
International Standard



6047

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

Shipbuilding — Inland vessels — Wooden hatch covers

Construction navale — Bateaux de navigation intérieure — Panneaux d'écouilles en bois

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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 6047 was developed by Technical Committee ISO/TC 8, *Shipbuilding*, and was circulated to the member bodies in November 1977.

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

Austria	India	Poland
Belgium	Ireland	Romania
Brazil	Italy	Spain
Chile	Japan	Turkey
Czechoslovakia	Korea, Dem. P. Rep. of	United Kingdom
Finland	Korea, Rep. of	USSR
France	Mexico	Yugoslavia

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The member bodies of the following countries expressed disapproval of the document on technical grounds :

Germany, F. R.
Netherlands



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MODIFICATION TO FOREWORD (*Inside front cover*)

The ISO member body for the Netherlands has now modified its vote of disapproval of this International Standard into one of abstention. The Netherlands should therefore be deleted from the list of countries whose member bodies have approved the document.

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Shipbuilding — Inland vessels — Wooden hatch covers

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the design and the dimensions of the main elements of wooden hatch covers, together with the requirements for their fabrication and installation in a vessel.

Hatch covers specified in this International Standard are intended for protection of holds from penetration of water through cargo hatches on inland vessels.

which they rest, hatch covers are divided into two types :

- I — Light wooden hatch covers;
- II — Reinforced wooden hatch covers.

The type of cover is chosen by the shipowner for each individual vessel, based on navigation conditions and the cargo to be carried on the covers.

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2 CLASSIFICATION

Depending on the design of the covers and the beams on

3 LIGHT HATCH COVERS (TYPE I)

3.1 Design

Type I covers are laid on detachable wooden beams resting on longitudinal carlings (see figure 1).

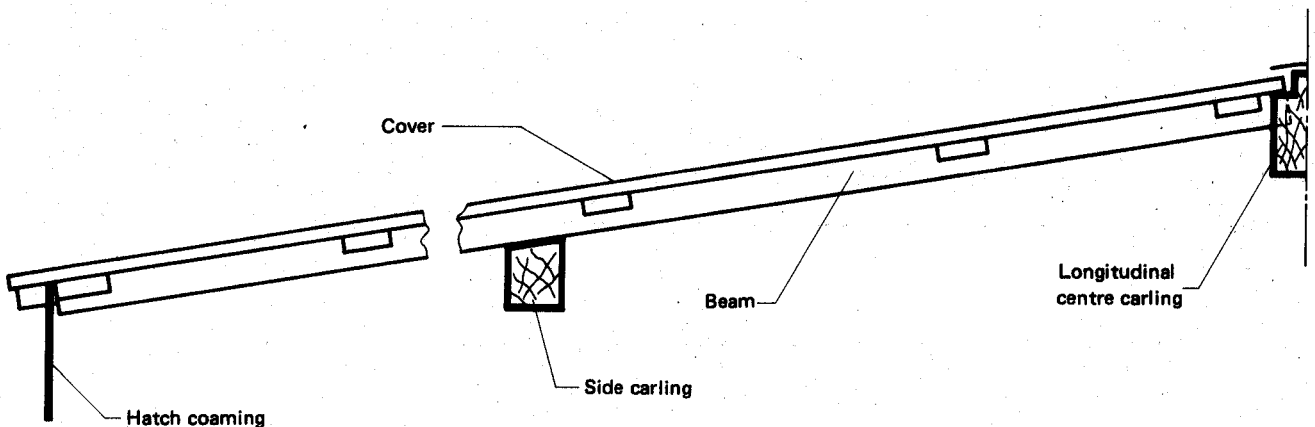


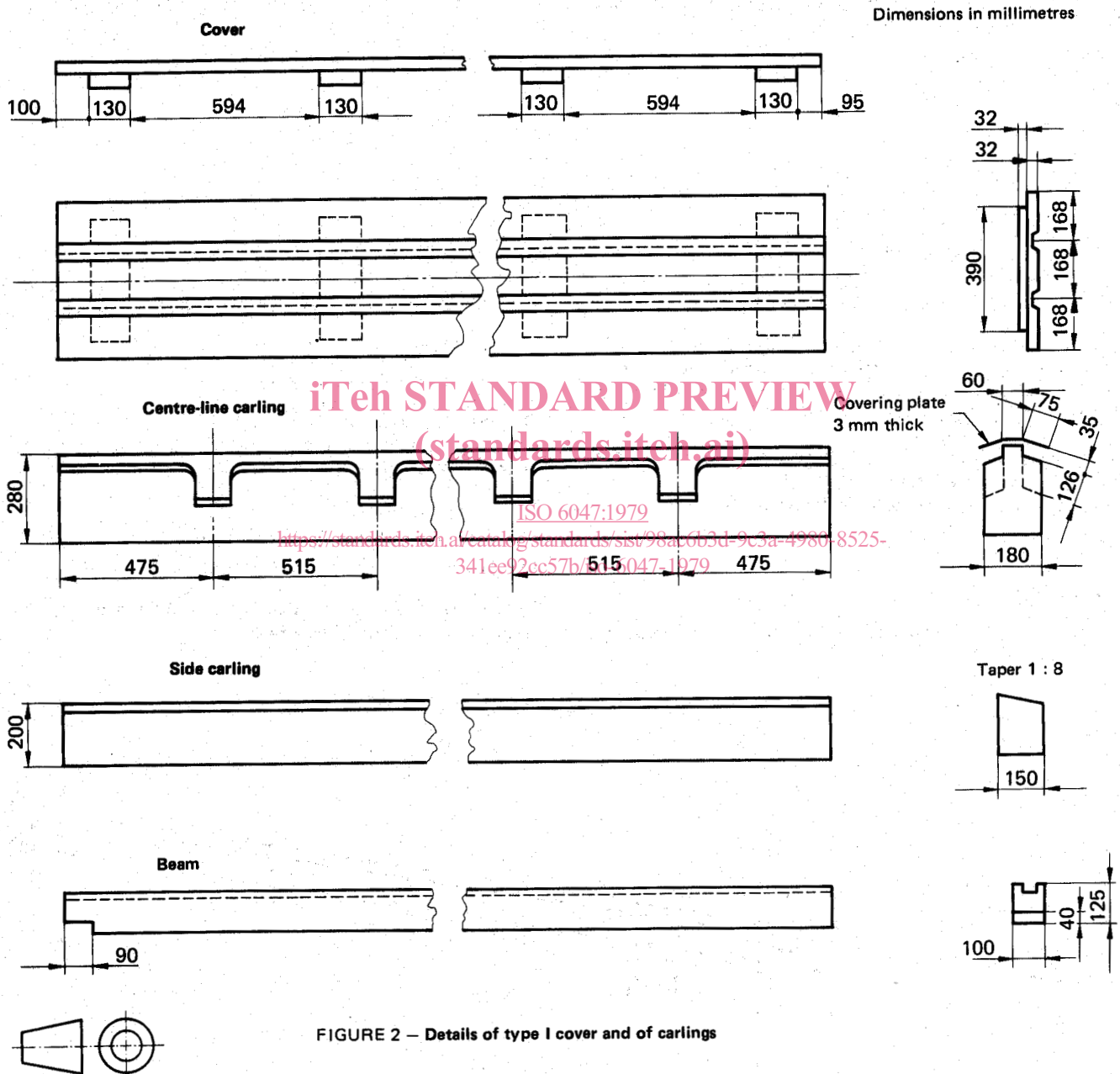
FIGURE 1 — General arrangement of type I cover (cross-section)

NOTE — The slope is not to scale.

3.2 Dimensions

The dimensions of the rectangular covers, support beams and other details of type I covers are shown in figure 2.

The shape and dimensions of covers laid in the corners of hatches are determined according to the shape of the hatch cut-out.



4 REINFORCED HATCH COVERS (TYPE II)

4.1 Design

4.1.1 Type II covers are laid on detachable metal beams (see figure 3).

4.1.2 The boards forming the cover shall be connected together by not less than three bolts.

4.1.3 The ends of the web plate of the detachable beam shall be reinforced on both sides, over a length of 180 mm with doubling plates having a thickness equal to that of the beam itself.

4.1.4 If covers join on a detachable beam, a vertical rib not less than 60 mm high shall be welded to the upper flange of the beam.

4.1.5 The length of the support surface of the carriers into which the detachable beams are laid shall be not less than 75 mm.

4.1.6 The detachable beams shall be fixed in place with a pin of diameter not less than 22 mm, inserted through the sides of the carrier and the beam web.

The pin shall be chained to the beam or to the coaming.

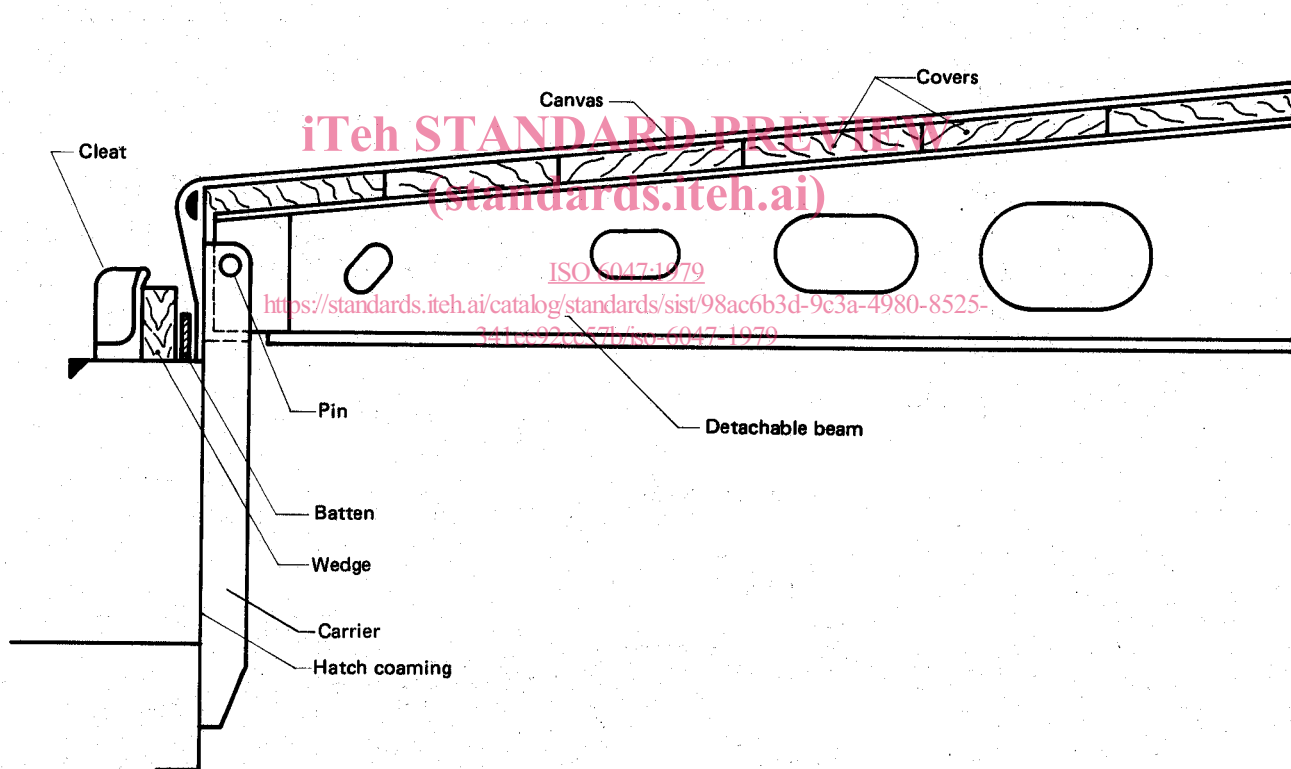
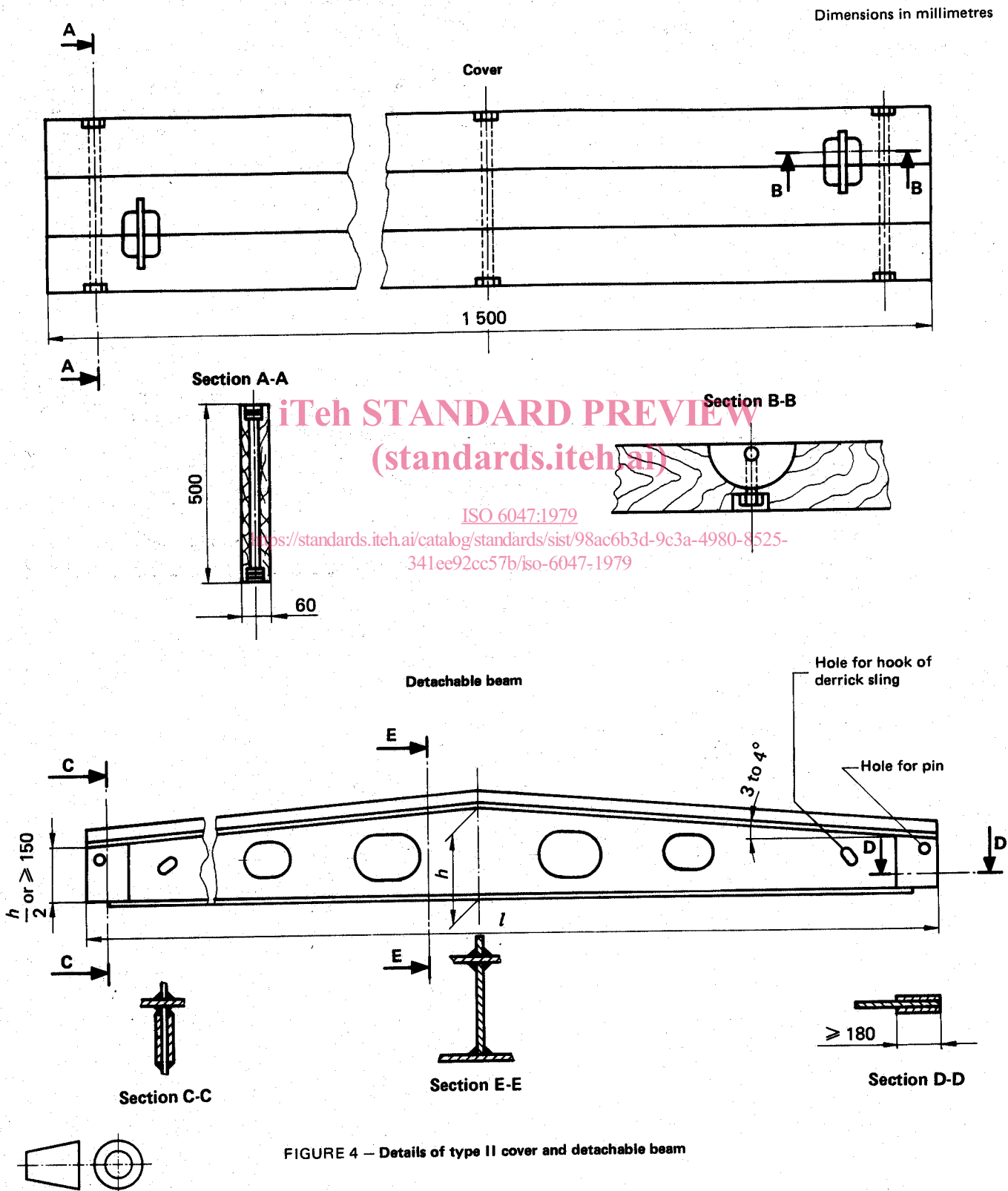


FIGURE 3 – General arrangement of type II cover (cross-section)

4.2 Dimensions

The principal dimensions of type II covers and detachable beams are shown in figure 4.

4.2.1 To ensure interchangeability, the length of covers shall preferably be 1,5 m and the width 0,5 m. The thickness of the cover shall be 60 mm for a length of 1,5 m.



4.2.2 The thickness of the beam web and the width of the upper and lower flanges shall not be less than the values given in table 1.

Maximum dimensions of lightening holes shall not be more than : - 0,4 of the beam side height, horizontal - 1,0 of this height.

TABLE 1 — Beam dimensions

Span of detachable beam (l), m	3	4	5	6	7	8	9
Web thickness, mm	7	7,5	8	8,5	9	9,5	10
Flange width, mm	150	180	210	240	260	280	300

5 GENERAL REQUIREMENTS

5.1 The designer shall set maximum lengths of covers and support beams such that their mass does not exceed the values fixed by national requirements for crew work with hatch covers.

5.2 The seating width of the cover shall be :

- for type I — not less than 50 mm;
- for type II — not less than 65 mm.

5.3 The ends of the covers of type II shall be fitted with efficiently secured galvanized steel bands 65 mm wide and 3 mm thick.

5.4 Each cover of type II shall have two handles placed diagonally opposite at the ends.

5.5 All covers shall be marked to indicate the number of the hatch, the side on which the cover is laid, and the number of the cover.

5.6 Each hatch shall be fitted with devices for Customs sealing. An International Standard concerning this subject is in preparation.

6 WATERTIGHTNESS

6.1 To ensure the watertightness of cargo hatches covered with wooden covers, the latter shall be covered with one or two canvas covers. If conditions allow hatch covers to be used constantly without canvas covers, the joints between the planks forming the hatch cover shall be sealed with impregnated canvas or an equivalent material.

6.2 The canvas for the covers shall have water-repellent impregnation and shall not contain jute yarns.

When tested for watertightness, the impregnated canvas shall not be wetted under a head of 15 m of water acting for 24 h.

6.3 The canvas covers shall be pressed tightly to the hatch coamings with the help of battens and wedges, for which purpose the coamings or the horizontal stiffeners welded to them shall be fitted with cleats having a width of not less than 65 mm and a thickness of not less than 10 mm.

The edges of the cleats shall be rounded to reduce damage to the wedges to a minimum.

6.4 The distance between the centres of the cleats shall not be more than 600 mm, and the distance of the edges of end cleats from the hatch corners not more than 150 mm.

The cleats shall be fitted so that wedges are inserted in the bow-to-aft direction for longitudinal coamings and from the sides to the centre plane for transverse coamings.

6.5 The wedges shall be made of tough wood, with a length not less than 200 mm and a width not less than 50 mm. Their taper shall be not less than 1 : 6, and their thickness at the thin end shall be at least 13 mm.

6.6 To secure each section of the covers in position, steel bars or equivalent devices shall be provided to be fixed over the canvas covers after they are fastened with battens.

7 MATERIALS

The materials for the fabrication of hatch cover parts are listed in table 2. Those usually used for hatch covers of this type are printed in bold type.

Materials for parts not indicated in table 2 shall be chosen at the discretion of the designer.

TABLE 2 — Materials

Part	Material
1 Covers	Pine , white spruce or equivalent material
2 Cross-piece and carlings of type I covers	Oak , ash or equivalent material
3 Beams for type II covers	Steel or light alloy
4 Wedges	Oak , ash or equivalent material
5 Covering sheets, steel bands, battens and holding down bars for canvases	Galvanized steel sheet and strip
6 Cover handles	Steel bar, diameter 10 mm