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

Part 3: Quality assurance, installation and in-service inspection

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

Partie 3: Assurance qualité, installation et inspection en service

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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.

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

Part 3: Quality assurance, installation and in-service inspection

1 Scope

This document specifies

— the content of the product data sheet of glazing materials for use on yachts,

— the evaluation of conformity to the product data sheet of laminated glass and laminated safety glass for use on yachts,

— the product labelling and identification methods for glass supplied for installation on board a yacht, and

— methods for survey of installed glazing.

It does not cover distortion of view or aesthetic aspects.

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 527-2, *Plastics — Determination of tensile properties — Part 2: Test conditions for moulding and extrusion plastics*

ISO 1288-3, *Glass in building — Determination of the bending strength of glass — Part 3: Test with specimen supported at two points (four point bending)*

ISO 11336-1:2012, *Large yachts — Strength, weathertightness and watertightness of glazed openings — Part 1: Design criteria, materials, framing and testing of independent glazed openings*

ISO 11963, *Plastics — Polycarbonate sheets — Types, dimensions and characteristics*

ISO 12543-1, *Glass in building — Laminated glass and laminated safety glass — Part 1: Definitions and description of component parts*

ISO 12543-2, *Glass in building — Laminated glass and laminated safety glass — Part 2: Laminated safety glass*

ISO 12543-3, *Glass in building — Laminated glass and laminated safety glass — Part 3: Laminated glass*

ISO 12543-4, *Glass in building — Laminated glass and laminated safety glass — Part 4: Test methods for durability*

ISO 12543-5, *Glass in building — Laminated glass and laminated safety glass — Part 5: Dimensions and edge finishing*

ISO 12543-6, *Glass in building — Laminated glass and laminated safety glass — Part 6: Appearance*

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ISO 21005, *Ships and marine technology — Thermally toughened safety glass panes for windows and side scuttles*

ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

EN 572-1, *Glass in building — Basic soda-lime silicate glass products — Part 1: Definitions and general physical and mechanical properties*

EN 1863-1, *Glass in building — Heat strengthened soda lime silicate glass — Part 1: Definition and description*

EN 12150-1, *Glass in building — Thermally toughened soda lime silicate safety glass — Part 1: Definition and description*

EN 12337-1, *Glass in building — Chemically strengthened soda lime silicate glass — Part 1: Definition and description*

EN 12603, *Glass in building — Procedures for goodness of fit and confidence intervals for Weibull distributed glass strength data*

EN 14449, *Glass in building — Laminated glass and laminated safety glass — Evaluation of conformity*

DIN 2304, *Adhesive bonding technology — Quality requirements for adhesive bonding processes*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12543 (all parts), ISO 11336-1, and the following apply.

3.1
initial examination
initial verification that the properties of the product are as given in the product description

Note 1 to entry: The initial examination can and generally does consist of a combination of actual (physical) testing of representative samples of production or of prototypes and assessment of documentation.

3.2
test report
document that gives the results of an initial examination

3.3
product description
document that details the relevant properties of the glazing product, including the permitted tolerances for the properties, as well as specific reference(s) to characteristics that are modified by the production process and the information required to carry out survey on the manufacturing process

3.4
significant change
variation in performance beyond the permitted tolerance for the relevant parameters

3.5
glazing manufacturer
entity issuing and signing the declaration of conformity

3.6
product data sheet
document giving the properties of the final product, intended to be published to be used for engineering purposes

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3.7
recognized organization
institution authorized by the Flag State of the vessel to do load line inspections for the Flag State , typically the Classification Societies

3.8
monolithic glazing
glazing material of which the panes consist of one single ply of one material only

EXAMPLE Single pane thermally toughened safety glass (TTG) and sheets of polycarbonate or polyacrylic material.

3.9
compound glazing material
glazing material of which the panes consist of stacks of plies of similar or different materials that are laminated or otherwise permanently connected to each other

EXAMPLE Laminated glass and laminates of glass plies with polycarbonate or polyacrylic material.

3.10
declaration of conformity
statement by the manufacturer declaring that the properties of the product are as given in the relevant product data sheet

3.11
marine grade TTG
thermally toughened safety glass as assumed in existing maritime standards, typically compliant with ISO 21005, which can be vertically processed, need not to be heat soaked, and accepted by batch testing

3.12
L1
virtual line drawn at a height of 2,5 % of the breadth of the yacht (B), or a height of 500 mm, whichever is greater, above the design waterline

3.13
L2
virtual line drawn at a height of h_{std} + 0,02×L above the design waterline, with 0,02×L not exceeding 3 m

Note 1 to entry: h_{std} (standard superstructure height) and L (load line length) are defined in ISO 11336-1.

3.14
L3
virtual line at a height of 2×h_{std} + 0,02×L above the design waterline, with 0,02×L not exceeding 3 m

Note 1 to entry: h_{std} (standard superstructure height) and L (load line length) are defined in ISO 11336-1.

4 Requirements for glazing material products

4.1 Product data sheet

4.1.1 General

For each glazing material a product data sheet shall be provided.

All glass elements shall meet the characteristics and properties declared in the product data sheet for that element.

The product data sheet is the central document on the basis of which conformity with this standard shall be examined.

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