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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Shipbuilding and marine structures — Trunnion pieces for span bearings and lead block bearings

Construction navale et structures maritimes — Marionnettes pour supports d'apiquage et supports de poulie de retour

Reference number
ISO 8314 : 1987 (E)

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 8314 was prepared by Technical Committee ISO/TC 8, *Shipbuilding and marine structures*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Shipbuilding and marine structures — Trunnion pieces for span bearings and lead block bearings

1 Scope and field of application

This International Standard specifies dimensions and materials for trunnion pieces and locating bolts for assemblies of span bearings and cargo runner lead block bearings used in operating ship derrick booms.

2 References

ISO 286/1, *ISO system of limits and fits — Part 1: Basis of tolerances, deviations and fits.*[1]

ISO 630, *Structural steels.*

ISO 683/1, *Heat-treatable steels, alloy steels and free-cutting steels — Part 1: Direct hardening unalloyed and low alloyed wrought steel in form of different black products.*

ISO 8147, *Shipbuilding and marine structures — Derrick rigs and component parts — Vocabulary.*[2]

3 Definitions

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

4 Classification

4.1 Types

Trunnion pieces are divided into the following three types:

- type A: with a single lower eye;
- type B: with a centrally-located eye;
- type C: with two eyes, one upper and one lower.

4.2 Nominal size

The nominal size designation of a trunnion piece is a numerical value without unit for reference and ordering purposes; it is derived from the permissible load at the eyes, in kilonewtons.

5 Materials

5.1 Trunnion piece

The trunnion piece shall be made of steel according to ISO 630, grade Fe 360, as a minimum quality.

5.2 Bolt or pin

The bolt or pin shall be made of steel according to ISO 630, grade Fe 430, as a minimum quality.

5.3 Higher quality

If the use of heat-treated quenched steel is required, then the material shall comply with ISO 683/1.

6 Dimensions

The dimensions of the trunnion piece shall be in accordance with figures 1 and 2 and tables 1 and 2.

NOTE — The values for dimensions b, d_4, d_5, d_6, r_1, r_2 and r_3 are in accordance with ISO 6043, *Shipbuilding and marine structures — Eye and fork assemblies under tension load — Main dimensions.*

1) At present at the stage of draft. (Revision, in part, of ISO/R 286-1962.)

2) At present at the stage of draft proposal.

6.1 Main dimensions for types A and B

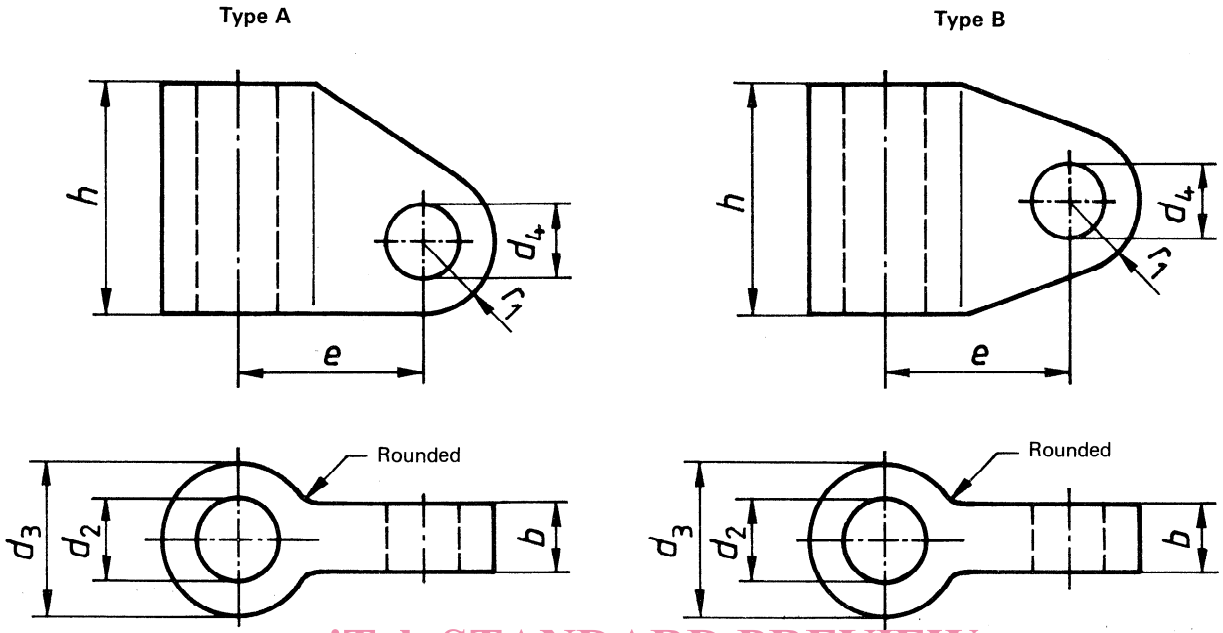


Figure 1 — Shape of trunnion pieces, types A and B

Table 1 — Nominal sizes and dimensions for types A and B

Dimensions in millimetres

Nominal size	Permissible load at the eye kN	b	d_2	d_3	d_4	e	h	r_1	Diameter of bolt[1] d_1
2	20	22	34	65	24	75	90	25	32
4	40	30	42	80	33	95	110	33	40
6	63	40	47	90	42	110	130	43	45
8	80	45	52	100	48	120	150	48	50
10	100	50	57	110	52	130	170	55	55
12	125	55	62	120	56	140	190	60	60
16	160	60	68	130	66	150	215	65	65
20	200	65	78	150	74	170	240	70	75
25	250	70	83	160	78	180	270	75	80
32	320	80	93	180	86	190	300	85	90
40	400	90	103	200	96	210	330	95	100

1) See assembly in clause 8.

6.2 Main dimensions for type C

Type C

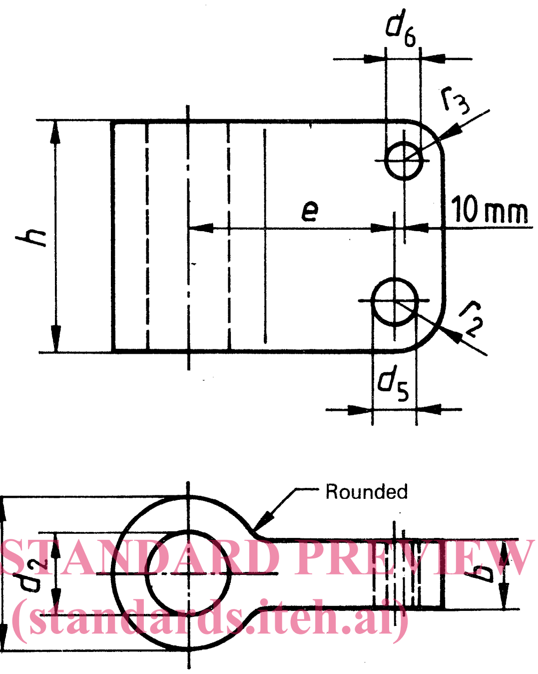


Figure 2 — Shape of trunnion piece, type C

Table 2 — Nominal sizes and dimensions for type C

Dimensions in millimetres

Nominal size	Permissible load		b	d_2	d_3	d_5	d_6	e	h	r_2	r_3	Diameter of bolt[1] d_1
	at the d_5 eye kN	at the d_6 eye kN										
16	100	63	50	68	130	52	42	150	215	55	45	65
20	125	80	55	78	150	56	48	170	240	60	50	75
25	160	100	60	83	160	66	52	180	270	65	55	80
32	200	125	65	93	180	74	56	190	300	70	60	90

1) See assembly in clause 8.

6.3 Tolerances

Dimensional tolerances shall correspond to the standard tolerance grade IT 14 according to ISO 286/1.

7 Designation

For reference and ordering purposes trunnion pieces (without bolt or pin) shall be designated as indicated in 7.1 and 7.2.

7.1 Elements for designation

The following elements shall be given, in the order indicated:

a) denomination: trunnion piece;

b) number of this International Standard: ISO 8314;

c) type, code letter: A, B or C (see 4.1 and figure 1 or 2);

d) nominal size (see 4.2 and table 1 or 2).

7.2 Example

A trunnion piece according to this International Standard, with a single lower eye, type A, of nominal size 12 is designated as follows:

Trunnion piece ISO 8314 - A 12

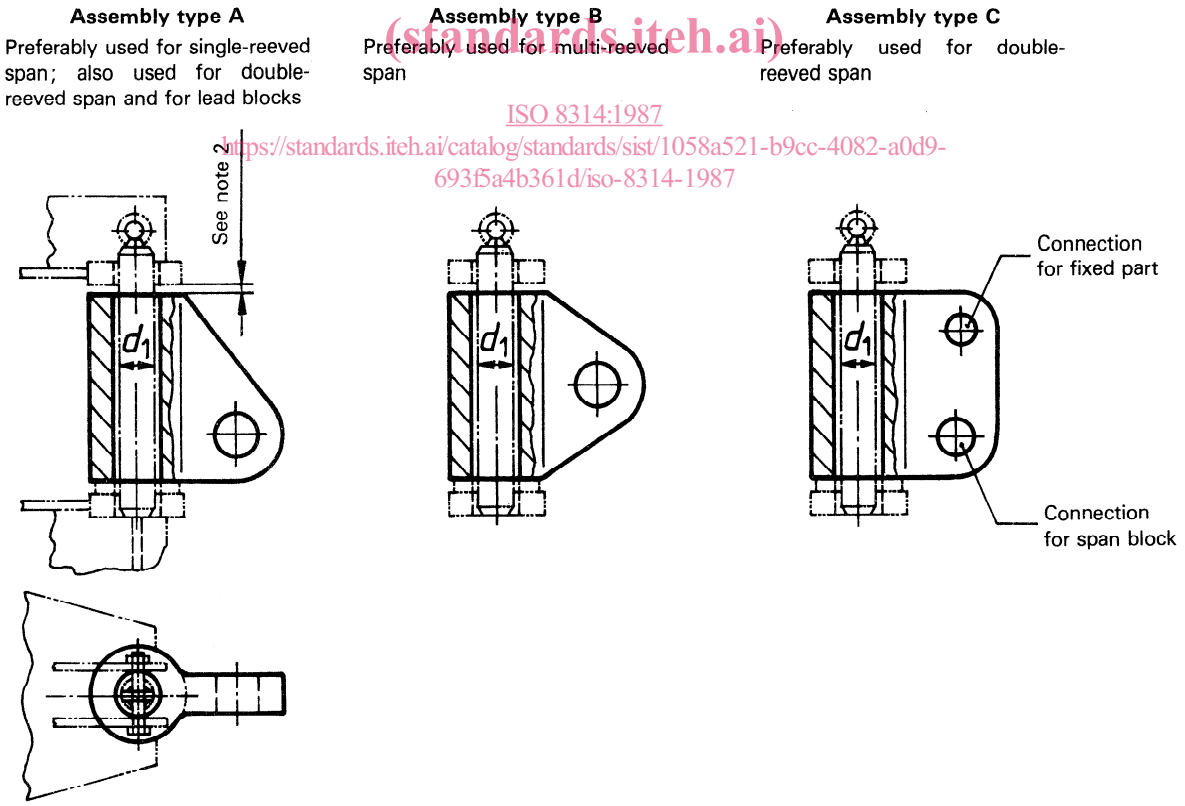
8 Assembly

8.1 Figure 3 shows examples of assemblies only: they are not intended to define the construction of the bearing or bolt.

8.2 The design of bearing brackets should be individual preference, according to recommendations of classification societies.

8.3 The bolt shall be secured by a suitable device. The length and shape of the bolt shall suit the design of the bearing bracket.

8.4 A washer is optional of all types of assemblies. Positioning of the washer may be below or above the trunnion piece, according to the lashing position of the derrick boom.



NOTES

1 For values for diameter d_1 of the bolt, see tables 1 and 2.

2 This clearance should be between 5 mm for nominal size 2, and up to 10 mm for nominal size 40.

Figure 3 — Assemblies

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Descriptors : shipbuilding, lifting equipment, derricks, bearings, components, specifications, dimensions, designations.

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