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

*Navires et technologie maritime — Verres de sécurité trempés
thermiquement pour fenêtres et hublots*



Reference number
ISO 21005:2018(E)

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Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Material	1
5 Finish	1
6 Dimensions and tolerances	2
6.1 Dimensions, thicknesses and nominal sizes.....	2
6.1.1 Ordinary rectangular windows.....	2
6.1.2 Side scuttles.....	2
6.1.3 Other dimensions.....	3
6.2 Edges.....	3
7 Parallelism	4
8 Flatness	4
9 Testing	4
9.1 Sampling of glass panes.....	4
9.2 Acceptance conditions.....	5
9.3 Marking.....	5
Annex A (normative) Calculation of required glass thickness	6

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 on 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 the following URL: www.iso.org/iso/foreword.html.

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

This third edition cancels and replaces the second edition (ISO 21005:2012), which has been technically revised.

The main changes compared to the previous edition are as follows:

- [Annex A](#): deleted factor α from equation for rectangular windows;
- [Annex A](#): replaced factor α in equation for side scuttles with value 1,21.

Ships and marine technology — Thermally toughened safety glass panes for windows and side scuttles

1 Scope

This document specifies materials and finish, dimensions for interchangeability, tolerances, parallelism and flatness, testing, marking and designation of thermally toughened safety glass panes for windows complying with ISO 3903 and side scuttles complying with ISO 1751.

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 614, *Ships and marine technology — Toughened safety glass panes for rectangular windows and side scuttles — Punch method of non-destructive strength testing*

ISO 1751, *Ships and marine technology — Ships' side scuttles*

ISO 3903, *Ships and marine technology — Ships' ordinary rectangular windows*

ISO 6345, *Shipbuilding and marine structures — Windows and side scuttles — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6345 and the following apply.

ISO and IEC maintain terminological 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

batch of glass panes

quantity of glass panes of the same nominal size and nominal thickness, produced in the same process under consistent controlled conditions

4 Material

Thermally toughened safety glass shall be manufactured of plate glass, either float or polished.

5 Finish

The finished glass pane shall meet the strength requirement of ISO 614. If the finishing method used on the glass pane lowers its strength below the strength required by ISO 614 for the untreated plate, either the finishing method needs to be changed or a thicker glass pane shall be used.