

---

# INTERNATIONAL STANDARD



# 612

---

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

---

## Road vehicles — Dimensions of motor vehicles and towed vehicles — Terms and definitions

*Véhicules routiers — Dimensions des automobiles et véhicules tractés — Dénominations et définitions*

**First edition — 1978-03-15**

Corrected and reprinted —

---

UDC 629.11.071.1

Ref. No. ISO 612-1978 (E)

**Descriptors :** road vehicles, motor vehicles, towed road vehicles, dimensions, vocabulary.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

International Standard ISO 612 was developed by Technical Committee ISO/TC 22, *Road vehicles*, and was circulated to the member bodies in november 1976.

It has been approved by the member bodies of the following countries :

|          |                        |                       |
|----------|------------------------|-----------------------|
| Austria  | Iran                   | New Zealand           |
| Brazil   | Italy                  | Poland                |
| Bulgaria | Japan                  | Romania               |
| France   | Korea, Dem. P. Rep. of | South Africa, Rep. of |
| Germany  | Korea, Rep. of         | Spain                 |
| Hungary  | Mexico                 | Sweden                |
| India    | Netherlands            | Switzerland           |

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Australia  
Belgium  
United Kingdom

This International Standard cancels and replaces ISO Recommendation R 612-1967, of which it constitutes a technical revision.

| <b>CONTENTS</b>                                                                             | <b>Page</b> |
|---------------------------------------------------------------------------------------------|-------------|
| <b>1 Scope</b> . . . . .                                                                    | <b>1</b>    |
| <b>2 Field of application</b> . . . . .                                                     | <b>1</b>    |
| <b>3 References</b> . . . . .                                                               | <b>1</b>    |
| <b>4 General</b> . . . . .                                                                  | <b>1</b>    |
| <b>5 Definition of the longitudinal median plane (of the vehicle)</b> . . . . .             | <b>2</b>    |
| <b>6 Terms and definitions of dimensions of motor vehicles and towed vehicles</b> . . . . . | <b>3</b>    |
| 6.1 Vehicle length . . . . .                                                                | 3           |
| 6.2 Vehicle width . . . . .                                                                 | 4           |
| 6.3 Vehicle height (unladen) . . . . .                                                      | 4           |
| 6.4 Wheel space . . . . .                                                                   | 5           |
| 6.5 Track . . . . .                                                                         | 6           |
| 6.6 Front overhang . . . . .                                                                | 6           |
| 6.7 Rear overhang . . . . .                                                                 | 6           |
| 6.8 Ground clearance . . . . .                                                              | 7           |
| 6.9 Ramp angle . . . . .                                                                    | 7           |
| 6.10 Approach angle . . . . .                                                               | 7           |
| 6.11 Departure angle . . . . .                                                              | 7           |
| 6.12 Height of chassis above ground (commercial vehicles) . . . . .                         | 8           |
| 6.13 Maximum usable length of chassis behind cab (vehicle with cab) . . . . .               | 8           |
| 6.14 Bodywork length . . . . .                                                              | 8           |
| 6.15 Maximum internal dimensions of body (commercial vehicles) . . . . .                    | 9           |
| 6.16 Drawgear length . . . . .                                                              | 9           |
| 6.17 Drawbar length . . . . .                                                               | 10          |
| 6.18 Position of towing attachment . . . . .                                                | 10          |
| 6.19 Fifth wheel lead . . . . .                                                             | 11          |
| 6.20 Height of coupling face . . . . .                                                      | 11          |
| 6.21 Distance between towing device and front end of towing vehicle . . . . .               | 12          |

6.22 Rear tractor clearance radius of semi-trailer . . . . . 12

6.23 Front fitting radius of semi-trailer . . . . . 12

6.24 Camber angle . . . . . 12

6.25 Kingpin inclination . . . . . 13

6.26 Kingpin offset . . . . . 13

6.27 Toe-in. . . . . 13

6.28 Castor. . . . . 14

6.29 Vertical clearance . . . . . 14

6.30 Lift . . . . . 14

6.31 Turning locks. . . . . 14

6.32 Turning clearance circles . . . . . 15

# Road vehicles — Dimensions of motor vehicles and towed vehicles — Terms and definitions

## 1 SCOPE

This International Standard defines terms relating to dimensions of motor vehicles and towed vehicles.

It does not deal with methods of measurement, the units used in reporting the results or the accuracy required or the order of magnitude of the dimensions defined.

NOTE — Other terms, definitions and symbols are given in the following International Standards :

ISO 3877/I, *Tyres, valves and tubes — List of equivalent terms — Part I : Tyres.*

ISO 3877/II, *Tyres, valves and tubes — List of equivalent terms — Part II : Tyres valves.*

ISO 3877/III, *Tyres, valves and tubes — List of equivalent terms — Part III : Tubes.*

ISO 3911, *Wheels/rims — Nomenclature, designation, marking, and units of measurement.*

ISO 4131, *Road vehicles — Dimensional symbols for passenger cars.*<sup>1)</sup>

ISO 4223/I, *Definitions of some terms used in the tyre industry — Part I : Pneumatic tyres.*

## 2 FIELD OF APPLICATION

The provisions of this International Standard apply to motor vehicles and towed vehicles as defined in ISO 3833 (terms 3.1 and 3.2).

This International Standard does not cover road vehicles such as motorcycles and mopeds, or other vehicles, such as agricultural tractors, which are only incidentally used for the carriage of persons or goods by road or for towing on the road vehicles used for the carriage of persons or goods.

## 3 REFERENCES

ISO 1176, *Road vehicles — Weights — Vocabulary.*

ISO 1726, *Road vehicles — Mechanical coupling between tractors and semi-trailers — Interchangeability.*

ISO 3833, *Road vehicles — Types — Terms and definitions.*

ISO 4130, *Road vehicles — Three-dimensional reference system and fiducial marks.*<sup>1)</sup>

## 4 GENERAL

Unless otherwise stated with regard to one or more of the items mentioned below, it should be understood that :

- a) the supporting surface is horizontal; lengths and widths are measured in the horizontal plane, and heights in the vertical plane;
- b) the total weight of the vehicle is the maximum authorized total weight (see ISO 1176), the load being distributed according to the manufacturer's instructions;
- c) the tyres are inflated to the pressure corresponding to the maximum authorized total weight of the vehicle;
- d) the vehicle is stationary; its doors and windows are closed, and its wheels and articulated elements are in positions corresponding to movements in a straight line;
- e) the vehicle is new from the factory and normally equipped;
- f) all wheels of the vehicle are resting on the ground;
- g) the expression "mid-plane of the wheel", that occurs in a number of definitions, designates the plane equidistant from the inner edges of the rim.

1) At present at the stage of draft.

## 5 DEFINITION OF THE LONGITUDINAL MEDIAN PLANE (OF THE VEHICLE)

**longitudinal median plane (of the vehicle)** : The vertical plane Y passing through the mid-points of AB, perpendicular to AB, A and B being defined as follows :  
as follows :

- for each wheel, the vertical plane passing through its axis cuts the mid-plane of the wheel [see g), clause 4] following a straight line  $\Delta$  which meets the supporting surface of the vehicle at one point;
- A and B are two points thus defined which correspond to two wheels, both of which are either steering or powered wheels, situated respectively at the two ends of the same real or imaginary axle.

### NOTES

1 The longitudinal median plane (of the vehicle) is also called the "longitudinal plane of symmetry" or "zero Y plane" (see ISO 4130).

#### 2 Case of dual wheels

The mid-plane of the dual wheels is equidistant from the inner edge of one wheel and the outer edge of the other. The straight line  $\Delta$  is, in this particular case, the intersection of the mid-plane of the dual wheels and the vertical plane passing through the axis of the axle pin.

