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# International Standard



# 1102

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

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## **Commercial road vehicles — Mechanical connections between towing vehicles and trailers — 50 mm drawbar coupling**

*Véhicules routiers utilitaires — Liaisons mécaniques entre véhicules tracteurs et remorques — Dispositifs d'attelage de 50 mm*

**Second edition — 1986-12-15**

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**UDC 629.114.2.013.5**

**Ref. No. ISO 1102-1986 (E)**

**Descriptors :** road vehicles, commercial road vehicles, towed road vehicles, trailers, drawbars, interchangeability.

## 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 1102 was prepared by Technical Committee ISO/TC 22, *Road vehicles*.

This second edition cancels and replaces the first edition (ISO 1102:1975), of which it constitutes a technical revision.

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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# Commercial road vehicles — Mechanical connections between towing vehicles and trailers — 50 mm drawbar coupling

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## 1 Scope and field of application

This International Standard specifies the essential dimensions of a 50 mm drawbar coupling and a 50 mm drawbar eye to permit interchangeability between towing vehicles and trailers equipped with these connections.

These mechanical connections are not interchangeable with the 40 mm couplings specified in ISO 8755.

This International Standard applies to mechanical connections designed for commercial vehicles and trailers, the maximum total mass of which is above 3,5 t.

NOTE — Terms relating to drawbar couplings are illustrated in the annex (figures 6, 7 and 8) in order to avoid misunderstandings.

## 2 Reference

ISO 3584, *Road vehicles — Mounting of mechanical coupling devices on rear cross members of trucks.*

## 3 Interchangeability dimensions

The following specifications are set to ensure interchangeability:

- drawbar eye (see 3.1);
- travel angles of the drawbar coupling (see 3.2).

## NOTES

- 1 Dimensions for mounting of drawbar couplings on the rear cross members of towing vehicles are given in ISO 3584.
- 2 Dimensions to ensure operating clearance between towing vehicles and trailers will form the subject of a future International Standard.

### 3.1 Drawbar eye

The dimensional data of the drawbar eye ensuring interchangeability are given in figure 1. (Details not specified are left to the manufacturer's choice.)

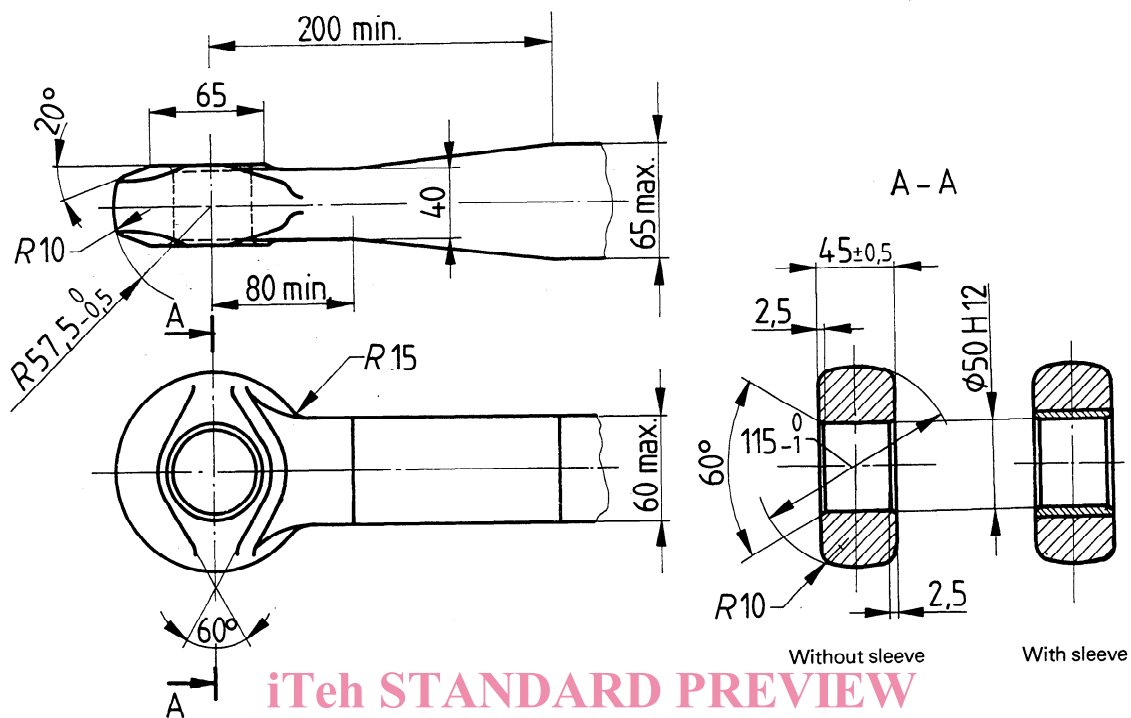
The use of a sleeve is recommended to minimize damage to the inside of the eye, the sleeve being easily replaced when worn out.

Dimensions of the fitted sleeve are specified in figure 2. Installation of a non-slotted sleeve shall be such that it does not work loose during service.

### 3.2 Travel angles of the drawbar coupling

The drawbar coupling tested separately, i.e. not mounted on the towing vehicle, shall be designed so that it allows for the travel angles specified in figures 3, 4 and 5, when the drawbar is fixed to the drawbar coupling.

Dimensions in millimetres

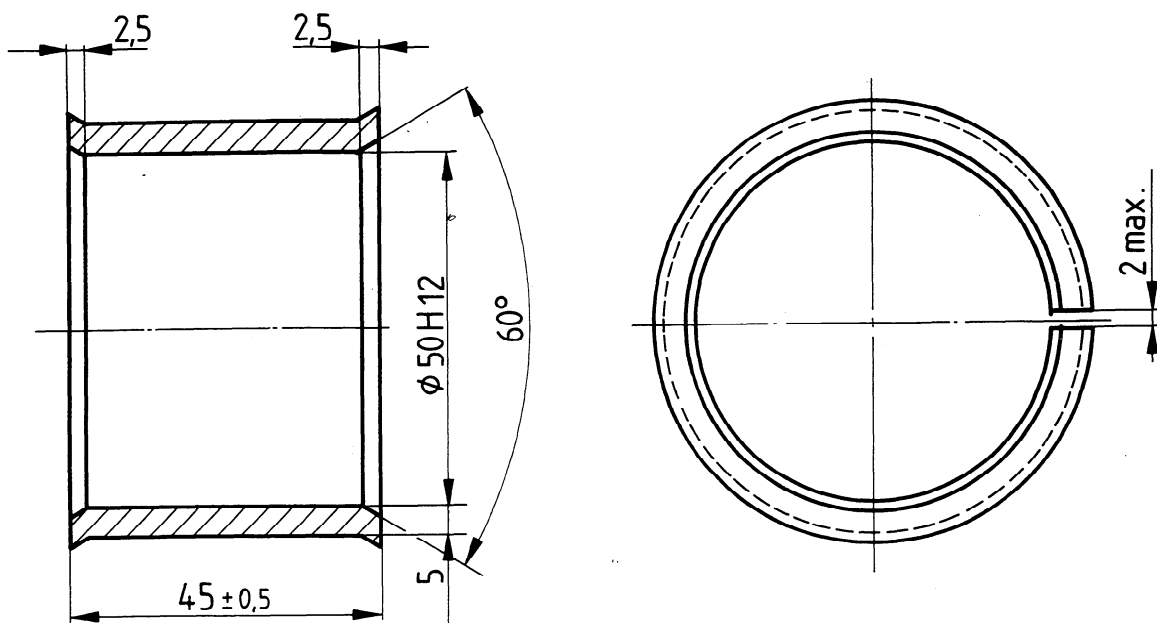


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 Figure 1 – 50 mm drawbar eye

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Dimensions in millimetres



NOTE – Slotted sleeves should be inserted such that the slot is to the rear, at 45° to the drawbar longitudinal axis.

Figure 2 – Sleeve

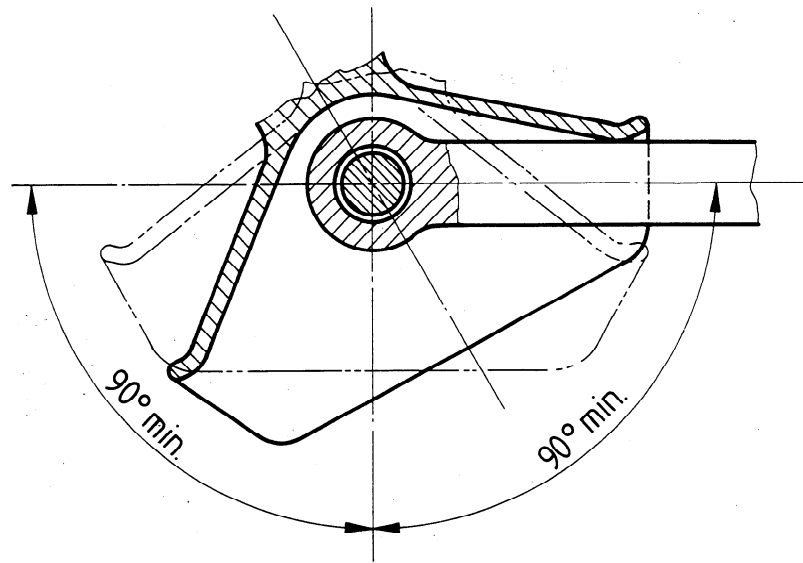


Figure 3 — Horizontal angle

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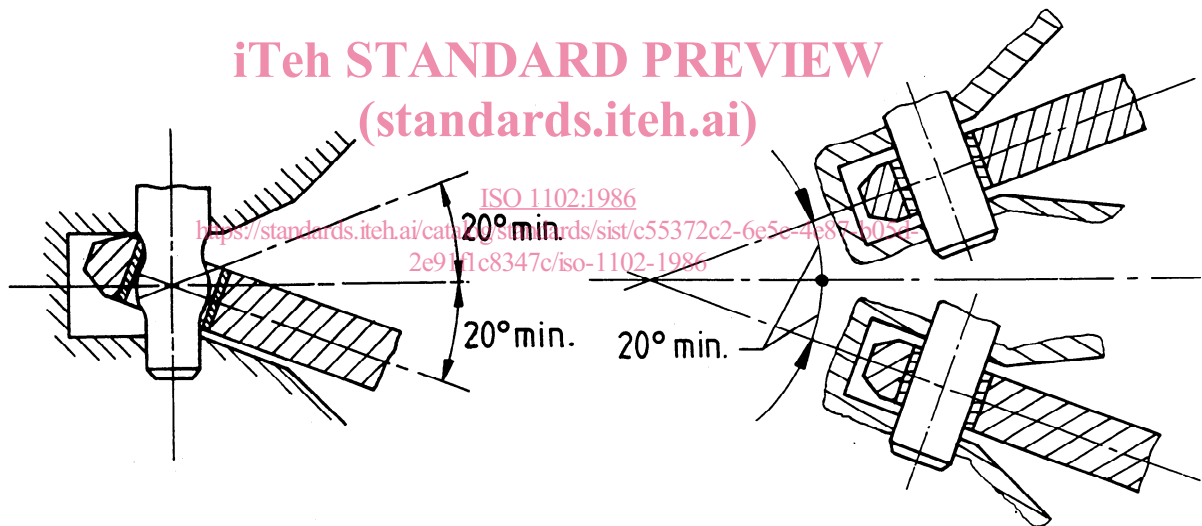


Figure 4 — Vertical angle

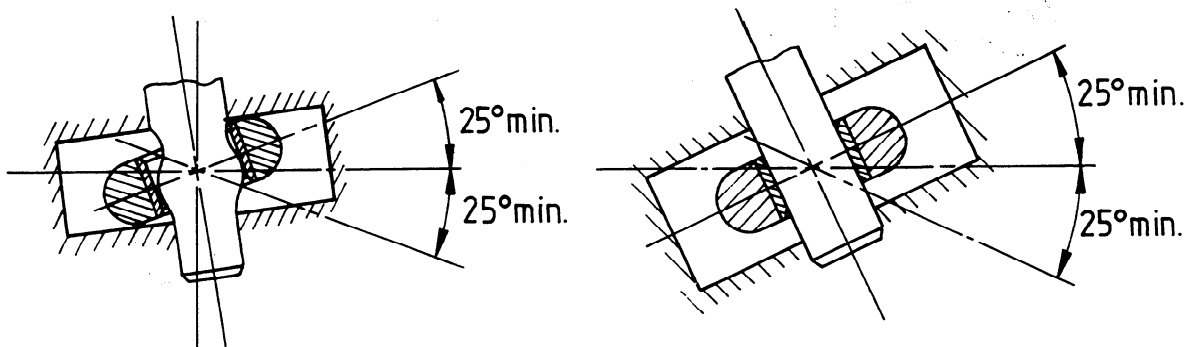
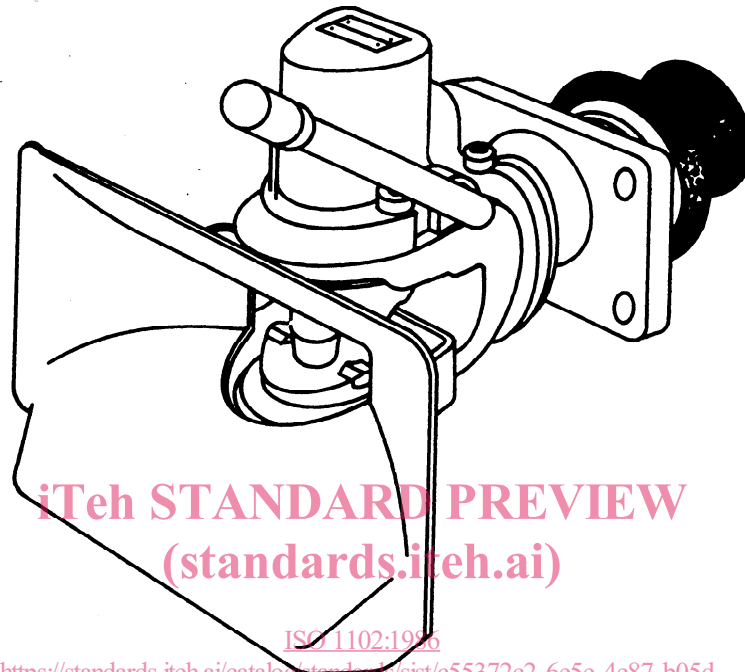


Figure 5 — Rotation angle

## Annex

### Drawbar coupling terminology

(This annex forms an integral part of the Standard.)



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Figure 6 – Drawbar coupling

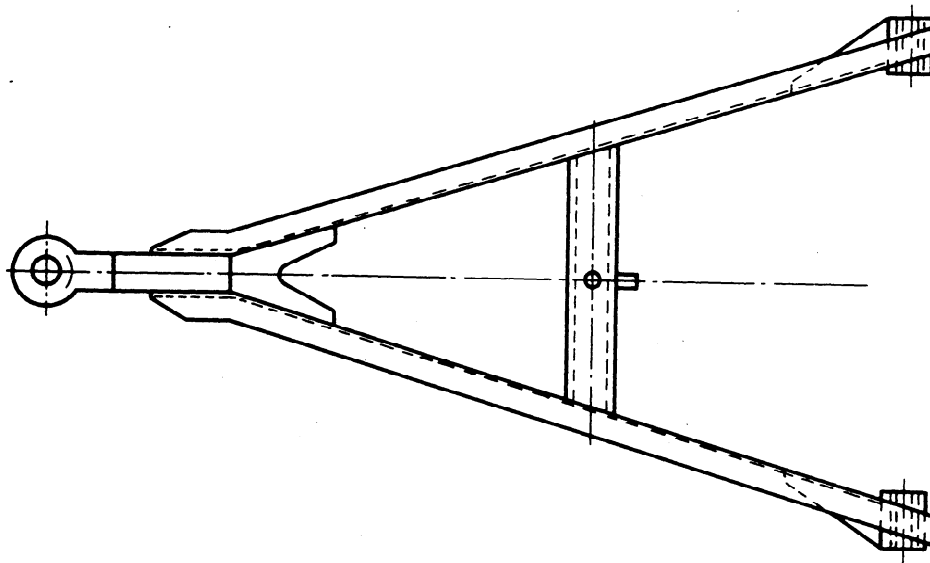


Figure 7 – Drawbar

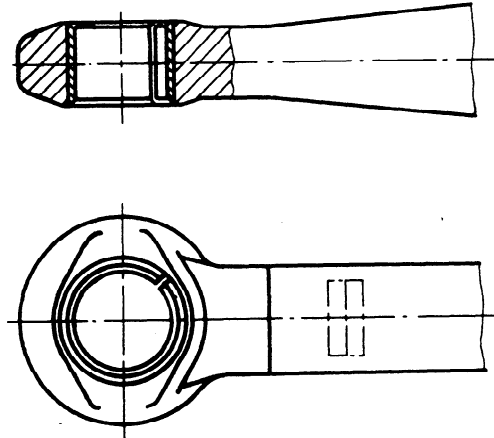


Figure 8 — Drawbar eye

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