

SLOVENSKI STANDARD

SIST EN 12642:2007

01-januar-2007

Nadomešča:
SIST EN 12642:2004

Zaščita tovora na cestnih vozilih - Vrsta nadgradnje gospodarskih vozil - Minimalne zahteve

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

Ladungssicherung auf Straßenfahrzeugen - Aufbauten an Nutzfahrzeugen - Mindestanforderungen

Arrimage des charges à bord des véhicules routiers - Structure de la carrosserie des véhicules utilitaires - Exigences minimales

Ta slovenski standard je istoveten z: EN 12642:2006

ICS:

43.080.01	Tovorna vozila na splošno	Commercial vehicles in general
55.180.99	Drugi standardi v zvezi z distribucijo blaga s prevozom	Other standards related to freight distribution of goods

SIST EN 12642:2007

en,fr,de

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EUROPEAN STANDARD

EN 12642

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2006

ICS 43.080.10

Supersedes EN 12642:2001

English Version

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

Arrimage des charges à bord des véhicules routiers -
Structure de la carrosserie des véhicules utilitaires -
Exigences minimales

Ladungssicherung auf Straßenfahrzeugen - Aufbauten an
Nutzfahrzeugen - Mindestanforderungen

This European Standard was approved by CEN on 11 September 2006.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 12642:2006) has been prepared by Technical Committee CEN/TC 119 “Swap bodies for combined 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 April 2007, and conflicting national standards shall be withdrawn at the latest by April 2007.

This document supersedes EN 12642:2001.

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

The aim of this revision is to introduce the definition of: Reinforced vehicle body structures able to take up a part of the forces to secure the cargo, an additional securing of cargo using lashing materials can be necessary and has to be determined by the consignor, the operator or the driver.

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1 Scope

This European Standard applies to body structures on commercial vehicles and on trailers with a maximum total weight of more than 3 500 kg.

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 does not apply to swap bodies, nor to box type vans, i.e. vehicles where the driver cabin and the cargo space form one unit.

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.

EN 12640, *Securing of cargo on road vehicles — Lashing points on commercial vehicles for goods transportation — Minimum requirements and testing*

EN 12641-2, *Swap bodies and commercial vehicles — Tarpaulins — Part 2: Minimum requirements for curtainsiders*

ISO 15037-2, *Road vehicles — Vehicle dynamics test methods — Part 2: General conditions for heavy vehicles and buses*

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3 Terms and definitions

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

3.1

standard vehicle body

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

3.2

reinforced vehicle body

vehicle body, having a reinforced structure, and complying with the minimum requirements of 5.3 (performance code XL according to Table 1)

4 General requirements

Verification of conformity to this standard shall be provided either by static testing or by dynamic driving tests or by calculation.

Where the verification is carried out by testing and where body structures are produced in series (structures of the same design), type testing on one lorry or trailer, for which the structure has been designed is sufficient.

Where body structures are produced individually a calculation or test of the complete structure is required.

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

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which have, before, been calculated or tested with positive results. 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 this standard.

5 Testing

5.1 General

Table 1 gives an overview of the static test conditions, the details of which are specified in 5.2 and 5.3.

Table 1 — Static test conditions

Component		Standard structure code L	Reinforced structure code XL
Front wall	Requirement	0,4 <i>P</i> and max. limit	0,5 <i>P</i> without max. limit
	Section	5.2.2	5.3.2
Rear wall	Requirement	0,25 <i>P</i> and max. limit	0,3 <i>P</i> without max. limit
	Section	5.2.3	5.3.3
Side walls	Requirement	up to 0,3 <i>P</i>	0,4 <i>P</i> ^a
	Section	5.2.4	5.3.4

^a Except for double-decker.

5.2 Standard vehicle bodies (code L)

5.2.1 Test conditions

5.2.1.1 General

The following outlines the test conditions for standard vehicle body structures. These test conditions are designated by performance code "L".

Vehicle body structures shall be tested in the condition in which they are designed to be used. Moreover, if they are equipped with removable components, these components shall be in position.

In the following test requirements specified, the following letters shall have the following meanings:

- *P* the weight force (in daN) of the vehicle to be tested at the authorised payload;
- *F* the force of pressure (in MPa).

In every test the test load shall be applied for at least 5 min.

5.2.1.2 Approval criteria

After finishing the tests applicable under Clause 5, the body structure shall show neither permanent deformation nor other changes which would impair its intended use; i.e. the body structure continues to work properly.

The static testing of standard structures shall be conducted using the test rigs specified in 5.2.2 to 5.2.4 or as air bag tests.

5.2.2 Strength of front wall

The front end wall is tested with a test force of $0,4 P$, the maximum however being 5 000 daN. The inner face of the front end wall to be tested shall be subjected to a test force uniformly distributed over the entire surface.

5.2.3 Strength of rear and end wall

The rear end wall is tested with a test force of $0,25 P$, the maximum however being 3 100 daN. The inner face of the rear end wall to be tested shall be subjected to a test force uniformly distributed over the entire surface.

5.2.4 Strength of side walls

5.2.4.1 Box type bodies

Each side wall is tested with a test load of $0,3 P$. The inner surface of each side wall to be tested shall be subjected to the test force uniformly distributed over the entire surface. The rear walls may be closed. In the case of symmetrical construction, one side wall only needs to be tested.

5.2.4.2 Open sided types with side-boards and cover/stake body

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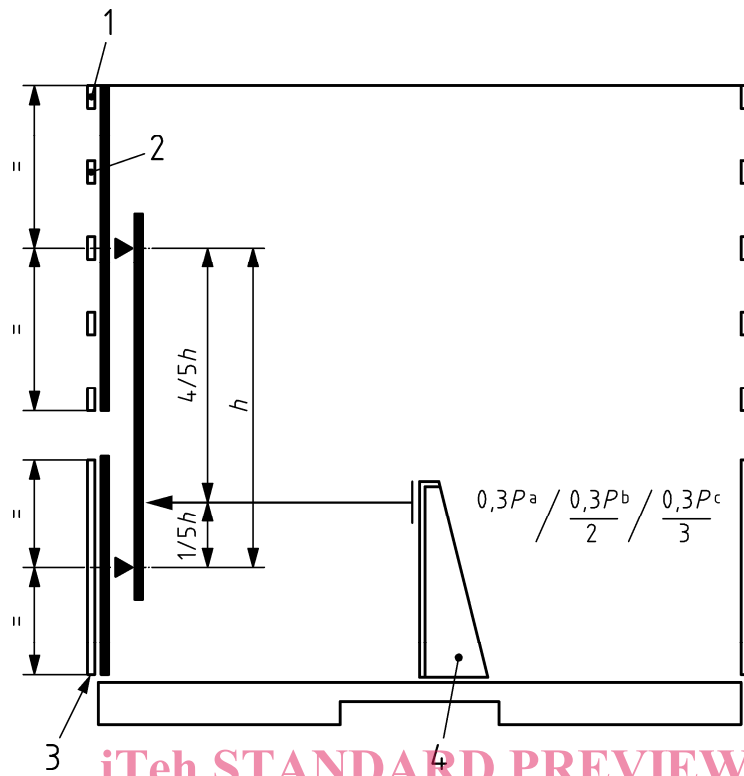
5.2.4.2.1 General <https://standards.iteh.ai/catalog/standards/sist/d405f9f1-044b-4b02-b991-3e75bb85ab4e/sist-en-12642-2007>

The total test force to be applied to each side wall shall be $0,3 P$. In the case of symmetrical side walls, one side wall only needs to be tested. The test can be carried out either as specified under 5.2.4.2.2 or under 5.2.4.2.3.

5.2.4.2.2 Testing with test rig

The centre of the load of $0,3 P$ to be applied shall be so arranged that $0,24 P$ is applied to the lower rigid part of the side wall and simultaneously $0,06 P$ is applied to the rest of the side wall. In so doing the test, the rig shall not obtain support from the body stake(s). The test shall be carried out with the maximum height of rigid side board provided.

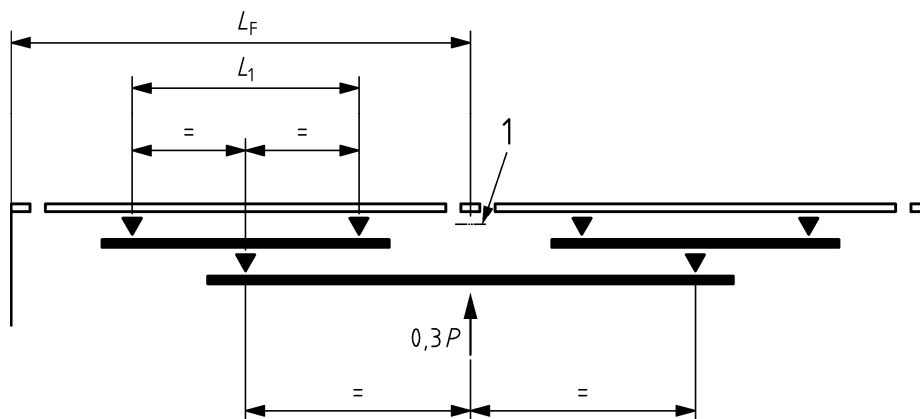
The reaction forces shall be applied to the base structure. Typical examples of test rigs are shown in Figures 1 to 6.



Key

- 1 tarpauline roof – frame see Figures 1 and 2
- 2 inserted lath see Figures 3 and 4
- 3 wall see Figures 5 and 6
- 4 support in the floor structure

Figure 1 — Test rig for a side wall consisting of a rigid side board and lathing



Key

- 5 no contact with stake allowed

Figure 2 — Side wall consisting of 2 sections - test rig for testing a complete side wall

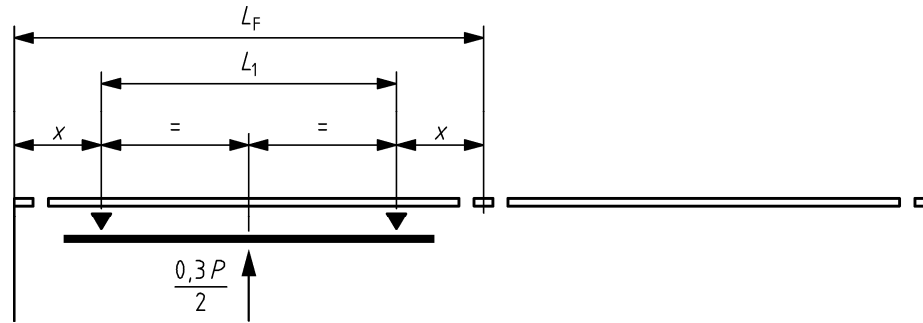
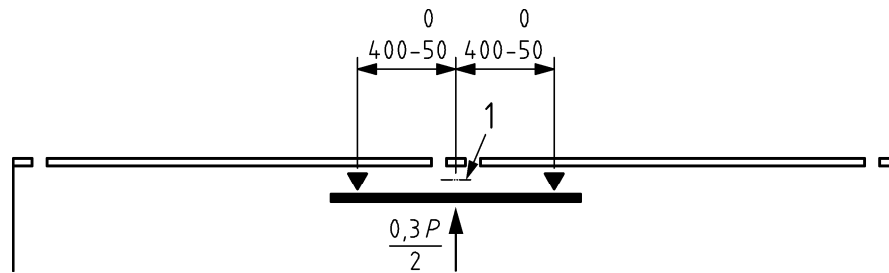


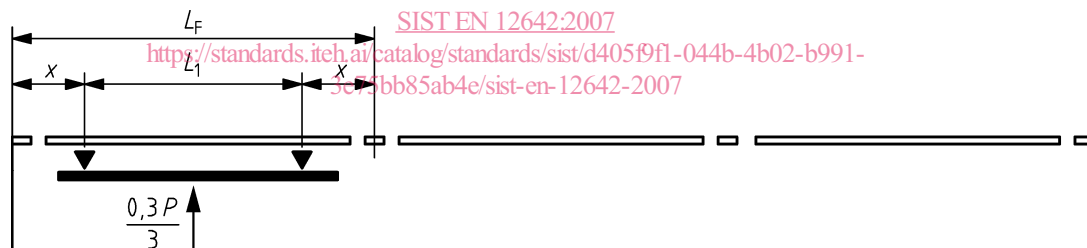
Figure 3 — Side wall consisting of 2 sections - test rig for testing only one section of the side wall



Key

- 1 contact of stake not permitted

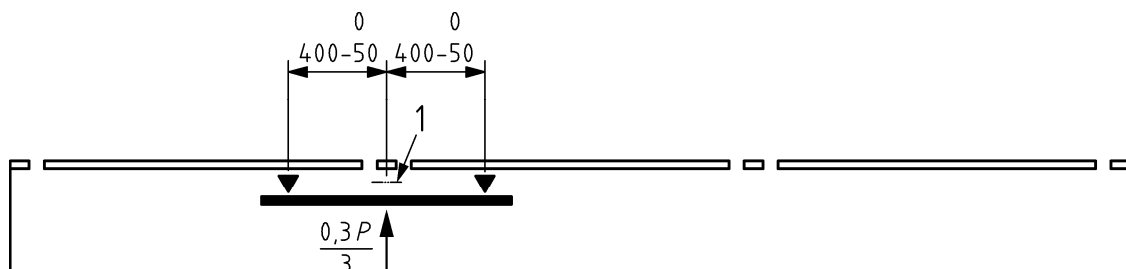
Figure 4 — Side wall consisting of 2 sections - test rig for testing a central stake (required as complementary test if testing is done in accordance with Figure 3)



Key

- 1 $L_1 = 0,6 L_F$ (L_F = section length)

Figure 5 — Side wall consisting of 3 sections - test rig for testing only one section of the side wall



Key

- 1 contact of stake not permitted

Figure 6 — Side wall consisting of 3 sections - test rig for testing a central stake (required as complementary test if testing is done in accordance with Figure 5)