) readily rendered ineffective by heat specified in Pt 8, Annex 8-2 1.2 of the Guidance are used for pipe penetrations through watertight bulkheads or decks on passenger ships.</u></p> <p><u>2. Where applying 1. above, fire test specified in Ch 3, Sec 26, Table 3.26.3 “Piping and Duct Penetrations” of this Guidance shall be conducted followed by watertightness test. Therefore, one of the two cases below may be applied.</u></p> <p><u>Case 1) Watertightness test on pipe penetrations that have already been type approved as fire test specified in Part 3 of Annex 1 to the 2010 FTP Code</u> <u>: Conduct fire test for the relevant fire rating with the same configuration as the already approved pipe penetration part + watertightness test</u></p> <p><u>Case 2) Pipe penetration that is not type approved as fire test</u> <u>: Conduct fire test with required fire protection level + watertightness test</u></p> <p><u>3. It shall be applicable to heat-sensitive piping systems and shall not be applied to cable penetrations in watertight bulkheads and decks.</u></p> <p>4102. Data to be submitted</p> <p><u>The following reference data are to be submitted to the Society in addition to those specified in 102.</u></p> <p><u>(1) Product details and scope of service</u> <u>(2) Detail drawing of penetration and test layout including type and cross-section of the pipes, etc.</u> <u>(3) Work and maintenance manual</u></p>	<p>- IACS UI SC299 (New July 2023) reflected</p>

Present	Amendment	Note
<p><u><newly added></u></p>	<p>4103. Type tests</p> <p><u>1. Approval of pipe penetrations fitted to ensure the watertight integrity of a bulkhead or deck where heat-sensitive materials are used should include a prototype test of watertightness after having undergone the standard fire test appropriate for the location in which the penetrations are to be installed*.</u></p> <p><u>1) The fire tested pipe penetration should then be tested to a test pressure of not less than 1.5 times the design pressure as defined in SOLAS Ch. II-1 Reg. 2.18. The pressure should be applied to the same side of the division as the fire test.</u></p> <p><u>2) The fire tested pipe penetration should be tested for a period of at least 30 minutes under hydraulic pressure equal to the test pressure, but minimum 1.0 bar. There should be no leakage during this test.</u></p> <p><u>3) The fire tested pipe penetration should continue to be tested for a further 30 minutes with the test pressure. The quantity of water leakage is not to exceed a total of 1 litre.</u></p> <p><u>4) The prototype test should be considered valid only for the pipe typology (e.g. thermoplastic and multilayer), pressure classes, the maximum/minimum dimensions tested, and the type and fire rating of the division tested.</u></p> <p><u>Note : * Refer to the requirements for A-class division set out in Part 3 of Annex 1 to the 2010 FTP Code</u></p> <p><u>2. The pressure test need not be carried out on the hot penetration arrangement. Ample time may be given to prepare for the pressure test, i.e. dismantling the fire testing equipment and rigging the pressure test equipment.</u></p> <p><u>1) The pressure test should be carried out with the pipe section used in the fire test still in place.</u></p> <p><u>2) Any pipe insulation fitted for the purpose of the fire test may be removed before the pressure test.</u></p> <p><u>3) Prototype testing for fire test and watertightness test need not be carried out if the pipe penetration is made of steel or equivalent material having a thickness of 3 mm or greater and a length of not less than 900 mm (preferably 450 mm on each side of the division), and there are no openings. Such penetrations shall be suitably insulated by extension of the insulation at the same level of the division.</u></p> <p><u>See also SOLAS Ch. II-2 Reg. 9.3.1 with respect to piping. However, the penetration must still comply with the watertight integrity requirement in SOLAS Ch. II-1 Reg. 2.17.</u></p>	<p>– Para 4 of IACS UI SC299 (New July 2023) reflected</p> <p>– Para 4.1 of IACS UI SC299 reflected</p> <p>– Para 4.2 of IACS UI SC299 reflected</p> <p>– Para 4.3 of IACS UI SC299 reflected</p> <p>– Para 4.4 of IACS UI SC299 reflected</p> <p>– Para 5 of IACS UI SC299 reflected</p> <p>– Para 5.1 of IACS UI SC299 reflected</p> <p>– Para 5.2 of IACS UI SC299 reflected</p> <p>– Para 5.3 of IACS UI SC299 reflected</p>