

Road vehicles - Roof load carriers - Part  
4: Magnetic fixing devices (ISO 11154-  
4:2004,IDT)

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Voorbeeld  
Preview

Preview

**Road vehicles — Roof load carriers —  
Part 4:  
Magnetic fixing devices**

*Véhicules routiers — Dispositifs porte-charges de toit —  
Partie 4: Dispositifs à fixation magnétique*



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## 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. 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.

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ISO 11154-4 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 14, *Exterior fittings*.

ISO 11154 consists of the following parts, under the general title *Road vehicles — Roof load carriers*:

- Part 1: *Roof bars*
- Part 4: *Magnetic fixing devices*

# Road vehicles — Roof load carriers —

## Part 4: Magnetic fixing devices

### 1 Scope

This part of ISO 11154 establishes technical specifications for the magnetic fixing devices of roof load carriers and specifies the minimum safety requirements, and test methods, for such devices, thus offering the occupants of those vehicles on which the carriers are mounted, as well as other road users and pedestrians, a minimum level of safety when the devices are used in accordance with the manufacturer's instructions.

This part of ISO 11154 is applicable to magnetic fixing devices suitable for carrying a defined load and intended for mounting on or above the roofs of passenger cars and light commercial vehicles having a maximum authorized total mass (Code ISO M08), as defined in ISO 1176, of up to 3,5 t. It is not applicable to vacuum-fixed devices — experience with and testing of those devices not being able to guarantee a minimum safety level for carrying goods on either vehicle roof or rear.

The requirements of this part of ISO 11154 complete the provisions of Directives 79/488/EEC and 72/245/EEC concerning magnetic fixing devices.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 612:1978, *Road vehicles — Dimensions of motor vehicles and towed vehicles — Terms and definitions*

ISO 1176, *Road vehicles — Masses — Vocabulary and codes*

ISO 4130, *Road vehicles — Three-dimensional reference system and fiducial marks — Definitions*

ISO 4892 (all parts), *Plastics — Methods of exposure to laboratory light sources*

ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

European Commission Directive 79/488/EEC of 18 April 1979 adapting to technical progress Council Directive 74/483/EEC on the approximation of the laws of the Member States relating to the external projections of motor vehicles

## ISO 11154-4:2004(E)

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4130 and the following apply.

- 3.1 magnetic roof rack**  
magnetic fixing device set designed to carry a load on the roof of a vehicle
- NOTE In general they are not compatible with the use of additional accessories.
- 3.2 magnetic ski/snowboard holder**  
magnetic fixing device designed to carry one or more pairs of skis or one or more snowboards on the roof of a vehicle
- NOTE In general they are not compatible with the use of additional accessories.
- 3.3 maximum vehicle roof load**  
 $m_d$   
maximum load capacity, expressed in kilograms, permissible on the vehicle's upper structure as defined by the vehicle manufacturer
- 3.4 maximum magnetic fixing set load**  
 $m_{b,mdev}$   
maximum load capacity, or number of units, expressed in either kilograms or as a quantity, permissible on a magnetic fixing device set as defined by the magnetic fixing set manufacturer
- 3.5 mass of the specific roof set**  
 $m_{e,mdev}$   
sum, expressed in kilograms, of the component masses of the magnetic fixing devices
- 3.6 theoretical maximum load**  
 $m_n$   
maximum vehicle roof load,  $m_d$ , less the mass of the specific roof set,  $m_{e,mdev}$ , expressed in kilograms
- 3.7 deflection**  
 $d$   
sum, expressed in millimetres, of permanent deformations and sliding displacement of a magnetic fixing when fixed to the vehicle roof and under test conditions
- 3.8 test devices**  
load simulation devices used during testing
- EXAMPLE Test reference ski, test reference ladder.
- 3.9 lifting force**  
 $F_a$   
force, expressed in newtons, applied during testing to simulate the vertical components of the aerodynamic or vertical effect of the load or both



**3.10****forward longitudinal force** $F_l$ 

force, expressed in newtons, applied during testing to simulate the horizontal forward component of the force caused by the load in the X plane

NOTE The X plane is defined in ISO 4130.

**3.11****20° horizontal force** $F_{lq}$ 

force, expressed in newtons, applied during testing to simulate the effect caused by the load during braking when cornering

**3.12****lateral force** $F_{lat}$ 

force, expressed in newtons, applied during testing to simulate the horizontal component of the force caused by the load parallel to the Y plane

NOTE The Y plane is defined in ISO 4130.

**3.13****angular position of the device** $\alpha$ 

angle between the carrier device and the vertical plane

See Figure D.1 a).

**4 Requirements****4.1 Resistance to lifting force,  $F_a$** 

**4.1.1** When tested in accordance with 5.2.2, on completion of the test the magnetic ski/snowboard holder or ladder holder shall meet the following requirements:

- a) the load shall remain fixed on the magnetic fixing device;
- b) the magnetic fixing device shall remain fixed on the roof;
- c) no breakage of any part shall occur.

**4.1.2** When tested in accordance with 5.3.2, on completion of the test the magnetic roof rack shall remain fixed on the roof.

**4.2 Slide resistance under quasi-static forward longitudinal force,  $F_l$** 

When tested in accordance with 5.2.3 and 5.3.3, respectively, on completion of the test the magnetic ski/snowboard holder and magnetic roof rack shall meet the following requirements:

- a) the load shall remain fixed on the magnetic fixing device;
- b) no breakage of any part shall occur;
- c) the maximum deflection shall not exceed 50 mm.

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