
International Standard



5778

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Shipbuilding — Small weathertight steel hatches

Construction navale — Petits panneaux en acier, étanches aux intempéries

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5778 was developed by Technical Committee ISO/TC 8, *Shipbuilding*, and was circulated to the member bodies in May 1978.

It has been approved by the member bodies of the following countries :

Australia	India	Norway
Austria	Ireland	Poland
Belgium	Italy	Romania
Brazil	Japan	Spain
Bulgaria	Korea, Dem.P.Rep.of	Sweden
Czechoslovakia	Korea, Rep. of	United Kingdom
Finland	Mexico	USSR
Germany, F.R.	Netherlands	Yugoslavia

The member body of the following country expressed disapproval of the document on technical grounds :

France

Shipbuilding — Small weathertight steel hatches

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies main dimensions, location and number of fittings, materials and quality of manufacture for small weathertight steel hatches for application on board ships in order to ensure interchangeability of the hatches. The remaining dimensions are left to the manufacturer.

The hatches are suitable for loading operations and giving access to storage compartments and for access to dry cargo holds. The hatches are not suitable as an access to any kind of tanks and may not be used as escape hatches.

These hatches generally comply with the requirements of the International Convention on Load Lines, 1966. The possibility for application in position 1 and position 2 has to be considered for each situation and where necessary the hatch covers shall be provided with additional stiffening.

The annex deals with the testing of tightness of the hatch.

NOTE — Users of this International Standard should note that while observing the requirements of the standard, they should at the same time ensure compliance with such statutory requirements, rules and regulations as may be applicable to the individual ship concerned.

2 REFERENCE

ISO 262, *ISO general purpose metric screw threads — Selected sizes for screws, bolts and nuts.*

3 MAIN DIMENSIONS

3.1 Nominal size

The nominal size of a hatch is based on the inside dimensions of the upper part of the coaming, as shown in figure 1 and table 1.

Dimensions in millimetres

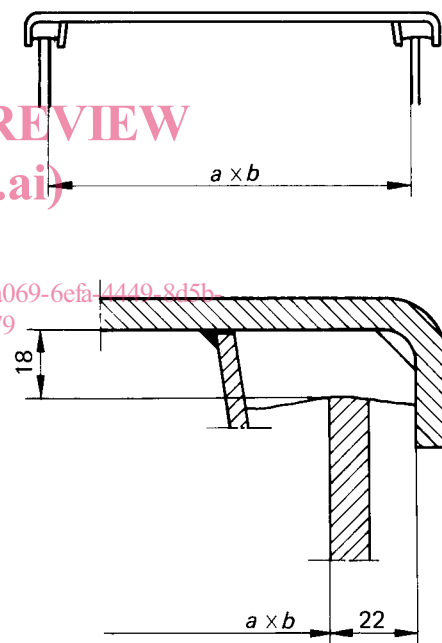


FIGURE 1

TABLE 1

Nominal size $a \times b$
630 × 630
630 × 830
830 × 830
1 030 × 1 030
1 330 × 1 330

3.2 Upper part of coaming

The upper part of the coaming shall conform to the details of figure 2 and table 2. The coaming may have square or rounded corners as shown in figure 2.

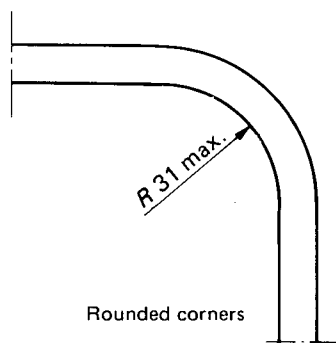
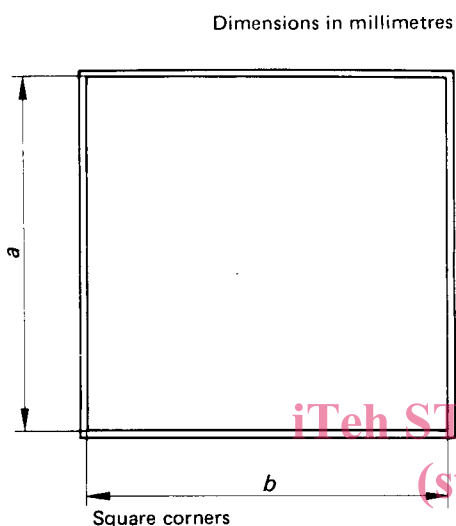


FIGURE 2

TABLE 2

Nominal size	a	b
630 × 630	630	630
630 × 830	630	830
830 × 830	830	830
1 030 × 1 030	1 030	1 030
1 330 × 1 330	1 330	1 330

3.3 Cover plate

The cover plate shall conform to the details of figure 3 and table 3.

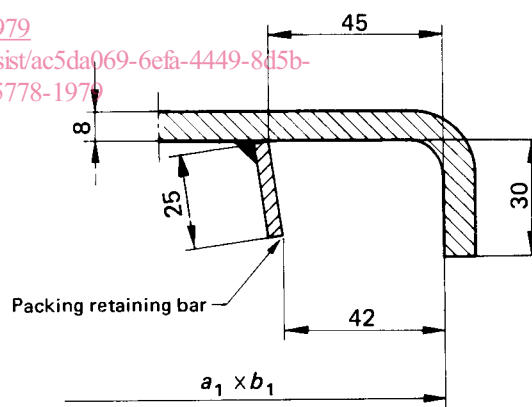
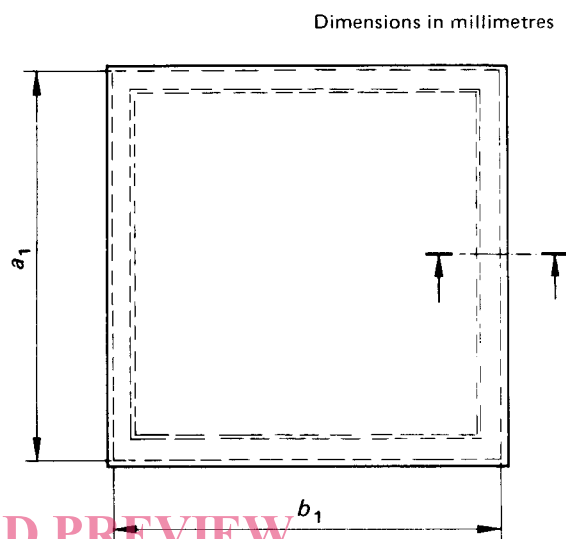


FIGURE 3

TABLE 3

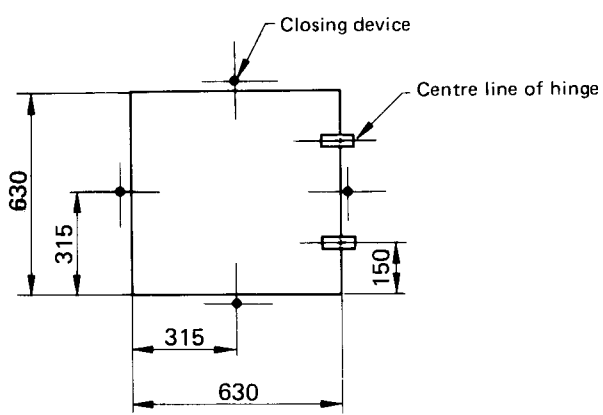
Nominal size	a ₁	b ₁
630 × 630	674	674
630 × 830	674	874
830 × 830	874	874
1 030 × 1 030	1 074	1 074
1 330 × 1 330	1 374	1 374

3.4 Fittings

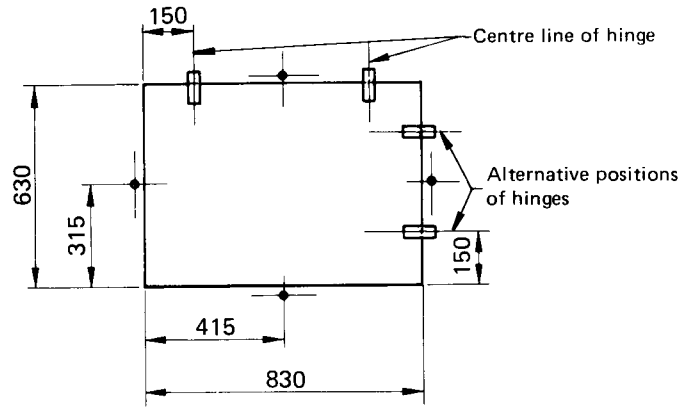
3.4.1 Location of closing devices and hinges

All values given in figure 4, for centre lines of closing devices and hinges, are referred to the inside dimensions (nominal size) of the upper part of the coaming.

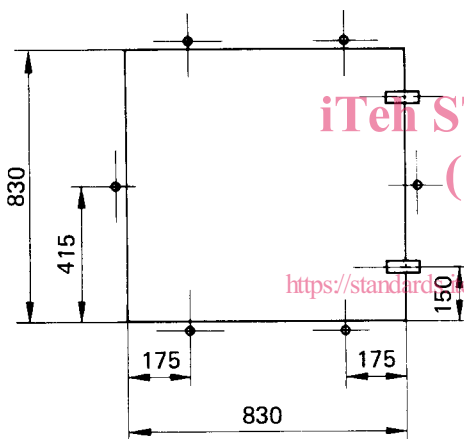
Dimensions in millimetres



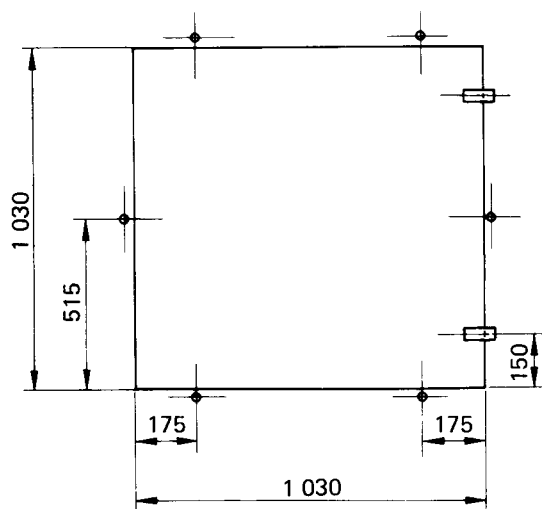
Nominal size 630 × 630



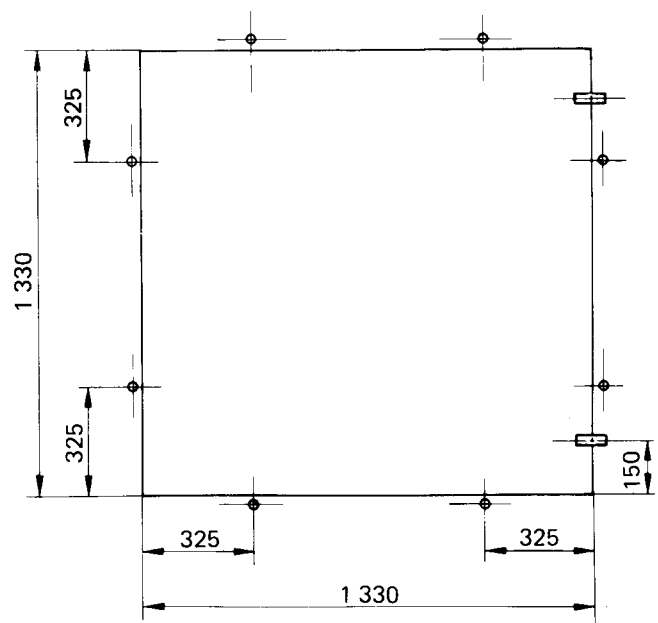
Nominal size 830 × 830



Nominal size 830 × 830



Nominal size 1 030 × 1 030



Nominal size 1 330 × 1 330

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FIGURE 4

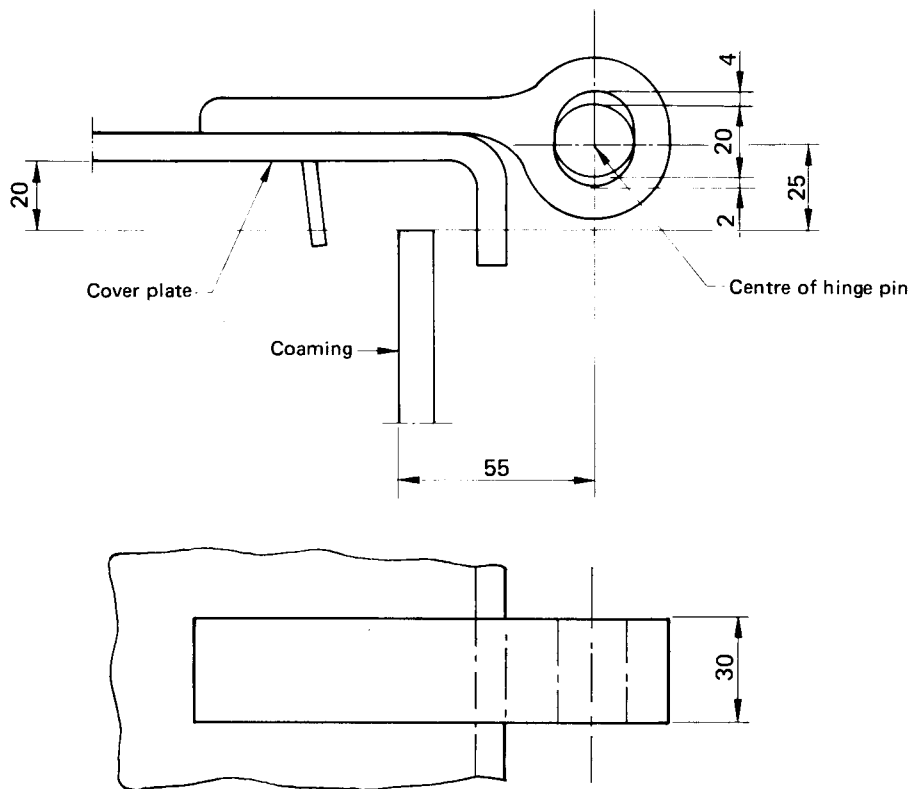
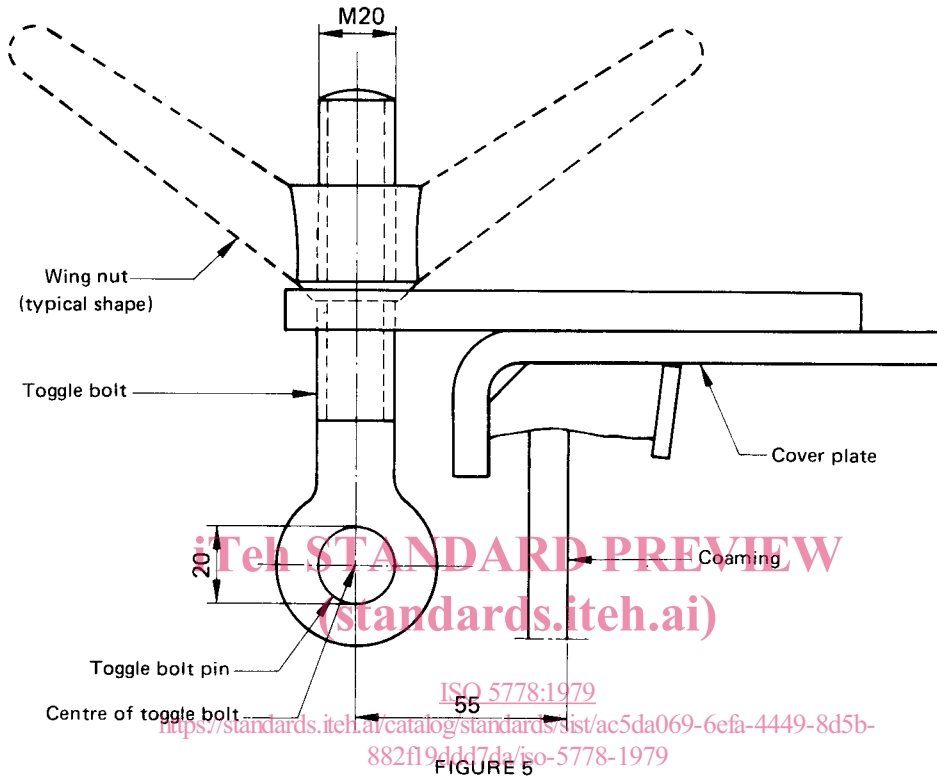
3.4.2 Closing devices

Closing devices shall conform to the dimensions of figure 5.

3.4.3 Hinges

Two hinges shall be fitted to each hatch and shall conform to the dimensions of figure 6. Each hinge shall be provided with an oval hole, in order to allow the closing devices to compress the hatch seal.

Dimensions in millimetres



3.4.4 Hatch seal

The hatch seal shall have a cross-section of 45 mm × 20 mm (see figure 7), an initial compression of 2 mm being allowed.

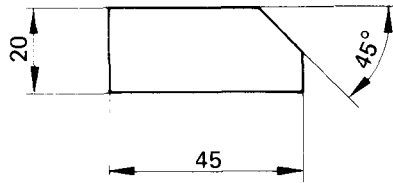


FIGURE 7

The packing shall be fitted to the cover plates as indicated in figure 1 and shall be secured by a retaining bar, and the packing shall be bonded to the cover plate by an adhesive suitable for marine conditions.

It shall be ensured, by a depth stop positioned on or near the centre line of each closing device, that the packing material cannot be compressed more than 4 mm.

3.4.5 Ancillary fittings

It is recommended that provision be made for securing the hatch cover in the raised position and that hatch covers be provided with counterbalance weights when necessary.

4 MATERIALS

The coamings and covers shall be manufactured from weldable steel of 410 N/mm² minimum tensile strength or equivalent shipbuilding quality steel.

The packing retaining bars, wing nuts, hinges and lugs and ancillary fittings shall be manufactured from weldable mild steel of 350 N/mm² minimum tensile strength.

The toggle bolts and their pins shall be manufactured from non-corrodible material of 350 N/mm² minimum tensile strength.

The quality of the resilient packing material forming the hatch seal shall be satisfactory for service under marine conditions and shall provide effective and lasting sealing and resealing properties when the hatch is tightened under normal conditions.

5 QUALITY OF MANUFACTURE

Coamings and covers shall be free from distortion.

Coamings, covers and fittings shall be free from any exposed rough edges likely to cause injury to persons and, in the case of the coaming, damage to the packing material.

The coamings and covers shall be suitably treated by blast cleaning or other process to remove scale and surface deposits and shall be given a priming coat of paint to inhibit subsequent corrosion.

Upon assembly of the completed coaming and cover, the manufacturer shall ensure that there is correct registry of the edge of the coaming with the packing material and continuous contact between the two components when the hatch is closed.

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ANNEX

TESTING OF WEATHERTIGHTNESS

The completed hatch, when installed on board ship, shall be closed and secured in a normal manner, and then subjected to a hose test carried out to the satisfaction of the representative of the regulatory body concerned.

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