BS ISO 17208-2:2019

BSI Standards Publication

Underwater acoustics — Quantities and procedures for description and measurement of underwater sound from ships

Part 2: Determination of source levels from deep water measurements

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National foreword

This British Standard is the UK implementation of ISO 17208-2:2019.

The UK participation in its preparation was entrusted to Technical Committee EH/1/7, Underwater acoustics.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Foreword

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This document was prepared by Technical Committee ISO/TC 43, *Acoustics*, SC 3, *Underwater acoustics*.

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Introduction

This document has been developed in response to the demand, noted by the International Maritime Organization (IMO) and its Marine Environment Protection Committee (MEPC), for an International Standard for measurement of underwater sound radiated from ships. In this document, the sound radiated by the ship under test is described in terms of an equivalent monopole source level.

The scientific research on the impact of underwater sound on the marine ecosystem necessitates the accumulation of reliable acoustic output data for common sources such as surface vessels. These data can be obtained through at-sea measurement by relevant organizations, such as research institutes, by applying the measurement methodology described in ISO 17208-1. The methodology and measurement configuration are sufficient to give technically sound acoustic data, but are also suitable for end users to conduct the measurements *in situ* in the ocean without access to large fixed noise ranges.

The measurement of underwater sound radiated from ships depends upon various conditions related to the vessel under test and its surrounding environment. Specifically, the speed, draught and operational conditions of the engine(s) of the ship influence the level of radiated underwater sound. Waves, current, depth, temperature and salinity of the water also influence the propagation of underwater sound. The sea surface and bottom can reflect acoustical waves. Ambient noise sources, such as traffic, industry, biological, geological or meteorological noise can also interfere with the measurement of underwater sound radiated from the target ship.

In this document, the radiated noise level measured in deep water (3.1) according to ISO 17208-1 is converted to monopole source level. The conversion formulae are derived based on the assumption that the surface is a perfect pressure release boundary.

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