

INTERNATIONAL  
STANDARD

**ISO**  
**10055**

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**Mechanical vibration — Vibration testing  
requirements for shipboard equipment  
and machinery components**

*Vibrations mécaniques — Exigences requises pour les essais de vibrations  
des équipements de bord et des composants des machines*



Reference number  
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## **Foreword**

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 10055 was prepared by Technical Committee ISO/TC 108, *Mechanical vibration and shock*, Subcommittee SC 2, *Measurement and evaluation of mechanical vibration and shock as applied to machines, vehicles and structures*.

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## Introduction

All machinery installed aboard ship will ordinarily be subjected to a vibratory environment consisting of various frequencies and amplitudes of vibration, possibly for long periods of time during which the machinery and equipment must continue to function normally. Structural arrangements on board ships may result in machinery placed in areas which result in magnification of vibratory amplitudes and, therefore, many items of equipment may be subjected to more severe vibrations than those imposed by the hull.

For equipment and machinery in general, the frequency range of interest is governed by the prime mover (such as a diesel engine) and by propeller and blade excitation (including harmonics). This range does not usually extend beyond 100 Hz.

Vibration measurements for steady-state conditions are usually made in relatively quiet seas and during constant-speed operations. However, actual ship operations occur in all sea states and headings. Any change in a ship's speed, heading, or sea state may have a significant effect on the vibration values.

Based on these considerations, the proposed test severities for vibration testing of shipboard equipment and machinery components cannot be interpreted as simulating normal environmental conditions, but as representing vibration values sufficiently large to obtain a reasonably high degree of probability that the equipment will not fail or malfunction during service life.