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BSI Standards Publication

Securing of cargo on road vehicles — Body structure of commercial vehicles — Minimum requirements

National foreword

This British Standard is the UK implementation of EN 12642:2016. It supersedes BS EN 12642:2006 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee TW/1, Freight containers and swap bodies.

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Ladungssicherung auf Straßenfahrzeugen - Aufbauten an Nutzfahrzeugen - Mindestanforderungen

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 12642:2016) has been prepared by Technical Committee CEN/TC 119 “Swap bodies for combined goods transport”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12642:2006.

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Introduction

The aim of this revision is to update the test methods as well as marking and certification of vehicle body structures that are able to take up a part of the forces to secure the cargo. Due to the particular cargo and the body type additional securing of cargo can become necessary and should be determined in each specific case by the shipper, the operator or the driver.

1 Scope

This European Standard applies to body structures on commercial vehicles and on trailers.

This European Standard sets out basic minimum requirements for standard vehicle bodies (side walls, front and rear walls) and for reinforced vehicle bodies and specifies appropriate tests.

This European Standard applies to all commercial vehicles which are related by design and body type to the body structures described below.

Forces applied according to the test requirements described below can be invoked for load securing purposes.

The floor of the vehicle is a part of the sub frame. As long as the floor strength is not defined, the manufacturer should give the necessary information. Testing of the axle load on the floor should be carried out analogous to EN 283. The result should be marked in locations according to chapter 6.

This European Standard does not apply to vans according to ISO 27956.

2 Normative references

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

EN 12195-1:2010, *Load restraining on road vehicles - Safety - Part 1: Calculation of securing forces*

IMO/ILO/UNECE, *Code of Practice for Packing of Cargo Transport Units (CTU Code):2014*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
reinforced vehicle body
vehicle body, having a reinforced structure, and complying with the minimum requirements for Code XL according to 5.2, Table 1, or 5.3, Table 2

3.2
standard vehicle body
vehicle body complying with the minimum requirements of 5.2 (Code L according to Table 1) which, depending on cargo weight and friction, requires additional securing of cargo using lashing equipment

4 General requirements

Verification of conformity to the requirements of this standard shall be provided either by:

a) dynamic driving tests (see 5.3 and Annex B),

b) static tests:

   1) airbag test (see 5.2 and Annex A),

   2) static inclination test according to EN 12195-1:2010 with the type of cargo as described in the dynamic test (see B.3) and the duration time in 5.2.2,

c) other methods for applying the test forces which are acceptable if equivalence to test methods above can be proved,

d) calculation (methods of calculation shall be verified by one of the test methods above).

Body structures of the same design or type should be verified by testing the worst case for that design.

A calculation or test for the complete system consisting of front, rear and side walls, roof and floor is necessary for the entire structure even if individual components have been taken from sample structures which have been calculated or tested with positive results before. However, it is admissible to replace individual components which have successfully been tested within a complete system with others that have yielded the same results in testing.

Where a body structure has been tested or calculated successfully as a modular system set, calculation or testing shall be carried out to verify that the connection between the body structure and the floor complies with the requirements of the standard.

The specified test value *P*, for which the body structure is tested shall be documented in the test certificate according to Annex C and marked according to Clause 6. This specified test value *P* may be different from the technical payload.

Information should be provided in the test certificate by the manufacturer about the part of test value *P* of the front wall at a height of 200 mm and 800 mm. For the side walls the part of the test value *P* should be provided at a height of 800 mm or maximum height (if lower).

The specified test requirements apply to the following types of body structures:

— box type;

— drop side body with side and tail boards without tarpaulin cover;

— drop side body with side and tail boards with tarpaulin cover;

— curtainsider.

By analogy these test requirements also apply to all other types of body structures.

Vehicle body structures shall be tested in the condition in which they are intended to be used (e.g. without additional securing measures). Moreover, if the bodies are equipped with removable components, these components shall be in operational position during the test.

Approval criteria:

After finishing the tests (for driving tests see B.5) or calculations the body structure shall show neither permanent deformation nor other changes which would impair its intended use; and the following criteria shall be satisfied:

— Maximum deflection of the tested structure during the test shall not exceed 300 mm.

— At a test force of 100 % of the test value a permanent deformation of 20 mm may occur, but only if the intended use is not impaired.

5 Testing

5.1 General

The following test methods are described (see 5.2 and 5.3).

5.2 Static test – Airbag test (Annex A)

5.2.1 Requirements

Table 1 gives an overview of the details of static test forces.

Table 1 — Static test forces

Component		Standard structure Code L	Reinforced structure Code XL
Front wall	Requirement	0,4 *P* x g and max. limit 50 kN[c]	0,5 *P* x g without max. limit
	Section	5.2.3	5.2.3
Rear wall	Requirement	0,25 *P* x g and max. limit 31 kN[c]	0,3 *P* x g without max. limit
	Section	5.2.4	5.2.4
Side wall	Requirement	0,3 *P* x g[a]	0,4 *P* x g[b]
	Section	5.2.5	5.2.5

[a] For curtainsiders without board walls, apply 0,15 *P* x g; for body structures with board walls and tarpaulin cover, apply 0,24 *P* x g for the board walls and 0,06 *P* x g for the tarpaulin cover.

[b] Except for double-decker design.

[c] Higher values can be tested and marked.

5.2.2 General

The following outlines the test requirements for vehicle body structures. In principle, these test requirements apply to all requirement profiles.

For each static test the test force shall be applied for at least 5 min.

In the testing requirements specified, the mentioned letters shall have the following meaning:

— *P* the specified test value *P* (in kg), for which the body structure is tested;

— *F* the test force according to Table 1;

— *p* the required test pressure in MPa.

NOTE *P* can differ from the payload for which the vehicle is designed.

5.2.3 Strength of the front wall

The front wall is tested with a test force of *F*. The test force is applied to the inner face of the front wall to be tested, it shall be applied uniformly on the surface,

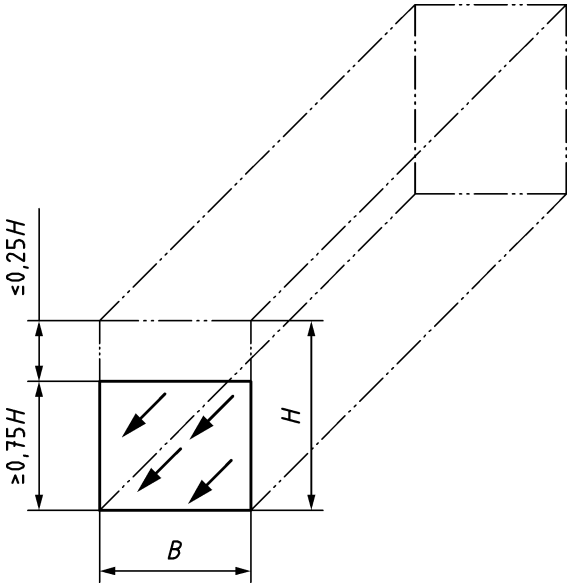
(width of body structure) x (≥3/4 of height of body structure),

the height, however, shall be at least 1 600 mm (see Figure 1 and Formula (1)). Where the front wall height is < 1 600 mm the full height of the body structure shall be taken into account for a uniform distribution of the test force applied.

Front wall:

$$p = \frac{F}{\geq 0,75\,H \times B} \tag{1}$$

H_{min} = 1 600 mm



Key

H total internal height of the front wall

B total internal width of the front wall

Figure 1 — Testing of front wall

5.2.4 Strength of the rear wall

The rear wall shall be tested with a test force *F*. The test force is applied to the inner face of the rear wall to be tested, it shall be applied uniformly on the surface,

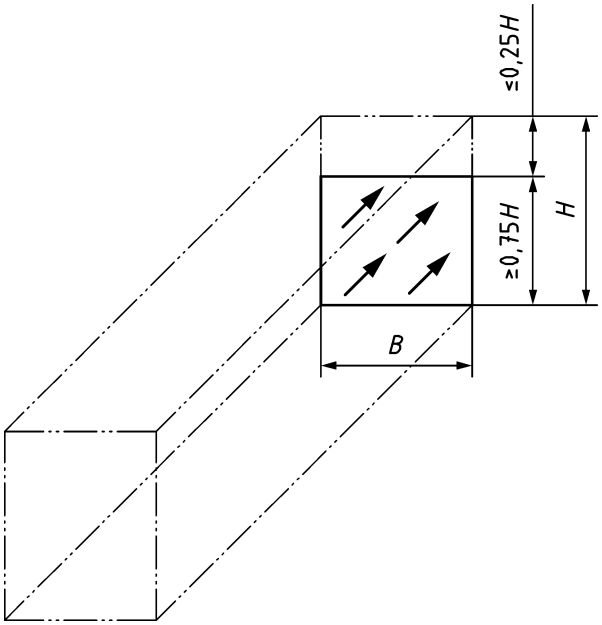
(width of body structure) × (≥3/4 of height of body structure),

the height, however, shall be at least 1 600 mm (see Figure 2 and Formula (2)). Where the rear wall height is < 1 600 mm the full height of the body structure shall be taken into account for a uniform distribution of the test force applied.

Rear wall:

$$p = \frac{F}{\geq 0,75\,H \times B} \tag{2}$$

H_{min} = 1 600 mm



Key

H total internal height of the rear wall

B total internal width of the rear wall

Figure 2 — Testing of rear wall

5.2.5 Strength of the side wall

Side walls shall be tested with a test force of *F*. The test force is applied to the inner face of the side wall to be tested, it shall be applied uniformly on the surface,

(length of body structure) x (≥3/4 of height of body structure),

the height, however, shall be at least 1 600 mm (see Figure 3 and Formula (3)). Where the side wall height is < 1 600 mm the full height of the body structure shall be taken into account for a uniform distribution of the test force applied.

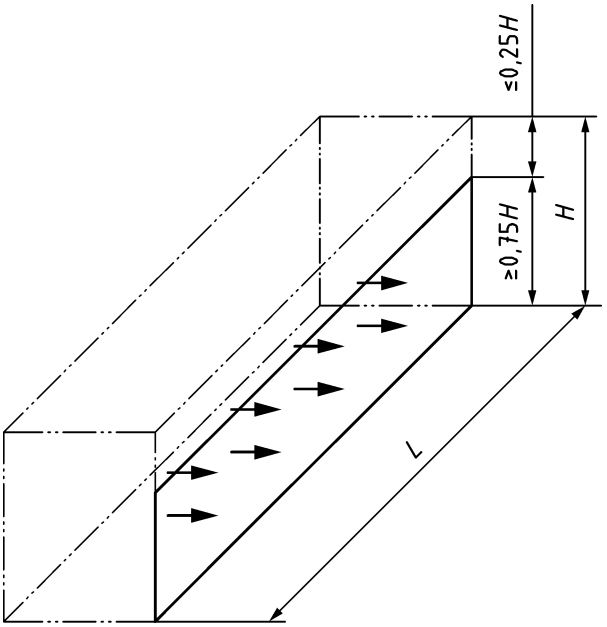
Where the body comprises curtain sides which also have to absorb pressure forces from the cargo such curtain sides should meet the minimum requirements of EN 12641-2.

Where the construction is symmetrical only one side wall needs to be tested.

Side wall:

$$p = \frac{F}{\geq 0,75\,H \times L} \tag{3}$$

H_{min} = 1 600 mm



Key

H total internal height of the side wall

L total internal width of the side wall

Figure 3 — Testing of side wall

5.2.6 Floor ledge (optional)

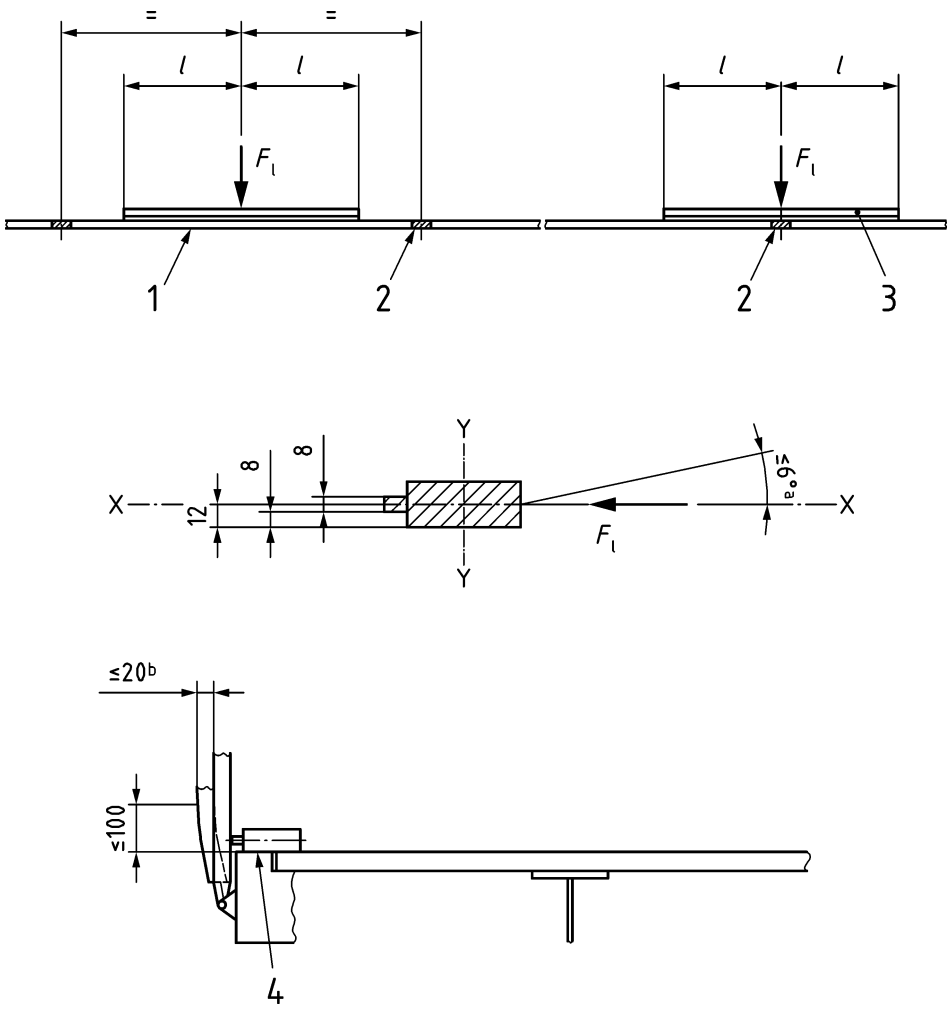
Where the body structure is designed to be equipped with a floor ledge, this feature shall have a height of ≥ 15 mm in order to be suitable for functions of securing the cargo. Acceptable is also a removable floor ledge of equivalent strength. This ledge shall be tested with a force F_i (proportionally to the test length). The testing device shall apply to the floor ledge on a length of 2 *l* (*l* is approximately 1 000 mm). In the test, elastic deformation shall not exceed 20 mm (see Figure 4 and Formula (4)).

$$F_i = \frac{F}{L} \times 2 \times l \tag{4}$$

where

F is the test force for the side wall according to Table 1

L is the total internal length of the side wall



Key

1 floor ledge

2 stake

3 press bar having Wy ≥ 80 000 mm^3 and Iy ≥ 6 000 000 mm^4

4 coefficient of friction ≤ 0,3

[a] permitted angle variation of the test force

[b] permitted elastic deflection at 100 mm height (in case of removable floor ledge)

Figure 4 — Example of a rig for testing floor ledges

5.2.7 Double-decker design (Code XL only)

5.2.7.1 General

Where body structures are designed to carry cargo on two different decks at two different levels, the stress on the side wall and thus the test force can vary depending on the design concept and on the type of body structures.

On the top loading level at half the height of the body it is permitted to carry ≤ 50 % of the total payload. Where cargo loads on the upper deck differ from this or where the height position of the second cargo level differs, the percentage portion changes accordingly.

5.2.7.2 Box type body

Depending on the construction of the inserted deck, the following test force shall be applied on the side wall to be tested:

1) 0,4 *P* x g where the supporting cross member or the inserted deck is to be connected to the right and to the left side walls such as to transmit forces in a horizontal direction at a right angle to the longitudinal axis of the vehicle. The test shall be carried out without the intermediate deck.

2) 0,5 *P* x g where the supporting cross member is of telescopic design and no forces are transmitted in axial direction or where the inserted deck is supported only in vertical direction. The test shall be carried out without the intermediate deck.

5.2.7.3 Curtainsider design

Depending on the construction of the inserted deck, the following test force shall be applied on the side wall to be tested:

1) 0,45 *P* x g where the supporting cross member or the inserted deck is to be connected to the right and to the left side walls such as to transmit forces in a horizontal direction at a right angle to the longitudinal axis of the vehicle. The test shall be carried out without the intermediate deck.

2) 0,55 *P* x g, where the supporting cross member is of telescopic design and no forces are transmitted in axial direction. The test shall be carried out without the intermediate deck.

Applicable for both 1) and 2) is: For the side wall test with an application of the force using the airbag technique the longitudinal horizontal supporting member shall be inserted as well as necessary plug-in lathing.

5.3 Dynamic driving test (Annex B)

5.3.1 Test acceleration

Table 2 shows the accelerations for which the different components shall be tested.

Table 2 — Test accelerations

Component		**Standard structure Code L**	**Reinforced structure Code XL**
Front wall	Requirement	Not applicable	0,8 g[a]
	Section		Annex B
Rear wall	Requirement	Not applicable	0,5 g [a]
	Section		Annex B
Side wall	Requirement	Not applicable	0,5 g [a]
	Section		Annex B
[a] See EN 12195–1:2010 /CTU-Code:2014.			

5.3.2 General

The suitability of the vehicle structures to take forces of load securing functions can be proved by driving tests. Details and minimum requirements to carry out dynamic driving tests can be found in Annex B. The suitability for specific cargo should be appropriately proved by driving tests.

6 Documentation

Results of the testing or calculation shall be documented in the test certificate. The layout and content of the test certificate shall be according to Annex C. The layout and the content of the test report should be according to Annex D.

Vehicle body structures in compliance with the requirements of this standard shall be marked as follows:

a) name of manufacturer;

b) confirmation that the vehicle body structure complies with EN 12642;

c) indication of the tested structure, Code L or XL followed by:

   1) the test value *P* in kg for Code L and XL structures (also double deck or other constructions if applicable),

   2) the test force for the front wall uniformly distributed up to a high of 200 mm, 800 mm and max height,

   3) the test force for the rear wall uniformly distributed up to max height,

   4) the test forces for the side walls uniformly distributed up to a height of 800 mm and max height,

d) number of laths per section used during the tests, if applicable, followed by material of laths (e.g. aluminium or wood).

A vehicle complying with this standard shall be marked by a label which is permanently affixed to the body and clearly visible. The label shall contain the information under point 1 – 4 above.

The information shall be provided in English, further language versions are allowed.

The label shall be located on the outside of the body in the forward end of the vehicle.

On covered vehicles, one additional label shall be located on the inside of the right sidewall at a height of about 1,5 m above the floor not more than 0,5 m from the rear end of the vehicle. This label shall be located so that it is not hidden by any vehicle equipment such as laths.

The text on the label shall be printed in black on a yellow background with a layout according to Figure 5 below. The minimum dimensions of the label shall be 150 mm wide x 100 mm high.

Name of manufacturer	**EN 12642-XL**		
Vehicle body in compliance with	**P (27 000 kg)** (P is the test value)		
Loading height up to	200 mm	800 mm	Max height
Front wall	18 100 daN	15 700 daN	13 500 daN
Rear wall	–	–	8 100 daN
Side walls	–	12 600 daN	10 800 daN
Number of laths per section	3 aluminum / wood		

Figure 5 — Example of layout of label (values are indicative) indicating that a vehicle body is in compliance with this European Standard

7 Maintenance

The manufacturer shall give user instructions for the body maintenance concerning the load securing elements.

Annex A
(normative)

Details of the airbag test

A.1 Airbags shall be designed in such a way as to warrant an even application of the force onto the surface set out as the basis for the calculation of the pressure. The characteristics of the abutment shall ensure that during the test no plastic deformation of the counter plate occurs and that the elasticity of the abutment does not affect the feasibility of the test. The distance between the counter plates of the test device and the wall to be tested shall not exceed 50 mm. The airbag or airbags shall be designed in such a way as to be able to extend over the entire surface to be tested in the direction of effect of the test over at least 500 mm. To subside the test object a pressure of 50 % of the specified test pressure shall be applied. Afterwards the pressure is reduced to 0 mbar. The actual position of the test object is now specified to be the zero point.

A.2 In the case of corrugated front/rear walls a ≤ 5 mm thick plywood plate may be inserted between the wall and the airbag.

A.3 Where side walls are symmetrical it is sufficient to test one side wall. Where two side walls are different from each other, the weaker side wall shall be tested.

A.4 Where vertical wall sections with side walls and inserted lathing between the stakes are used and where the tarpaulin cannot be involved as a support, panels of plywood or equivalent material, ≤ 5 mm in thickness, shall be used to transfer the force i.e. to back up the airbag. These panels shall end at a distance of 150 mm ± 50 mm from the stakes or corner posts to be included in the testing. In vertical direction, the plywood panel may not receive back up support from the roof frame at the top, however, its lower end may be backed up e.g. by the side wall or by the lowest lath. There shall be no support from any pallet stop ledge (if present). In this case testing shall be carried out without tarpaulin.

Annex B
(normative)

Dynamic driving test

B.1 General

In this annex, dynamic driving tests are described.

B.2 General requirements for the test

The driving tests shall be prepared taking into account the purpose to achieve the desired accelerations.

B.3 Conditions of loading

B.3.1 Test for body structure with defined cargo units

For driving tests according to this European Standard the vehicles to be tested should be loaded with cargo units on pallets, which lose their stability under the effect of a transverse acceleration of ≤ 0,25 g (if necessary, this shall be found out by preparatory trials). For specific purposes, tests with different cargo types of increased stability are allowed.

As examples, cargo units which comply with these stability criteria are e.g. beverage crates. The dimensions of the common plastic cargo units are 40 cm x 30 cm x 29 cm, stacked in individual columns, eight cargo units per layer. Suitable cargo units shall be loaded uniformly over the entire length and width of the cargo area of the vehicle to be tested; the height of loading shall be > 1/2 × total loading height and loading shall be carried out up to the specified test value *P*.

A description of the test cargo indicating the friction coefficient shall be provided in order to ensure reproducible test results.

B.3.2 Test with other cargo units

For specific purposes tests with different cargo types not defined in B.3.1 shall be tested individually. The test conditions shall be documented.

B.4 Measuring technique and assessment

The used measuring system shall at least be equipped with a bi-axial acceleration sensor (BAS), which has to be positioned in the centre underneath the cargofloor. In case of using two BAS, they shall be positioned in the following manner: one shall be positioned in the centre of the front wall halfway up to the body height. The second one shall be mounted underneath the vehicle floor halfway on the tail-section. The tolerance for mounting the sensors is ± 30 cm.

The sampling rate shall be at least 2,56 times higher than the filter frequency. While a duration of 80 ms the arithmetic average shall meet the required acceleration value.

A low pass filter with a frequency of minimum 25 Hz shall be applied.

For example:

If a low pass filter of 25 Hz (minimum standard) is used, the sampling rate shall be ≥ 64 Hz (25 Hz x 2,56 = 64 Hz).

Remark for the brake tests:

The force to operate the brake pedal shall be applied unrelieved until the standstill of the vehicle.

Remark for the analysis:

Alternatively the arithmetic average of the required acceleration is allowed to fall below the required value by 0,05 g in case this value is applied over a period of one second.

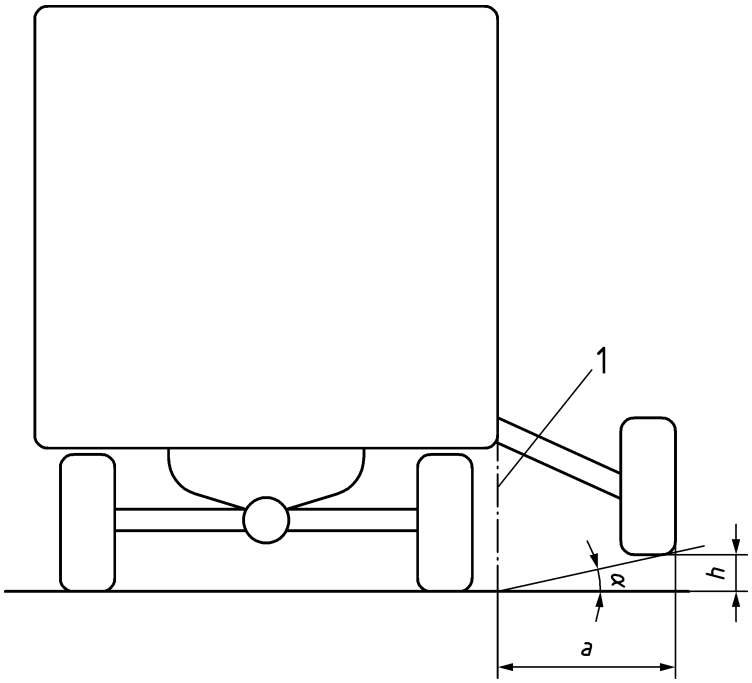
B.5 Driving tests

B.5.1 Use of a supporting axle

To achieve the requested transverse accelerations of the vehicle independently from dry or wet road conditions, the use of a laterally mounted supporting axle is possible.

In case of semitrailers the supporting axle shall be positioned as near as possible in front of the first axle. On other vehicles the supporting axle shall be mounted as much as possible in the middle. The position of the supporting axle and its attachment shall be documented.

The operation height of the supporting axle is specified by an angle α of at least five degrees.



Key

1 perpendicular

a distance between vertical outer line of the trailer and outer vertical line of supporting axle in mm

h height of the lowest point of the supporting axle above ground in mm

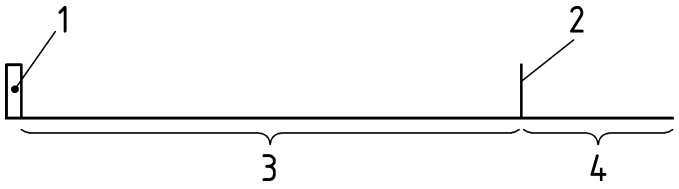
α minimum angle as function of *a* and *h* ($\tan \alpha = h/a$)

Figure B.1 — Supporting axle

B.5.2 Testing brake deceleration (0,8 g) in driving direction

B.5.2.1 Initial speed

The initial speed for measuring brake deceleration shall be at least 35 km/h.



Key

1 starting point and stationary complementary braking device

2 vertical oscillation trigger device with a height of 10 mm to 20 mm and a width of approximately 500 mm at an angle of 60° to 80°

3 acceleration track to achieve a speed of 35 km/h to 40 km/h

4 full stopping track

Figure B.2 — Longitudinal deceleration test

B.5.2.2 Driving test

One vehicle length before the beginning of longitudinal deceleration, vertical excitation of vibrations takes place by driving over a ground sleeper, approximately 10 mm to 20 mm in height and approximately 500 mm wide positioned at an angle of 60° to 80° in relation to the direction of driving. If there are similar irregularities on the track the sleeper may be omitted. If the vehicle brakes by themselves are unable to provide the necessary braking deceleration of 0,8 g the required deceleration shall be achieved independently of the track conditions e.g. by adding a complementary braking device.

B.5.2.3 Requirement

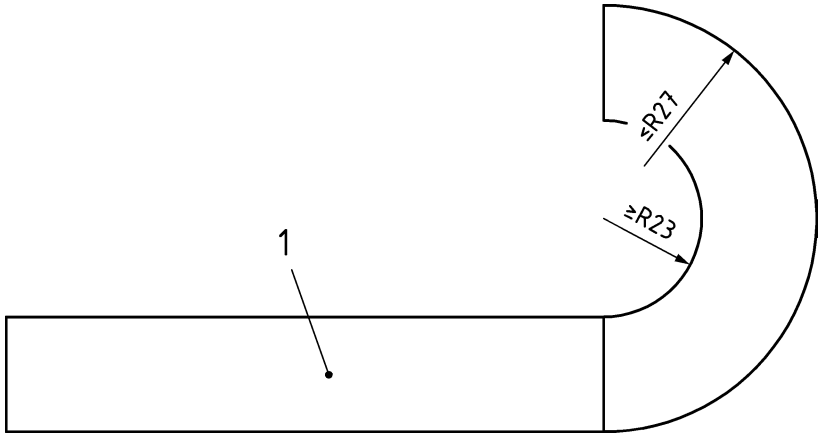
The cargo securing equipment shall perform its function in three consecutive tests. If the cargo is secured by the vehicle body structure this means that there may be no permanent or elastic deformations or tears in the front wall or in their connections to the frame after the test. If the cargo is secured by lashing devices the equipment shall not display any damage.

B.5.3 Test of transverse acceleration (0,5 g) - U-turn-test

B.5.3.1 Initial speed

The initial speed for testing transverse acceleration shall be at least 30 km/h.

For the test of transverse acceleration a circular track of a given radius - approximately 25 m ± 2 m – shall be marked out on which the vehicle moves with its front centre.



Key

1 acceleration track to achieve a speed of 30 km/h to 40 km/h

Figure B.3 — Test of transverse acceleration

B.5.3.2 Drive test

When driving through the circular portion of the track the vehicle shall travel at a constant speed necessary to achieve the required transverse acceleration of 0,5 g.

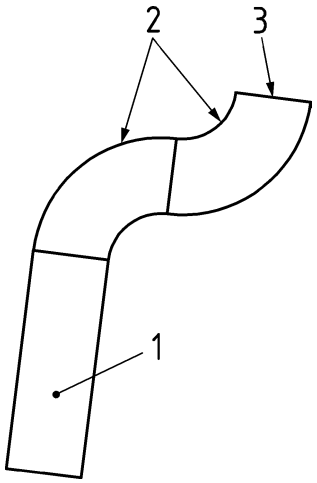
B.5.3.3 Requirement

The cargo securing equipment shall perform its function in three consecutive tests. If the cargo is secured by the vehicle body structure this means that there may be no permanent or elastic deformations or tears in the side walls or in their connections to the frame after the test. If the cargo is secured by lashing devices the equipment shall not display any damage.

B.5.4 Change of lane test with accelerations of 0,5 g around both curves each – S-test

B.5.4.1 Initial speed

The initial speed for the change of lane test shall be at least 30 km/h.



Key

1 acceleration track to achieve a speed of 30 km/h to 40 km/h

2 curve radii remain the same as in the circle entry test

3 full braking when leaving the curve

Figure B.4 — Change of lane test

B.5.4.2 Drive test

After having passed successfully the circle test described in B.5.3, a conclusive change of lane test is carried out.

On two consecutively situated, counter-directional merging circle segments (radii as above) the vehicle enters at constant speed the curve to the right and continues without interruption the following curve to the left or vice versa. During this manoeuvre a transverse acceleration of at least 0,5 g within each circle segment shall occur.

When leaving the second circle segment, full braking providing a longitudinal deceleration of > 0,6 g shall be performed. Here the securing device or the lateral limit of the cargo space shall absorb the dynamic movement of the cargo.

B.5.4.3 Requirement

The cargo securing equipment shall perform its function in three consecutive tests. If the cargo is secured by the vehicle body structure this means that there may be no permanent or elastic deformations or tears in the walls or in their connections to the frame after the test. If the cargo is secured by lashing devices the equipment shall not display any damage.

B.5.5 Testing brake deceleration (0,5 g)opposite to driving direction

B.5.5.1 Initial speed

The initial speed for this manoeuvre is the maximum reversing speed of the vehicle to be tested.

B.5.5.2 Drive test

After the acceleration phase to reach the maximum reversing speed, the vehicle is subjected to a full braking action by means of its operating brake; a deceleration of at least 0,5 g shall be provided.

B.5.5.3 Requirement

The cargo securing equipment shall perform its function in three consecutive tests. If the cargo is secured by the vehicle body structure this means that there may be no permanent or elastic deformations or tears in the rear wall or in their connections to the frame after the test. If the cargo is secured by lashing devices the equipment shall not display any damage.

Annex C
(normative)

Test certificate of body structure tested according to EN 12642

After a vehicle body has been tested according to the test procedures described in this standard a test certificate shall be issued and signed by the person responsible for the tests. The certificate shall have a layout and contents as shown below:

1) name, address, phone number and e-mail address of manufacturer of the vehicle;

2) name, address, phone number and e-mail address of test organization if other than the manufacturer;

3) organization, name, address, phone number and e-mail address of the person responsible for the tests;

4) reference to test report;

5) test method;

6) type of the tested vehicle;

7) type and dimensions of the tested vehicle body;

8) identification number;

9) tested according to Code L or XL;

Name of manufacturer	**EN 12642-XL**		
Vehicle body in compliance with	**P (27 000 kg)** (P is the test value)		
Loading height up to	200 mm	800 mm	Max height
Front wall	18 100 daN	15 700 daN	13 500 daN
Rear wall	–	–	8 100 daN
Side walls	–	12 600 daN	10 800 daN
Number of laths per section	3 aluminum / wood		

Figure C.1 — Example of layout of label (values are indicative) indicating that a vehicle body is in compliance with this European Standard

10) part of the test force that the front wall can withstand distributed up to the height of 200 mm and 800 mm respectively;

11) part of the test force that the side wall can withstand distributed up to the height of 800 mm respectively;

12) other relevant information can be added (for example different cargo types according to Annex B.3.2);

It is hereby certified that the tested vehicle body complies with the test requirements set up in EN 12642.

13) place and date;

14) signature of the person responsible for the tests (and printed name);

15) signature of the person responsible for compliance (and printed name).

Annex D
(informative)

Test report of body structure tested according to EN 12642

After a vehicle body or cargo securing arrangement has been tested according to the test procedures described in this standard a test report shall be issued and signed by the person responsible for the tests. The report shall have the content as shown below:

a) name, address, phone number and e-mail address of manufacturer of the vehicle;

b) name, address, phone number and e-mail address of test organization if other than the manufacturer;

c) organization, name, address, phone number and e-mail address of the person responsible for the tests;

d) organization and name of persons participating in the tests;

e) place and date of the tests;

f) test method (see Clause 4); Dynamic driving tests, static tests, other method or calculation. For calculation the verified tests shall be described;

g) type of the tested vehicle;

h) type and dimensions of the tested vehicle body;

i) identification marking of the tested vehicle;

j) tested according to Code L or XL;

k) max payload of the vehicle;

l) test value *P*;

m) front wall:

   1) description of the design with photo from outside and inside;

   2) test load;

   3) deflection at tests in mm;

   4) deflection after tests;

n) rear wall:

   1) description of the design with photo from outside and inside;

   2) test load;

3) deflection at tests in mm;

4) deflection after tests;

o) side wall:

1) description of the design with photo from outside and inside;

2) number of stanchions per side if applicable;

3) number and design of drop-sides per side if applicable;

4) number of laths per section with dimensions and material if applicable;

5) test loads;

6) deflection at tests in mm;

7) deflection after tests;

p) other relevant information;

It is hereby certified that the tested vehicle body complies with the test requirements set up in EN 12642.

q) place and date;

r) signature of the person responsible for the tests;

s) printed name of the person responsible for the tests.

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