
International Standard



8146

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

Shipbuilding and marine structures — Oval eyeplates

Construction navale et structures maritimes — Pitons à œil ovale

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Descriptors : shipbuilding, lifting equipment, handling equipment, eyeplates, specifications, dimensions, designation, marking.

Price based on 3 pages

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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8146 was prepared by Technical Committee ISO/TC 8, *Shipbuilding and marine structures*.

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Shipbuilding and marine structures — Oval eyeplates

1 Scope and field of application

This International Standard lays down the dimensions and materials of oval eyeplates primarily intended for mounting on ships' decks and as guy eyeplates on ships' derrick booms for cargo handling purposes.

2 References

ISO 630, *Structural steels*.

ISO 8147, *Shipbuilding — Ships' lifting gear — Terminology*.¹⁾

ISO 8148, *Shipbuilding and marine structures — Derrick boom headfittings — Fixed type*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 8147 apply.

4 Classification

4.1 Types

Oval eyeplates are divided into the following two types:

- type A, for general application (e.g. mounting on ships' decks);
- type B, for guy eyeplates on derrick booms (see ISO 8148).²⁾

4.2 Nominal size

The nominal size designation of an oval eyeplate is a numerical value without unit for reference and ordering purposes, and is derived from the permissible load in kilonewtons.

5 Materials

Steel according to ISO 630, grade Fe 360 (as minimum quality).

NOTE — Alternatively ship quality steel plate may be used provided that it has equivalent mechanical and welding properties.

6 Manufacture

6.1 Forming

The eyeplate shall be formed by a gas cutting process and subsequently forged or machined as necessary in order to produce the required finished section shape.

Care shall be taken to ensure that a smooth transition is made between the sections.

6.2 Surface

The surface of the finished eyeplate shall be free from visible cracks and flaking.

6.3 Heat treatment

After completion of all manufacturing operations the forged eyeplate shall be normalized.

1) At present at the stage of draft proposal.

2) These eyeplates are not applicable to derrick boom headfittings according to ISO 8148.

7 Dimensions

7.1 Main dimensions

The dimensions of the oval eyeplate shall be in accordance with the figure and table.

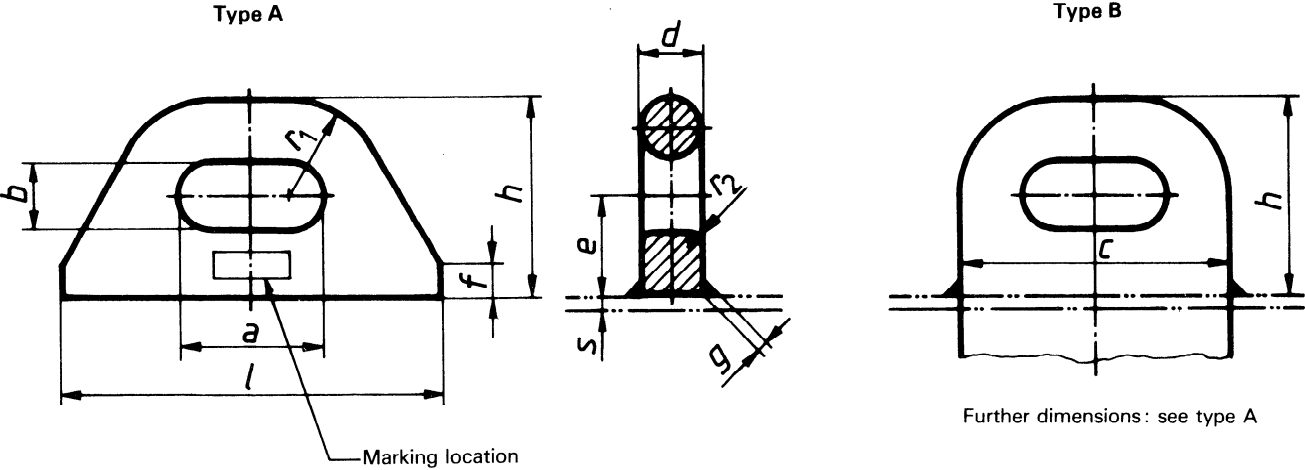


Figure — Shape of plates, type A and type B

Table — Nominal sizes and dimensions

| Nominal size | Permissible load ¹⁾ kN | Dimensions | | | | | | | | | | Mounting of type A | |
|--------------|--------------------------------------|------------|-----|-----|-----|-----|----|-------|-----|----------------|----------------|--------------------|--------|
| | | a | b | c | d | e | f | h | l | r ₁ | r ₂ | Welding | |
| | | | | | | | | | | | | s min. | g min. |
| 0,4 | 4 | 22 | 15 | 42 | 10 | 15 | 8 | 32,5 | 65 | 17,5 | 3 | 6 | 4 |
| 0,6 | 6,3 | 28 | 19 | 52 | 12 | 19 | 8 | 40,5 | 80 | 21,5 | 4 | 6 | 4 |
| 1 | 10 | 35 | 22 | 67 | 16 | 25 | 8 | 52 | 95 | 27 | 5 | 6 | 4 |
| 1,6 | 16 | 42 | 24 | 82 | 20 | 33 | 8 | 65 | 120 | 32 | 5 | 7 | 4 |
| 2 | 20 | 50 | 27 | 100 | 25 | 35 | 12 | 73,5 | 132 | 38,5 | 5 | 9 | 6 |
| 2,5 | 25 | 55 | 29 | 105 | 25 | 39 | 12 | 78,5 | 140 | 39,5 | 6 | 9 | 6 |
| 3 | 31,5 | 66 | 33 | 126 | 30 | 42 | 12 | 88,5 | 180 | 46,5 | 7 | 10 | 6 |
| 4 | 40 | 77 | 36 | 147 | 35 | 48 | 15 | 101 | 210 | 53 | 7 | 12 | 7 |
| 5 | 50 | 87 | 41 | 167 | 40 | 57 | 18 | 117,5 | 225 | 60,5 | 8 | 14 | 9 |
| 6 | 63 | 91 | 45 | 171 | 40 | 66 | 18 | 128,5 | 240 | 62,5 | 8 | 14 | 9 |
| 8 | 80 | 101 | 51 | 201 | 50 | 73 | 20 | 148,5 | 270 | 75,5 | 10 | 17 | 10 |
| 10 | 100 | 117 | 56 | 217 | 50 | 80 | 22 | 158 | 300 | 78 | 10 | 17 | 11 |
| 12 | 125 | 128 | 61 | 248 | 60 | 87 | 24 | 177,5 | 335 | 90,5 | 12 | 20 | 12 |
| 16 | 160 | 145 | 67 | 265 | 60 | 95 | 26 | 188,5 | 370 | 93,5 | 12 | 20 | 13 |
| 20 | 200 | 157 | 73 | 297 | 70 | 105 | 28 | 211,5 | 420 | 106,5 | 14 | 25 | 14 |
| 25 | 250 | 170 | 80 | 331 | 80 | 120 | 32 | 240 | 470 | 120 | 16 | 30 | 16 |
| 32 | 315 | 194 | 88 | 374 | 90 | 130 | 36 | 264 | 530 | 134 | 18 | 30 | 18 |
| 40 | 400 | 220 | 98 | 420 | 100 | 145 | 40 | 294 | 570 | 149 | 20 | 35 | 20 |
| 50 | 500 | 240 | 108 | 460 | 110 | 155 | 45 | 319 | 630 | 164 | 22 | 35 | 22 |

1) This load may be applied at any angle of attacking tensile force.

7.2 Tolerances

The permissible variation in the dimensions of the finished eyeplates shall be within the following tolerance limits:

7.2.1 Any external dimensions: $^{+5}_{0}\%$.

7.2.2 Any internal dimensions: $^{0}_{-5}\%$.

- type, code letter: A or B¹⁾, (see clause 4 and the figure)
- nominal size: (see the table)

8.2 Example

An oval eyeplate according to this International Standard, of type A, of nominal size 5 is designated as follows:

Plate ISO 8146 - A5

8 Designation

For reference and ordering purposes oval eyeplates conforming to this International Standard shall be designated as follows.

8.1 Elements for designation

The following elements shall be used in the order given:

- denomination, abbreviated: plate
- number of this International Standard:

9 Marking

9.1 Kind of marking

Oval eyeplates shall be permanently and legibly marked with the nominal size.

9.2 Positioning of marking

The marking shall be made on a part of the surface not subjected to high stresses (see the figure).

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1) When ordering oval eyeplates type B, further details (for example the length of the plate) shall be additionally given by special order.

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