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Road vehicles — Coupling balls for caravans and light trailers — Dimensions

*Véhicules routiers — Boules d'attelage pour caravanes et remorques
légères — Caractéristiques dimensionnelles*



Reference number
ISO 1103:1996(E)

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 1103 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 4, *Caravans and light trailers*.

This third edition cancels and replaces the second edition (ISO 1103:1976), of which it constitutes a technical revision.

Annex A of this International Standard is for information only.

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Road vehicles — Coupling balls for caravans and light trailers — Dimensions

1 Scope

This International Standard lays down the dimensions necessary for the compatibility of mechanical coupling devices between light trailers or caravans and towing vehicles when the latter are fitted with a coupling ball. The clearance space around the coupling ball is intended to allow coupling and decoupling of towed vehicles, and safe operation during coupling and uncoupling of mechanical devices.

This International Standard applies to coupling balls designed for caravans and light trailers of categories O_1 and O_2 ¹⁾, which have a maximum authorized total mass (ISO-M08), as defined in ISO 1176, less than or equal to 3,5 t. It does not necessarily apply to special trailers drawn by special vehicles.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1176:1990, *Road vehicles — Masses — Vocabulary and codes*.

ISO 3853:1994, *Road vehicles — Towing vehicle coupling device to tow caravans or light trailers — Mechanical strength test*.

3 Dimensional characteristics

3.1 Coupling ball

3.1.1 The dimensions and tolerances of coupling balls shall conform to those shown in figure 1 and the requirements of 3.1.2 to 3.1.5.

3.1.2 The diameter of the spherical part of the surface of the coupling ball shall be $50 \begin{smallmatrix} 0 \\ -0,39 \end{smallmatrix}$ h13 (50 mm).

3.1.3 The surface referred to in 3.1.2 is the portion of a sphere, the upper part of which is limited by a horizontal plane which forms a flat circular surface of diameter (17 ± 2) mm. The lower part is limited by a horizontal plane which is located at least 15 mm below the centre of the sphere.

3.1.4 The connecting radius between the ball and the neck should be tangential both to the neck and to the lower horizontal surface as defined in 3.1.3.

3.1.5 The diameter of the neck of the ball shall be between 27 mm and 29 mm, down to a horizontal plane situated at not less than 32 mm below the centre of the sphere.

1) Definitions from UN-ECE Regulation No. 13, incorporating the 06 series of amendments:

Category O_1 : Single-axle trailers, other than semi-trailers, with a maximum mass not exceeding 0,75 t.

Category O_2 : Trailers with a maximum mass not exceeding 3,5 t other than trailers of category O_1 .