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**Ships and marine technology — Ship's  
mooring and towing fittings — Panama  
chocks**

*Navires et technologie maritime — Corps-morts et ferrures de  
remorquage de navires — Écubiers de Panama*

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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 13728 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 4, *Outfitting and deck machinery*.

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## Introduction

The Panama chock is a type of ship's mooring and towing fitting installed on the shipside to lead the mooring or towing rope from the ship's inboard to outboard.

The Panama chocks are normally adopted for ships passing through the Panama Canal which are normally assisted by locomotives using steel towing wire.

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# Ships and marine technology — Ship's mooring and towing fittings — Panama chocks

## 1 Scope

This International Standard specifies the design, size and technical requirements for Panama chocks suitable for installation on ships passing through the Panama Canal which are normally assisted by locomotives using steel towing wires. These chocks meet normal mooring requirements and Panama Canal requirements.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

IMO Circular MSC/Circ.1175, *Guidance on shipboard towing and mooring equipment*

*Panama Canal Requirements — OP Notice to shipping N-1-2010 — Vessel requirements*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### safe working load SWL

maximum load in kN on the rope that should normally be applied in service conditions

## 4 Classification

### 4.1 Type

The Panama chock shall be classified by its installation site as follows:

- Type A – Deck-mounted Panama chock;
- Type B – Bulwark-mounted Panama chock.

### 4.2 Nominal sizes

The nominal sizes of Panama chocks are denoted by reference to the width of the opening, in millimetres.

The nominal sizes are 310 and 360.

## 5 Dimensions

5.1 Panama chocks have dimensions and particulars in accordance with Tables 1 and 2, and Figures 1 and 2.

5.2 The minimum opening size of Panama chocks is decided as specified in *Panama Canal Requirements — OP Notice to shipping N-1-2010 — Vessel requirements*.

## 6 Materials

The following material shall be used for manufacturing the Panama chocks:

- Chock: steel casting material having a yield point of not less than 235 N/mm<sup>2</sup> or equivalent.

The carbon contents of the steel casting shall not be more than 0,23 % considering weldability.

## 7 Construction

The foundation of the Panama chocks shall be determined by considering the actual load direction. The foundation and welding connections to the hull shall be guaranteed reliable transmission of the maximum loading of the Panama chocks to hull construction without any plastic deformation or cracks.

## 8 Manufacturing and inspection

8.1 All surfaces of the Panama chocks, including welding, shall be free from any visible flaws or imperfections.

8.2 All surfaces in contact with the ropes shall be free from surface roughness or irregularities likely to cause damage to the ropes by abrasion.

8.3 The Panama chocks shall be coated externally with an anti-corrosion protective finish.

## 9 Marking

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9.1 The safe working load (SWL) intended for the use of the Panama chocks shall be noted in the towing and mooring plan available on board for the guidance of the shipmaster, as specified in MSC/Circ.1175.

9.2 The actual SWL on board shall be determined by considering the foundation and under deck reinforcement, and it shall be marked on the towing and mooring plan. The actual SWL shall not be over the SWL indicated in this International Standard.

9.3 The Panama chock shall be clearly marked with its SWL by weld bead or equivalent. The SWL shall be expressed in tonnes (letter 't') and be located so that it is not obscured during operation of the fitting.

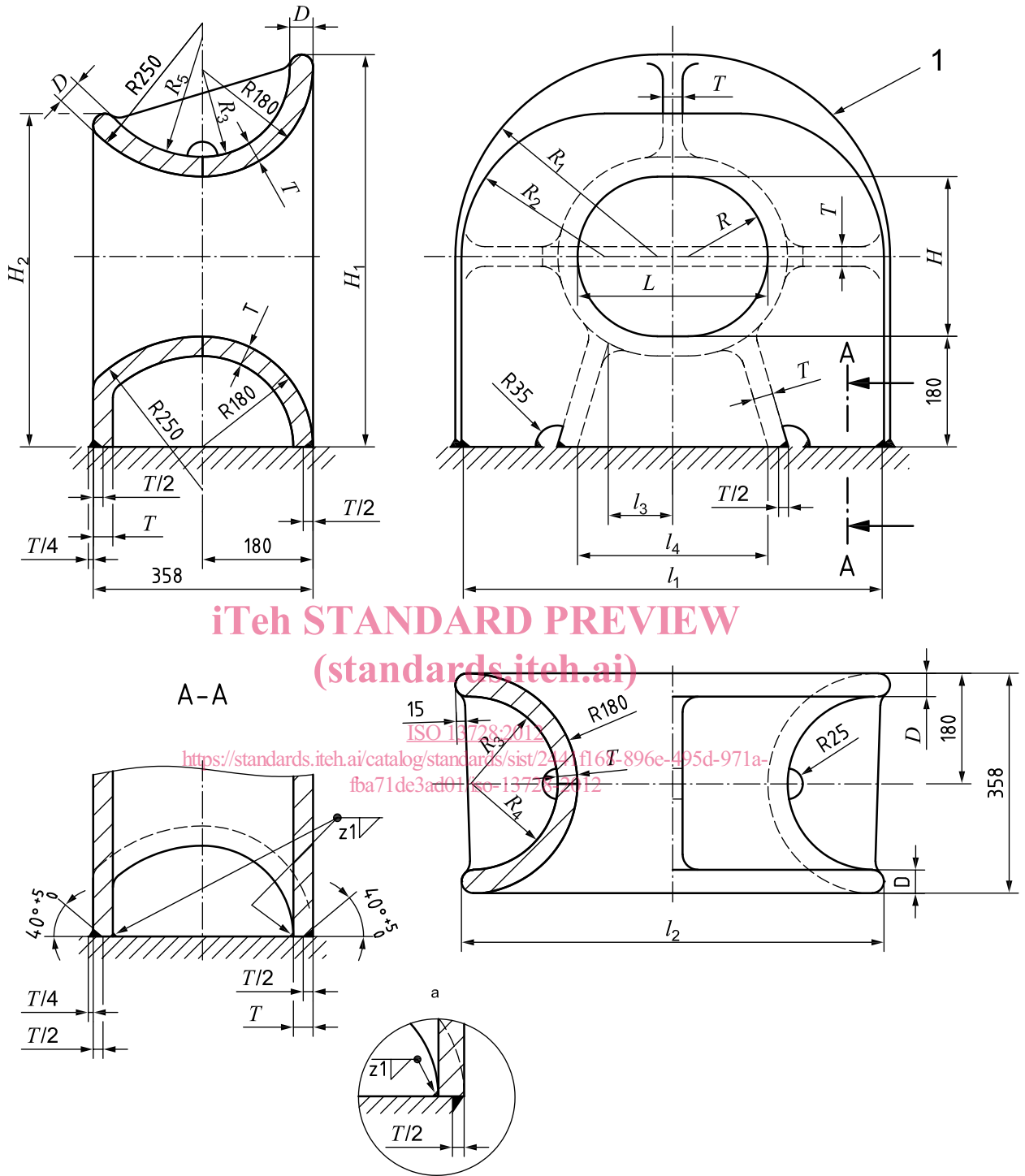
EXAMPLE SWL XXX t

9.4 The SWL mark shall be placed on the foundation of the chock or on deck.

9.5 The radii of edges and corners not shown in Figure 1 shall be of minimum 25 mm.



Dimensions in millimetres



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**Key**

- 1 Panama chock
- a Alternative welding method.

**Figure 1 — Type A — Deck-mounted Panama chock**