
**Ships and marine technology — Heated
glass panes for ships' rectangular windows**

*Navires et technologie maritime — Vitrages chauffants pour fenêtres
rectangulaires de navires*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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.

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.

ISO 3434 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 3434:1992), which has been technically revised. It also incorporates the Amendment ISO 3434:1992/Amd.1:2004.

Ships and marine technology — Heated glass panes for ships' rectangular windows

1 Scope

This International Standard specifies construction characteristics, optical qualities and heat current circuit, as well as the tolerances, tests, marking and designation of heated glass panes for ships' rectangular windows of the heated series according to ISO 3903.

It includes the conditions to comply with the safety of ships in times of frost and/or snow, particularly during manoeuvres in port.

Heated glass panes are used on ships principally for the windows of wheel-houses and bridges, as well as in enclosed locations used for look-out and manoeuvring purposes. This International Standard specifies heated glass panes which are intended for use at temperatures down to $-40\text{ }^{\circ}\text{C}$.

2 Normative references

The following cited documents are indispensable for the application of this document. For dated references, the edition cited applies only. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 554:1976, *Standard atmospheres for conditioning and/or testing — Specifications*

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

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

ISO 5779:1987, *Shipbuilding — Ordinary rectangular windows — Positioning*

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

IEC 60092-101, *Electrical installations in ships — Part 101: Definitions and general requirements*

IEC 60529:2001, *Degrees of protection provided by enclosures (IP Code)*

3 Optical requirements

3.1 Requirements

When heated glass panes are installed in windows, they shall comply with the requirements in 3.2 and 3.3.

All the optical requirements shall apply independent of the kind of temperature control (for example, a thermostat).

However, these optical qualities are not required at the periphery of the glass pane within a distance of 50 mm width, see Figure 1.