
**Large yachts — Quality assessment of
life onboard — Stabilization and sea
keeping**

*Grands yachts — Évaluation de la qualité de la vie à bord —
Stabilisation et tenue en mer*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 12, *Large yachts*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The lack of standards and criteria for the assessment of the ship-motion related to the risk of discomfort onboard of large yachts was reported to be an important issue for the industry, brokers, owners and representatives. There was not a recognized and accepted procedure, criteria and rating that can be used to compare yachts among each other and evaluate the impact of stabilization systems in the improvement of the comfort onboard.

The increased demand for comfort onboard of large yachts led to the development of several types of stabilization systems and to design large yachts with ship motions in mind. The intention of this document is to define an objective scale for comparison of different levels of comfort at several areas onboard of a large yacht in transit and at zero speed (DP or at anchor).

Large yachts — Quality assessment of life onboard — Stabilization and sea keeping

1 Scope

This document provides a comparative scale (no judgement) of motion-related comfort onboard yachts to be used for technical and commercial benefit. The scale consists of a maximum number of 5 stars, the higher the amount of stars, the higher the comfort onboard. It allows the selection of the most suitable yacht for a specific purpose, evaluates the impact of stabilization systems, compares designs and identifies the most comfortable position onboard.

The methodology, work flow and criteria proposed in this document are subject to possible improvements and do not take into account certain important aspects that influence the comfort onboard.

The following aspects are not covered in this document: jerk, the method to derive roll damping, stern quartering seas, risk of parametric roll, the influence of the steering devices, green water and waves impacts, compensation for yacht size, gender and age dependency, habituation.

By explicitly listing the aspects that are not covered in this document, the reader becomes aware of them and can improve the assessment with dedicated considerations.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2631-1:1997, *Mechanical vibration and shock — Evaluation of human exposure to whole-body vibration — Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

comfort

<biodynamics> subjective state of well-being or absence of mechanical disturbance in relation to the induced environment (mechanical vibration or repetitive shock)

Note 1 to entry: Many of the factors contributing to a comfortable state for crew and passengers are indicated in [Figure 1](#).

Note 2 to entry: Some of these factors are being assessed and described in existing ISO standards, such as ISO 2631-1 for the vibrations and several others for the noise with respect to human beings.

Note 3 to entry: The comfort factors addressed in the study presented in this document are the ones related to motion, postural stability and the motion sea sickness.