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**Large yachts — Strength,  
weathertightness and watertightness  
of glazed openings —**

**Part 2:  
Glazed opening integrated into  
adjacent structure (elastically  
bonded to bulkhead or shell)  
design criteria, structural support,  
installation and testing**

*Grands yachts — Résistance, imperméabilité au mauvais temps et  
étanchéité des ouvertures vitrées —*

*Partie 2: Critères de conception, support structurel, installation et  
essais des ouvertures vitrées faisant partie intégrale de la structure  
adjacente (directement collées sur la cloison ou le bordé)*





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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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://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*.

A list of all parts in the ISO 11336 series can be found on the ISO website.

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](http://www.iso.org/members.html).



# Large yachts — Strength, weathertightness and watertightness of glazed openings —

## Part 2:

## Glazed opening integrated into adjacent structure (elastically bonded to bulkhead or shell) design criteria, structural support, installation and testing

### 1 Scope

This document specifies technical requirements for direct adhesive bonding of glazing materials into recesses forming part of the structure of the ship and into frames that are fastened to the structure of the ship.

It is applicable to large yachts as defined in ISO 11336-1.

This document is limited to the bonding of independent glazed openings, where the bonded joint is designed to withstand local loads (from external loads coming from weather and sea conditions, internal impact loads from accidental passenger or cargo shifting, wind suction and accelerations due to ship motions).

Bonding of glazed openings where the glazing material is subjected to loads from global ship motions (bending, shear force and torsion), which are considered as structural glazed openings, are outside the scope of this document. Quantitative identification of the global deflection is also outside the scope.

Additionally, this document is limited to bonding that exhibits elastic behaviour, and excludes rigid bonding and nonlinear elastic bonding.

The design of the bonding for the following installation types is outside the scope of this document:

- fire protected areas;
- glazed bulwarks;
- underwater glazing;
- pool glazing;
- glazing for use in polar areas;
- unstepped IGUs.

### 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 37, *Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties*

ISO 48-5, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 5: Indentation hardness by IRHD pocket meter method*

ISO 527-1, *Plastics — Determination of tensile properties — Part 1: General principles*