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# International Standard



# 6043

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

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## Shipbuilding and marine structures — Eye and fork assemblies under tension load — Main dimensions

*Construction navale et structures maritimes — Assemblages œil et chape soumis à un effort de traction — Dimensions principales*

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Ref. No. ISO 6043-1985 (E)

Descriptors : shipbuilding, lifting equipment, joints, clevises, pins (mechanics), dimensions, materials, designation.

## Foreword

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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 6043 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.

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# Shipbuilding and marine structures — Eye and fork assemblies under tension load — Main dimensions

## 1 Scope and field of application

**1.1** This International Standard lays down the main dimensions for interchangeability and the materials for eyes, forks and associated bolts or pins for components subject to tension load.

**1.2** Eyes, forks and bolts or pins with dimensions according to this International Standard are primarily intended for use on the components of ships' cargo handling appliances which are subject to tension loads only (for instance, round hole eyeplates, sheave block head fittings, block holders, trunnion pieces for span bearing, turnbuckles).

**1.3** This International Standard is not applicable to components subject to compressive thrust or torsional loads (for instance fork-type derrick heel fittings which connect with gooseneck pins).

## 2 References

ISO 286, *ISO system of limits and fits*.<sup>1)</sup>

ISO 630, *Structural steels*.

ISO/R 683/1, *Heat-treated steels, alloy steels and free-cutting steels — Part 1: Quenched and tempered unalloyed steels*.

ISO 8147, *Shipbuilding and marine structures — Derrick rigs and component parts — Vocabulary*.<sup>2)</sup>

## 3 Definitions

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

## 4 Nominal size

The nominal size designation of an eye and fork assembly is a numerical value without unit for reference purposes; it is derived from the permissible load in kilonewtons.

## 5 Dimensions and tolerances

### 5.1 Main dimensions

The dimension of eye and fork assemblies shall be in accordance with the figure and the table.

NOTE — The type of bolt or pin to be used and its securing are left to national regulations.

### 5.2 Tolerances

Dimensional tolerances shall correspond to the standard tolerance grade IT 14 given in ISO 286.

## 6 Material

### 6.1 Eyes and forks

Eyes and forks shall be made of steel to ISO 630, grade Fe 360 (as minimum quality).

### 6.2 Bolts or pins

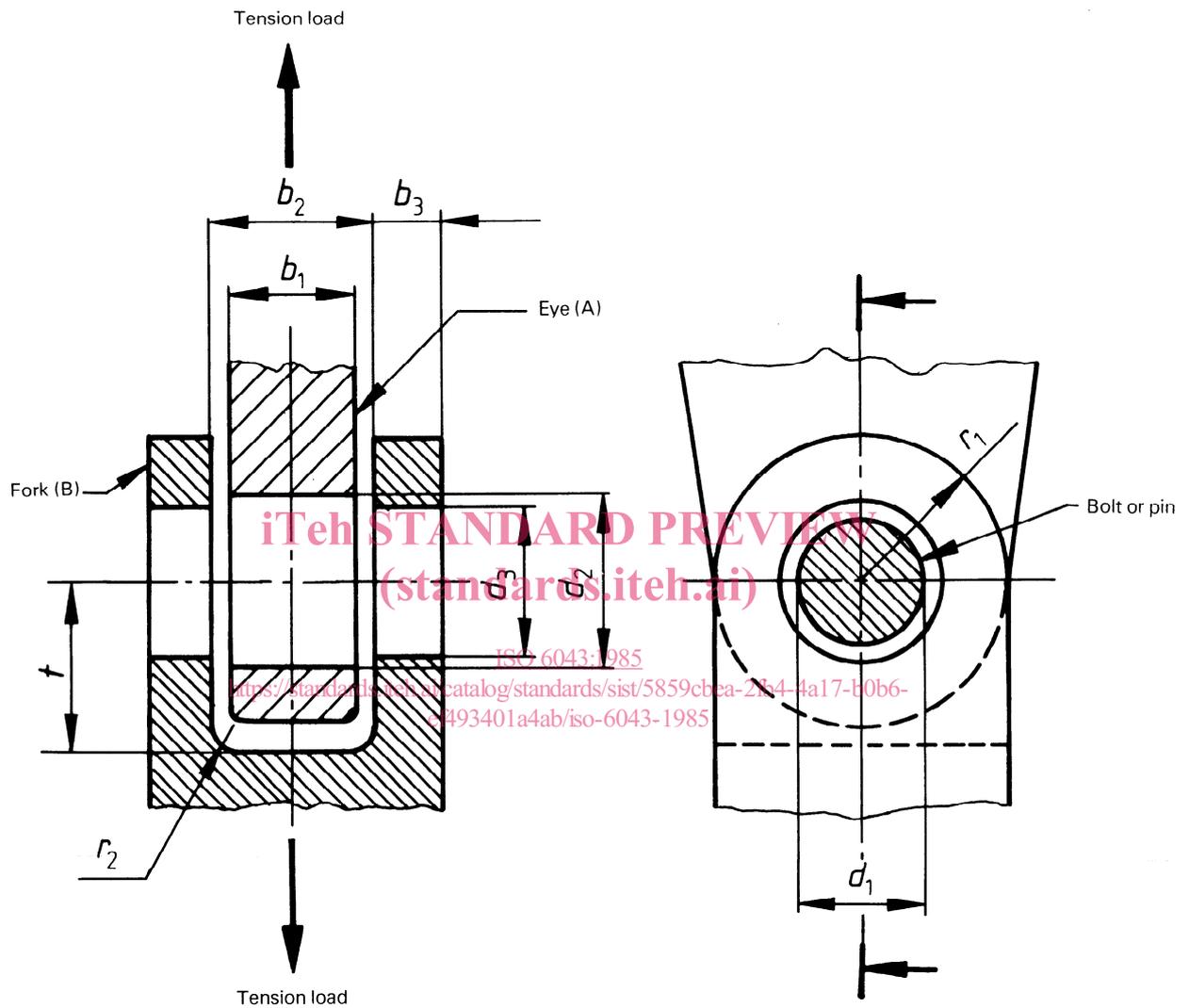
Bolts or pins shall be made of steel to ISO 630, grade Fe 430 (as minimum quality).

### 6.3 Higher quality

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

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

2) At present at the stage of draft.



NOTE — The bolt or pin is not shown in the sectional drawing.

Figure — Shape of eyes and forks

Table — Nominal sizes and main dimensions

Dimensions in millimetres

Nominal size	Permissible load kN	$b_1$	$b_2$	$b_3$	$d_1$	$d_2$	$d_3$	$r_1$	$r_2$	$t$
0,4	4	10	12	5	10	11	10,5	11	4	15
0,6	6,3	12	16	6	12	13,5	13	14	4	18
1	10	16	19	8	16	17,5	17	17,5	5	23
1,6	16	20	23	11	20	22	21	22,5	5	28
2	20	22	26	12	22	24	23	25	6	31
2,5	25	25	29	13	24	26	25	27,5	6	34
3	31,5	28	32	14	27	30	28	30	6	36
4	40	30	35	15	30	33	31	32,5	6	39
5	50	35	39	18	36	39	37	37,5	8	46
6	63	40	45	20	39	42	40	42,5	8	51
8	80	45	49	23	45	48	46	47,5	8	56
10	100	50	58	26	48	52	50	55	8	63
12	125	55	64	28	52	56	54	60	10	70
16	160	60	70	30	60	66	62	65	10	75
20	200	65	74	33	68	74	70	70	10	80
25	250	70	80	35	72	78	74	75	12	87
32	315	80	90	40	80	86	82	85	12	97
40	400	90	100	45	90	96	93	95	16	111
50	500	100	110	50	100	107	104	105	16	121
63	630	110	120	55	110	117	114	115	16	131
80	800	125	140	65	125	132	129	135	20	155
100	1 000	140	156	70	140	147	144	148	20	168
125	1 250	160	176	80	160	168	165	168	20	188
160	1 600	180	200	90	180	188	185	190	20	210
200	2 000	200	220	100	200	208	205	210	20	230
250	2 500	220	240	110	220	230	225	230	20	250

NOTE — The values of dimensions  $d_2$  and  $d_3$  are in agreement with ISO 273, *Fasteners — Clearance holes for bolts and screws*.

## 7 Designation

For reference purposes only (e.g. in technical drawings), but not for ordering purposes, the eyes and forks and the assembled connection with bolt or pin shall be designated as follows.

### 7.1 Elements for designation

The following elements shall be given in the order indicated:

- denomination: eye (or fork or connection);
- number of this International Standard: ISO 6043;
- code letter: A (for eye),  
B (for fork),  
C (for connection);
- nominal size (in accordance with the table).

### 7.2 Examples

#### 7.2.1 For an eye

An eye in accordance with this International Standard, code letter A, of nominal size 10 is designated as follows:

**Eye ISO 6043 - A 10**

#### 7.2.2 For a fork

A fork in accordance with this International Standard, code letter B, of nominal size 10 is designated as follows:

**Fork ISO 6043 - B 10**

#### 7.2.3 For a connection

A connection of eye and fork with bolt or pin in accordance with this International Standard, code letter C, of nominal size 10 is designated as follows:

**Connection ISO 6043 - C 10**

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