

### INTRODUCTION

The Maritime Safety Committee, at its ninety-fifth session (3 to 12 June 2015), in order to facilitate its global and consistent implementation of the Code on Noise Levels on Board Ships, as adopted by resolution MSC. 337(91), approved Unified interpretations of the Code on Noise Levels on Board Ships (resolution MSC.337 (91)) (MSC.1/Circ.1509), as prepared by the Sub-Committee on Ship Design and Construction, at its second session (16 to 20 February 2015).



Then the committee at its 108th session (15 to 24 May 2024), with a view to providing more specific guidance on calibration for sound level meters and calibrators, approved the amendments to the unified interpretation of section 2 of the Code on Noise Levels on Board Ships (resolution MSC.337(91)), prepared by the Sub-Committee on Ship Design and Construction, at its tenth session (22 to 26 January 2024), **which should be applied at their next calibration due date, but not later than 1 June 2026.**

This circular revokes MSC.1/Circ.1509.

### UNIFIED INTERPRETATIONS OF THE CODE ON NOISE LEVELS ON BOARD SHIPS

#### CHAPTER 1 – GENERAL

##### Paragraph 1.3.8

Passenger spaces where they are also occupied by crew such as recreation rooms and open recreation areas should be considered as "other passenger spaces", and therefore are not subject to the Code. However, bulkhead and decks of crew cabins and hospitals adjacent to such rooms/areas should have the weighted sound reduction index ( $R_w$ ) in compliance with paragraph 6.2 of chapter 6.

##### Paragraph 1.4.21

Navigating bridge wings include enclosed navigating bridge spaces.

## CHAPTER 2 - MEASURING EQUIPMENT

Refer to the Ch.2, Par. 2.1.1 of the code, measurement of sound pressure levels shall be carried out using precision integrating sound level meters subject to the requirements of this chapter. Such meters shall be manufactured to IEC 61672-1(2002-05, (Recommendation for sound level meters)) type/class 1 standard as applicable, or to an equivalent standard acceptable to the Administration.

Sound calibrators shall comply with the standard IEC 60942 (2003-01) and shall be approved by the manufacturer of the sound level meter used. Calibrator and sound level meter shall be verified at least every two years by a national standard laboratory or a competent laboratory accredited according to ISO 17025 (2005) as corrected by (Cor. 1:2006).



The calibration should be carried out in accordance with IEC 61672-3 for sound level meters and IEC 60942 Appendix B for field calibrators. The edition of the calibration standard should correspond with the edition of the manufacturing standard for the instruments. The measurement company should provide documentation about the standard which has been met if not clearly marked on the sound level meter or field calibrator. The documentation or marking should include a clear statement of the results of the periodic tests and which performance class the instrument meets after calibration.

## CHAPTER 3 - MEASUREMENT

In this chapter, there are four interpretations of paragraphs 3.3.5, 3.3.6, 3.3.9 & 3.9, as mentioned in the following items:

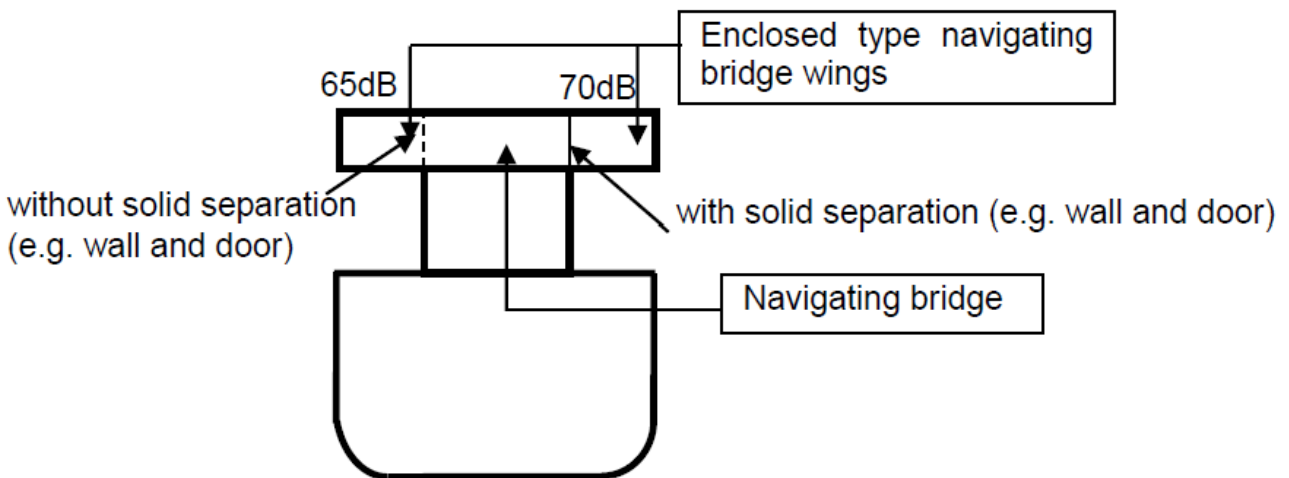
- **Paragraph 3.3.5:** Air conditioning vents should be kept open during the taking of noise measurements on board, unless they are designed to be kept closed in the normal operating condition.
- **Paragraph 3.3.6:** Closing devices of ventilation grilles/louvres of cabin doors should be kept open during the taking of noise measurements on board, unless they are designed to be kept closed in the normal operating condition.
- **Paragraph 3.3.9:** The wording "40% of maximum thruster power" means exactly "40% of maximum" and does not mean "40% of 80% as required by paragraph 3.3.2 of the Code".
- **Paragraph 3.9:** This provision only "acknowledges" the uncertainty; it does not represent any "allowance".

## CHAPTER 4 – MAXIMUM ACCEPTABLE SOUND PRESSURE LEVELS

In this chapter, the following interpretations should be noted:

### Paragraph 4.2

- A navigating bridge provided with radio equipment should be regarded as a "navigating bridge" (65dB (A)). "Radio rooms" mean separate rooms dedicated for sending/receiving radio messages.



- If a cabin is completely separated by more than one bulkhead from the airborne sound source, those bulkheads are not required to have the airborne sound insulation properties as required in chapter 6. For this purpose, bathroom/toilet/lavatory is not regarded as a cabin but regarded as the origin of airborne sound to another cabin.
- A room consisting of day-room and bedroom should be regarded as a single "cabin" (60dB (A)/55dB (A)) in cases where the room is for single occupancy. For this purpose, partitions (panel and door) between day-room and bedroom need not have the airborne sound insulation properties as required in chapter 6.

## CHAPTER 6 – ACOUSTIC INSULATION BETWEEN ACCOMMODATION SPACES

### Paragraph 6.2.1

- The requirements regarding airborne sound insulation properties for bulkheads also apply to components installed in bulkheads (e.g. corridors to cabin doors).
- In applying this requirement to bulkheads including components as mentioned in the above, the following may apply:
  1. In cases of bulkheads consisting of acoustic insulation panels and doors, this requirement is considered satisfactory where each component forming the surface of bulkheads (acoustic insulation panels and doors, etc.) has at least the required  $R_w$ .
  2. In cases where either acoustic insulation panels or doors forming part of bulkheads have weighted sound reduction index inferior to that required by section 6.2.1 of the Code, this requirement is considered satisfactory provided that the  $R_w$  of bulkheads is not inferior to the required value, i.e. the  $R_w$  of bulkhead calculated using both the airborne sound insulation properties of the doors and those of the panels is not inferior to the required value. As guidance on evaluation of the  $R_w$  of bulkheads, the following formulae can be used:

$$\bar{R} = 10 \log_{10} \left[ S / \sum_{i=1}^n (S_i \cdot 10^{-R_i/10}) \right]$$

*Where*

*S: the area of the concerned bulkhead*

*n: the number of components forming the concerned bulkhead*

*R<sub>i</sub>: the sound reduction index of the component number i*

*S<sub>i</sub>: the area of single component*

*Note: R<sub>i</sub> has frequency elements in frequency range from 100 to 5000 [Hz]*

3. The requirements regarding airborne sound insulation properties for decks should also apply to decks together with coverings and should, therefore, be tested in laboratory as in the onboard arrangement. However, they need not apply to ceiling panels.

### Paragraph 6.2.2

1. Closing devices of ventilation grilles/louvres of cabin doors should be kept open during laboratory tests.
2. Doors should be tested together with the associated door frame. In cases where there is no sill being part of the door frame, the doors should be tested with the gap specified by manufacturers and with sealing materials, if fitted.

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