



Risk Assessment Solutions

“Prevent, Don’t Cure”

Circular 04/01/14

Subject: Deck penetration for the passage of cables – Important Safety/PSC Issue!

Case: Recently, a dry cargo vessel faced difficulties during a Port State Control inspection, when the Port State Control Inspectors, while inspecting the accommodation spaces, raised queries with regards to the fire integrity between the Bridge and the accommodation space. Particularly, it was noticed that the cable penetration through deck between Bridge and accommodation space was not tight as per regulations. In addition, the crew found not familiar with the applicable SOLAS requirements, thus the PSC Officers concluded that the crew even inspecting the subject area under the Company’s SMS procedures, were not able to detect the potential deficiency. Finally, the vessel was detained and the following deficiency was imposed:

“One cable passes through from the bridge deck to accommodation, but the hole is not blocked”

Analysis

In connection to the above, and in order to assist our clients to prevent similar cases, kindly note that the SOLAS Chapter II-2, part C, regulation 9.2, reads:

2.3 Cargo ships except tankers, Tables 9.5, 9.6, (similarly for tankers see para. 2.4)

*...However, where a deck, except an open deck, is penetrated for the passage of electric cables, pipes and vent ducts, such penetrations **should be made tight to prevent the passage of flame and smoke**. Divisions between control stations (emergency generators) and open decks may have air intake openings without means for closure, unless a fixed gas fire-fighting system is fitted.*

3 Penetration in fire-resisting divisions and prevention of heat transmission

*3.1 Where "A" class divisions are penetrated, such penetrations shall be tested in accordance with the Fire Test Procedures Code, subject to the provisions of paragraph 4.1.1.5. In the case of ventilation ducts, paragraphs 7.1.2 and 7.3.1 apply. However, where a pipe penetration is made of steel or equivalent material having a thickness of 3mm or greater and a length of not less than 900 mm (preferably 450 mm on each side of the division), and no openings, testing is not required. **Such penetrations shall be suitably insulated by extension of the insulation at the same level of the division.***



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3.2 Where "B" class divisions are penetrated for the passage of electric cables, pipes, trunks, ducts, etc., or for the fitting of ventilation terminals, lighting fixtures and similar devices, arrangements shall be made to ensure that the fire resistance is not impaired, subject to the provisions of paragraph 7.3.2. Pipes other than steel or copper that penetrate "B" class divisions shall be protected by either:

.1 a fire tested penetration device, suitable for the fire resistance of the division pierced and the type of pipe used; or

.2 a steel sleeve, having a thickness of not less than 1.8 mm and a length of not less than 900 mm for pipe diameters of 150 mm or more and not less than 600 mm for pipe diameters of less than 150 mm (preferably equally divided to each side of the division). The pipe shall be connected to the ends of the sleeve by flanges or couplings; or the clearance between the sleeve and the pipe shall not exceed 2.5 mm; or any clearance between pipe and sleeve shall be made tight by means of non-combustible or other suitable material.

3.3 Uninsulated metallic pipes penetrating "A" or "B" class divisions shall be of materials having a melting temperature which exceeds 950°C for "A-0" and 850°C for "B-0" class divisions.

3.4 In approving structural fire protection details, the Administration shall have regard to the risk of heat transmission at intersections and terminal points of required thermal barriers. The insulation of a deck or bulkhead shall be carried past the penetration, intersection or terminal point for a distance of at least 450 mm in the case of steel and aluminium structures. *If a space is divided with a deck or a bulkhead of "A" class standard having insulation of different values, the insulation with the higher value shall continue on the deck or bulkhead with the insulation of the lesser value for a distance of at least 450 mm.*

Our company is offering a wide range of 'deficiencies', case studies, clarification on the PSC deficiencies through our PSC seminar which is delivered on regular intervals in our office or in-house, at client's request.

To assist further, we offer our clients the service of assessing onboard or through "Distance Assessment" if a vessel is in conformance with the MLC 2006 requirements or conducting inspections equivalent to PSC/Flag/Rightship inspections to detect and prevent unpleasant occurrences!

We remain at your disposal for more details,

Prevention at Sea