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# International Standard



# 6044

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

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## Shipbuilding and marine structures — Derrick boom heel fittings — Main dimensions

*Construction navale et structures maritimes — Ferrures de pied de corne de charge — Dimensions principales*

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UDC 621.885.9 : 629.12

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**Descriptors :** shipbuilding, lifting equipment, derricks, hinge joints, hinge pins, dimensions, materials, designation.

## 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 6044 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 — Derrick boom heel fittings — Main dimensions

## 1 Scope and field of application

This International Standard lays down the main dimensions for interchangeability and the materials for forks and associated bolts or pins of derrick boom heel fittings for shipbuilding and marine structures.

## 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 a derrick boom heel fitting is a numerical value without unit for reference purposes; it is derived from the permissible maximum thrust in the boom in kilonewtons.

## 5 Dimensions and tolerances

### 5.1 Main dimensions

The main dimensions of the fork and the associated bolt or pin of the derrick boom heel fitting shall be in accordance with figures 1 and 2 and the table.

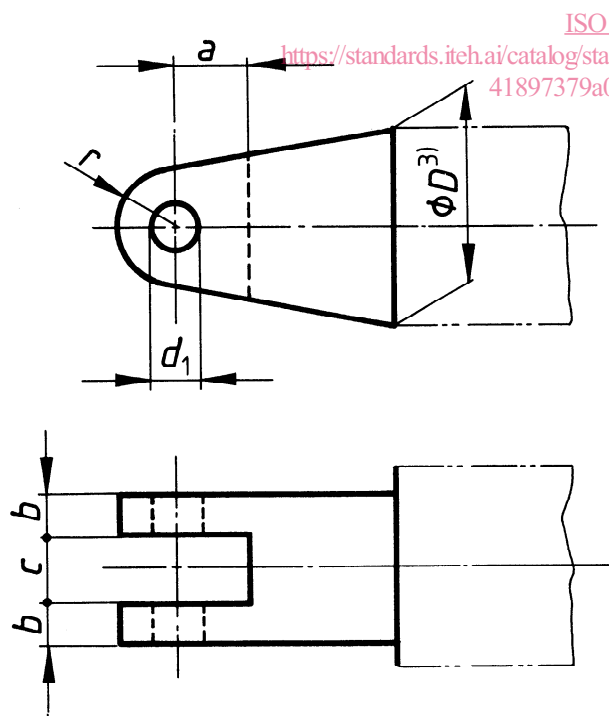


Figure 1 — Fork

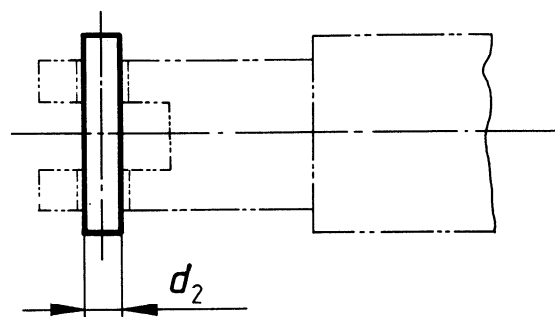


Figure 2 — Bolt or pin

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

2) At present at the stage of draft.

3) Diameter  $D$  of the fitting is equal to the outside diameter of the boom or is slightly greater, depending upon the form of weld attachment.

Table — Nominal sizes and main dimensions

Dimensions in millimetres

| Nominal size | Maximum thrust in the boom kN | Fork-type heel fitting |     |     |       |     | Bolt or pin $d_2$ |
|--------------|-------------------------------|------------------------|-----|-----|-------|-----|-------------------|
|              |                               | $a$                    | $b$ | $c$ | $d_1$ | $r$ |                   |
| 1,6          | 16                            | 32                     | 16  | 28  | 24    | 25  | 22                |
| 2            | 20                            | 35                     | 16  | 30  | 26    | 28  | 24                |
| 2,5          | 25                            | 45                     | 22  | 32  | 29    | 30  | 27                |
| 3            | 32                            | 50                     | 22  | 35  | 32    | 32  | 30                |
| 4            | 40                            | 50                     | 25  | 38  | 35    | 35  | 33                |
| 5            | 50                            | 55                     | 25  | 42  | 41    | 42  | 39                |
| 6            | 63                            | 60                     | 32  | 47  | 44    | 45  | 42                |
| 8            | 80                            | 65                     | 32  | 53  | 47    | 48  | 45                |
| 10           | 100                           | 70                     | 40  | 60  | 54    | 55  | 52                |
| 12           | 125                           | 75                     | 40  | 67  | 58    | 60  | 56                |
| 16           | 160                           | 85                     | 45  | 76  | 67    | 68  | 64                |
| 20           | 200                           | 95                     | 50  | 85  | 75    | 75  | 72                |
| 25           | 250                           | 100                    | 60  | 95  | 79    | 80  | 76                |
| 32           | 320                           | 105                    | 70  | 105 | 83    | 85  | 80                |
| 40           | 400                           | 115                    | 70  | 115 | 93    | 95  | 90                |
| 50           | 500                           | 125                    | 80  | 127 | 103   | 105 | 100               |
| 63           | 630                           | 135                    | 80  | 144 | 113   | 115 | 110               |
| 80           | 800                           | 160                    | 100 | 154 | 129   | 130 | 125               |
| 100          | 1 000                         | 175                    | 100 | 164 | 144   | 145 | 140               |
| 125          | 1 250                         | 200                    | 120 | 184 | 164   | 165 | 160               |
| 160          | 1 600                         | 225                    | 130 | 204 | 184   | 185 | 180               |
| 200          | 2 000                         | 250                    | 140 | 230 | 205   | 205 | 200               |
| 250          | 2 500                         | 275                    | 150 | 255 | 225   | 225 | 220               |

## NOTES

1 Figures 1 and 2 do not define the construction and shape of these components accurately. They are only intended to indicate the standardized dimensions given in the table.

2 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 tolerances grade IT14 given in ISO 286.

## 6 Material

## 6.1 Fork

The fork shall be made of steel to ISO 630, grade Fe 360 (as minimum quality).

## 6.2 Bolt or pin

The bolt or pin 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.

## 7 Designation

For reference purposes only (e.g. in technical drawings), but not for ordering purposes, the complete derrick boom heel fitting (fork-type fitting 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, abbreviated: heel fitting;
- number of this International Standard: ISO 6044;
- nominal size (in accordance with the table).

## 7.2 Example

A complete derrick boom heel fitting, in accordance with this International Standard, of nominal size 10 is designated as follows:

**Heel fitting ISO 6044 - 10**