



SLOVENSKI STANDARD
SIST EN 12642:2004
01-september-2004

Zaščita tovora pri cestnih vozilih – Struktura komercialnih 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 a bord des véhicules routiers - Structure de la carrosserie des véhicules utilitaires - Prescriptions minimales

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Ta slovenski standard je istoveten z: EN 12642:2001

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

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EUROPEAN STANDARD

EN 12642

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2001

ICS 43.080.10

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 -
Prescriptions minimales

Ladungssicherung auf Straßenfahrzeugen - Aufbauten an
Nutzfahrzeugen - Mindestanforderungen

This European Standard was approved by CEN on 12 November 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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EN 12642:2001 (E)

Content

	page
Foreword	3
1 Scope	4
2 Normative references	4
3 General requirements	4
4 Testing	4
4.1 Testing conditions	4
4.2 Strength test of end walls	4
4.3 Strength test of side walls	5

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Foreword

This European Standard 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 June 2002, and conflicting national standards shall be withdrawn at the latest by June 2002.

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

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EN 12642:2001 (E)**1 Scope**

This standard specifies minimum requirements for the body structure (e.g. side walls, end walls) and provides suitable test methods, to make sure, that the body structure of the vehicle is able to take over the securing of cargo, if the cargo is not secured by using lashing materials.

This standard is valid for the body structure on commercial vehicles and trailers with a maximum total mass (R) over 3,5 t.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest revision of the publication referred to applies (including amendments).

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

3 General requirements

Verification of conformity with this standard shall be provided either by testing in accordance with the procedures in clause 4 of this standard, or by calculation.

Where a body structure is produced in a series of structures of the same type, type approval testing will be sufficient for confirmation of conformity with this standard.

Where the structure is individually produced, calculation or testing of the complete body structure is not required, provided that all components conform to pattern body structures that have been previously confirmed as conforming (either by testing in accordance with clause 4 of this standard or by calculation) and that the effectiveness of the complete assembly can be proved to be comparable with that of the pattern body structures.

4 Testing**4.1 Testing conditions**

Testing shall be carried out under the condition in which the body structure is designed to be used and, when equipped with removable components, with these components in position.

R	maximum authorised total mass of the vehicle to be tested
P	maximum payload of the vehicle to be tested.

After finishing of the respective applicable tests according to clause 3 of this standard the body structure shall show neither permanent deformation nor other changes, which will exclude its agreed use.

4.2 Strength test of end walls**4.2.1 Testing of front end wall**

The front end wall shall be subjected to an internal loading of 0,4 P . The internal loading shall be uniformly distributed over the end wall under test.

However, the max. test load shall be 50 kN. The test load shall be applied for not less than 5 min.

4.2.2 Testing of rear end wall

The rear end wall shall be subjected to an internal loading of $0,25 P$. The internal loading shall be uniformly distributed over the end wall under test. However, the max. test load shall be 31 kN. The test load shall be applied for not less than 5 min.

4.3 Strength test of side walls

4.3.1 Box type bodies

Each side wall shall be subjected to an internal loading of $0,3 P$. The internal loading shall be uniformly distributed over the side wall under test. In the case of symmetrical construction, one side wall only needs to be tested. The test load shall be applied for not less than 5 min.

4.3.2 Open sided types (Cover/stake body type)

4.3.2.1 General

The total loading applied to each side wall shall be $0,3 P$. In the case of symmetrical construction, one side wall only needs to be tested. The test shall be carried out according to 4.3.2.2 or 4.3.2.3. The test load shall be applied for not less than 5 min.

4.3.2.2 Testing with test rig

The centre of the load of $0,3 P$ applied to each side wall 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 stakes.

The reaction forces shall be applied to the base structure. Typical examples of a test rig are shown in Figures 1 to 5.

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4.3.2.3 Lateral side-up test

The body shall be turned to rest on one longitudinal side wall so that it is supported at the bottom side rail and the corner posts and all other parts are free to deflect. The lath works shall be covered by 5 mm of plywood or equivalent to improve load distribution.

The side wall shall have a load uniformly distributed by a set of weights in such a way that $0,24 P$ is applied to the rigid part of the side wall and $0,06 P$ is applied to the lath works.

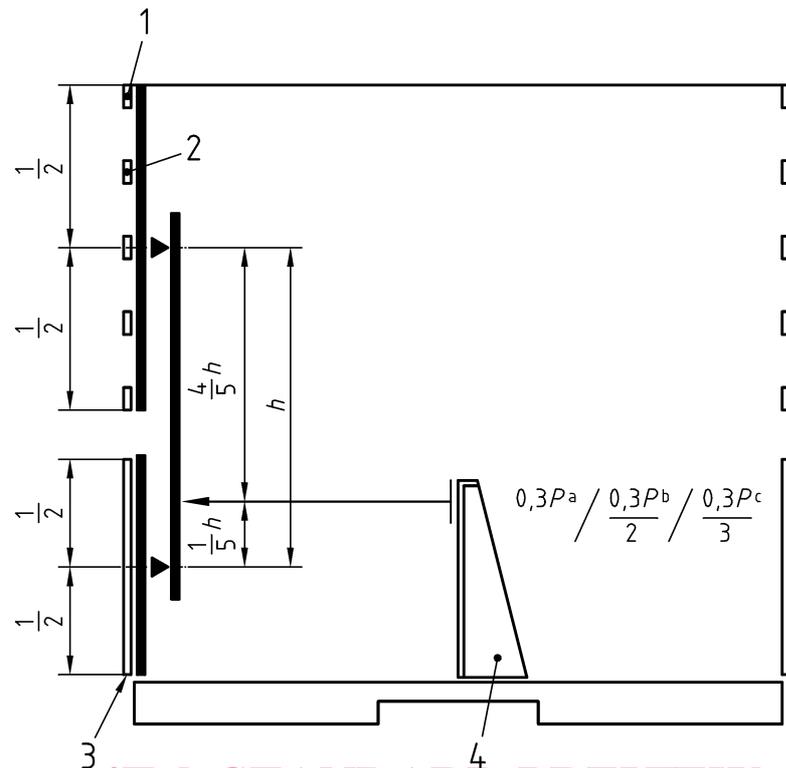
4.3.3 Curtainsiders

Fittings for securing of cargo are mandatory required for vehicles with curtainsiders. Such devices for securing of cargo shall be in accordance with EN 12640.

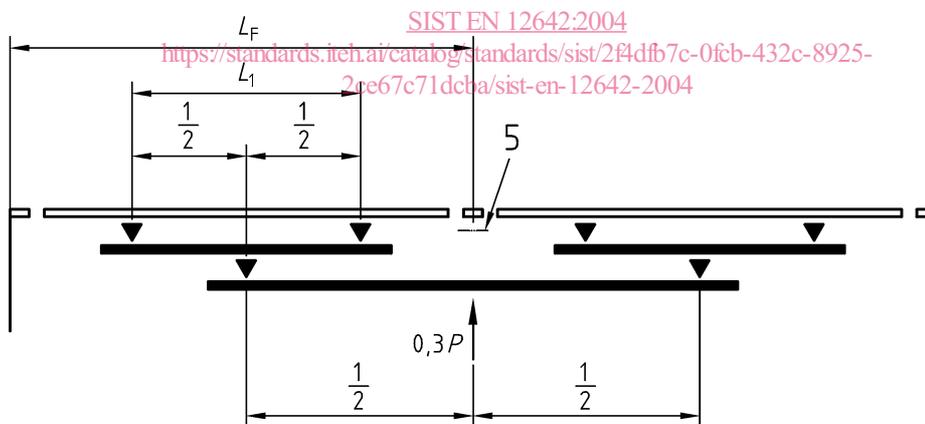
4.3.4 Drop sided body (without cover)

Each side wall shall be subjected to an internal loading of $0,3 P$. The internal loading shall be uniformly distributed over the side wall under test, the upper edge of the load being at the level of the upper edge of the side walls. If chains or similar connecting devices firmly attached to the side walls are normally fitted, they may be used for supporting assistance during testing. The test load shall be applied for not less than 5 min.

EN 12642:2001 (E)



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**Key**

- 1 Cover, roof stake
- 2 Lath
- 3 Side wall
- 4 Reaction forces applied to base structure
- 5 Contact of stake not permitted
- 6 $L_1 = 0,6L_F$ (L_F = section length)

- a $0,3 P$ See Figure 1
- b $0,3 P/2$ See Figures 2 and 3
- c $0,3 P/3$ See Figure 4 and 5

Figure 1 - Side wall consisting of 2 sections (example of a test rig for testing a complete side wall)

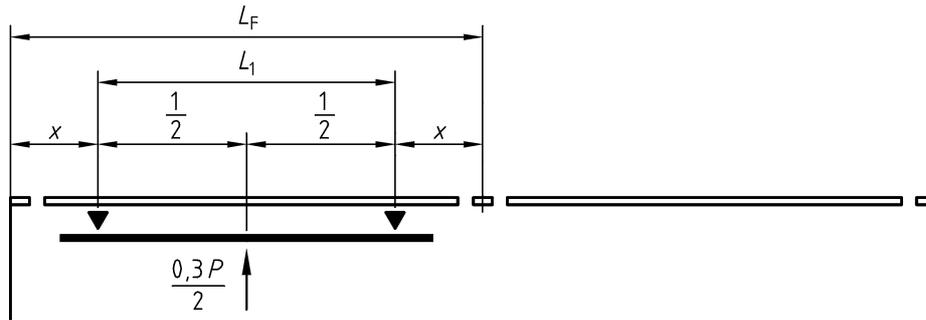
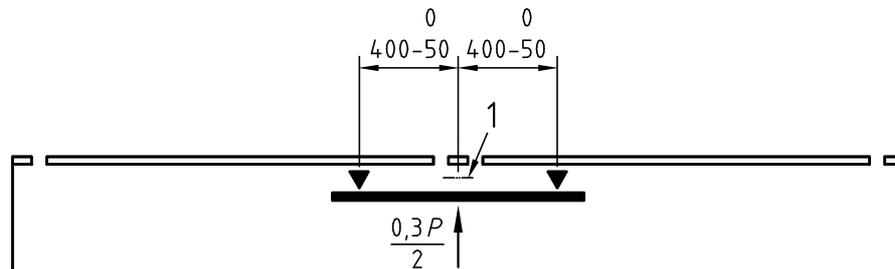


Figure 2 - Side wall consisting of 2 sections (example of a test rig for testing one section of a side wall only)



Key

- 1 Contact of stake not permitted

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Figure 3 - Side wall consisting of 2 sections (example of a test rig for testing the centre stake; in addition to test as in Figure 2)

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Key

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

Figure 4 - Side wall consisting of 3 sections (example of a test rig for testing one section of a side wall only)