
INTERNATIONAL STANDARD



3876

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Shipbuilding — Inland vessels — Hand-holes

Construction navale — Bateaux de navigation intérieure — Trous de main

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Descriptors : shipbuilding, inland navigation, inspection openings, specifications.

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 3876 was drawn up by Technical Committee ISO/TC 8, *Shipbuilding*, and was circulated to the member bodies in August 1975.

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

Austria	Germany	Turkey
Belgium	Italy	United Kingdom
Bulgaria	Japan	U.S.S.R.
Canada	Poland	Yugoslavia
Czechoslovakia	Romania	
France	Spain	

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

Netherlands

Shipbuilding — Inland vessels — Hand-holes

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the dimensions and designs of watertight and oiltight hand-holes for inland vessels.

2 REFERENCES

ISO 261, *ISO General purpose metric screw threads — General plan.*

ISO/R 630, *Structural steels.*

ISO/R 657/I, *Dimensions of hot-rolled steel sections — Part I: Equal-leg angles — Metric series — Dimensions and sectional properties.*

ISO/R 657/II, *Dimensions of hot-rolled steel sections — Part II: Unequal-leg angles — Metric series — Dimensions and sectional properties.*

3 CLASSIFICATION

3.1 Hand-holes are divided into two sizes, namely :

- size I : hand-holes of ϕ 150 mm;
- size II : hand-holes of ϕ 250 mm.

3.2 Depending on the design, hand-holes are divided into three types, namely :

- type A : hand-holes with a coaming (figure 1);

NOTE — Type A hand-holes constitute a danger to the safety of the personnel; restrictions should therefore be imposed on the locations where they are installed.

- type B : hand-holes without a coaming (figure 2);
- type C : hand-holes flush with the deck (figure 3).

4 DIMENSIONS

The dimensions of the two sizes of hand-holes of each of the three types shall as shown in figures 1, 2 and 3.

Dimensions in millimetres

(Values for size II in parentheses)

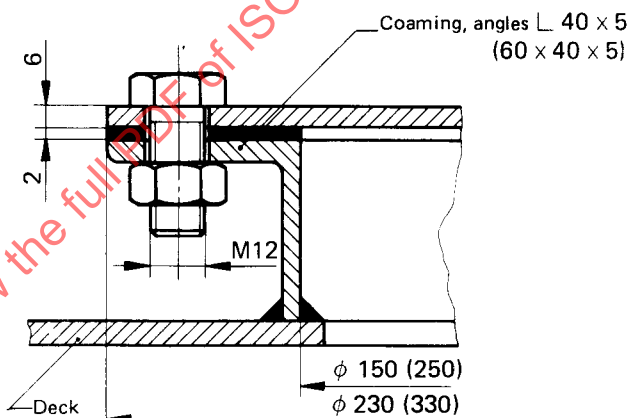


FIGURE 1 — Type A (with coaming)

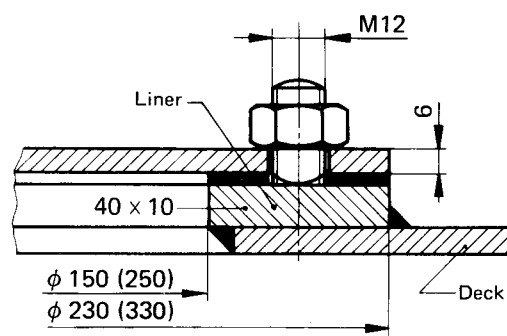


FIGURE 2 — Type B (without coaming)

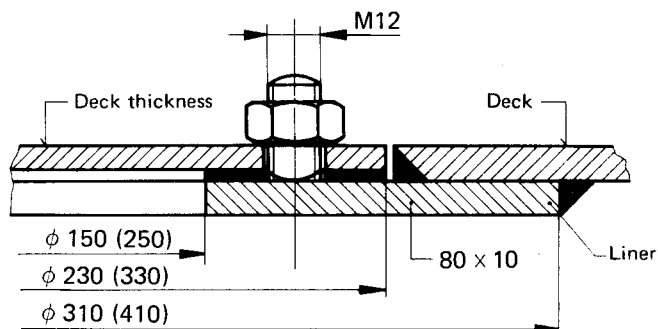


FIGURE 3 — Type C (flush with deck)

5 FIXING OF COVER

Two versions of fixing the covers of hand-holes are adopted, namely :

- **version 1** : with 8 bolts or studs (figure 4);
- **version 2** : with 12 bolts or studs (figure 5).

Dimensions in millimetres
(Values for size II in parentheses)

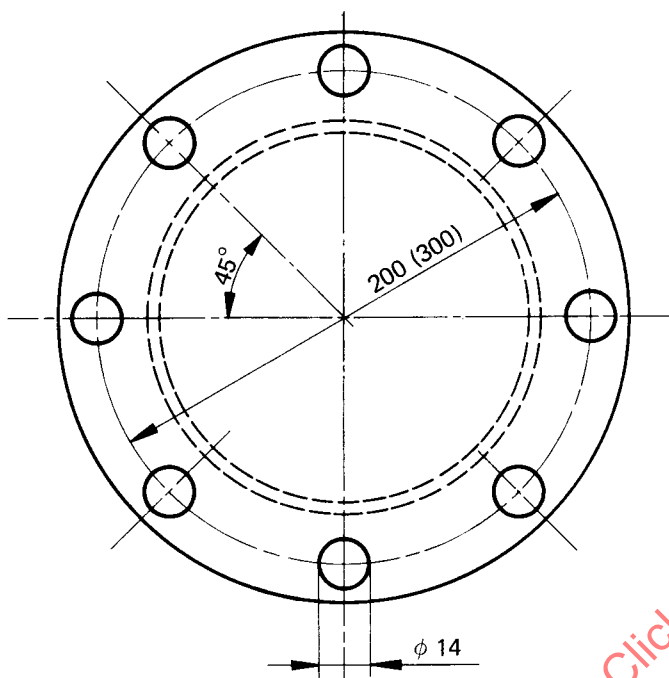


FIGURE 4 — Version 1 (cover fixed with 8 bolts or studs)

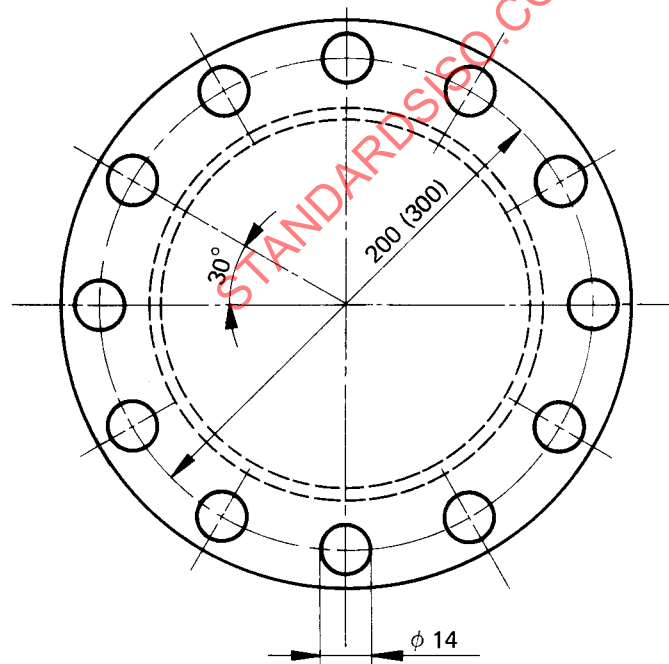


FIGURE 5 — Version 2 (cover fixed with 12 bolts or studs)

6 DESIGNATION

Examples :

- a) For a hand-hole size I, type A, version 1 :
Hand-hole ISO 3876-I-A-1.
- b) For a hand-hole size II, type C, version 2 :
Hand-hole ISO 3876-II-C-2.

NOTES

- 1 Size II hand-holes shall be used only in those cases when it is necessary to pass the head inside for visual inspection.
- 2 Other hand-holes required in certain cases are considered to be special constructions and are not standardized.

7 DESIGN

7.1 For type A hand-holes (with a coaming), two methods of welding the coaming to the deck are acceptable (see figures 6 and 7).

7.2 For type B hand-holes (without coaming), two methods of welding the liner to the deck are acceptable (see figures 8 and 9).

7.3 The permissible methods of fixing the studs are indicated in figures 10 and 11 :

- welding (for types B and C);
- threading (for type B only).

8 MATERIALS

Coaming : ISO/R 657/I and ISO/R 657/II.

Cover : Steel Fe 37D, 6 mm thick, as per ISO/R 630.

Liner : Steel Fe 37D, 10 mm thick, as per ISO/R 630.

Watertight packing : 2 mm thick rubber.

Oiltight packing : Special asbestos rubber 2 mm thick.

Fasteners : Bolts, studs, nuts, with M12 thread as per ISO 261.

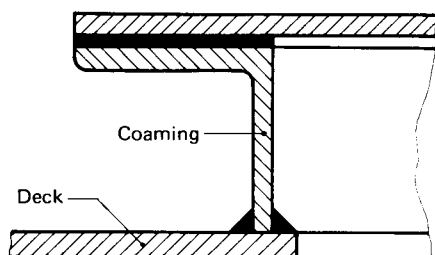


FIGURE 6 — Installation of coaming on deck

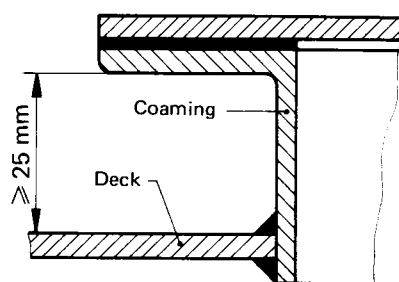


FIGURE 7 — Installation of coaming in deck cut-out

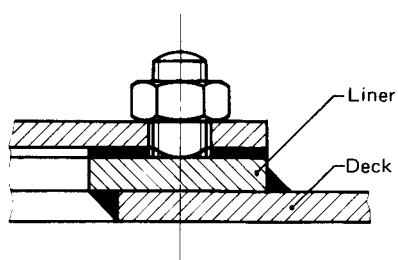


FIGURE 8 — Inside welding under liner

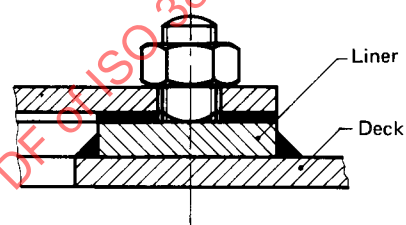


FIGURE 9 — Inside welding on deck

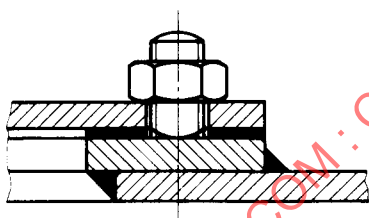


FIGURE 10 — Threaded stud welded to the hand-hole liner
(types B and C)

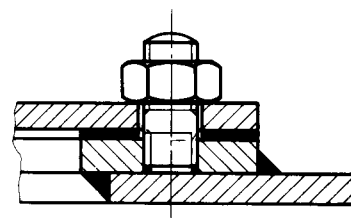


FIGURE 11 — Threaded stud screwed into the hand-hole liner
(type B)

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