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GB/T 47043-2026

**Ships and marine technology - Model tests of ice loads on fixed
structures**

船舶和海上技术 固定结构冰载荷模型试验

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of

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1 Scope

GB/T 47043-2026 is the Chinese national standard covering measuring in a model basin what an ice sheet does to a fixed offshore structure - the crushing and bending failure of the ice against the leg, the cyclic loading that can drive a platform into resonance, and the scaling laws that make model ice behave like the real thing. First edition. It was issued on 28 January 2026 and has been in force since 1 August 2026, as a first edition. The document is under the responsibility of the Standardization Administration of China. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the test conditions and operating parameters, test instruments and equipment, and test requirements for ice load model tests on fixed marine structures. Requirements, experimental procedures, experimental data acquisition and processing, and experimental reports. This document applies to ice load model tests on stationary marine structures affected by sea ice. Ice load model tests are typically conducted in ice-water tanks. This is for reference and use in ice load model tests conducted in non-ice water pools.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 4208-2017 Degrees of protection provided by enclosures (IP code)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 fixed structure Connected to the seabed via pile foundations, gravity foundations, or other fixing methods, it maintains its position throughout its service life and is used for oil and gas production. Structures for offshore operations such as production, wind power generation, and port protection.

Note. Fixed structures in this document include, but are not limited to, jacket platforms, gravity platforms, and fixed offshore wind power foundations.

3.2 icemodeltest Scaled-down physical simulation experiments used to study the interaction process between ice and structures and to observe key physical parameters.

3.3 ice tank; icebasin A low-temperature testing facility used to simulate ice-water environment conditions and conduct ice model tests under controlled conditions.

3.4 Model Ice An experiment to simulate the physical and mechanical properties of natural ice, which involves freezing a specifically proportioned aqueous solution in an ice-water tank through a controlled process. medium.

3.5 boundary effect The phenomena or changes related to the boundary caused by the existence of the boundary of an object or system.

Note. Boundary effects in ice model tests are usually caused by the pool wall or the free end of the ice floe.