



SLOVENSKI STANDARD
oSIST prEN 1853:2016
01-januar-2016

Kmetijski stroji - Prikolice z dviznim kesonom - Varnost

Agricultural machinery - Trailers with tipping body - Safety

Landmaschinen - Anhänger mit Kippaufbauten - Sicherheit

Matériel agricole - Remorques à benne basculante - Sécurité

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English Version

Agricultural machinery - Trailers with tipping body - Safety

Matériel agricole - Remorques à benne basculante -
Sécurité

Landmaschinen - Anhänger mit Kippaufbauten -
Sicherheit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 144.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European Foreword

This document (prEN 1853:2015) has been prepared by Technical Committee CEN/TC 144 “Tractors and machinery for agriculture and forestry”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 1853:1999+A1:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

Significant technical changes between this document and the previous edition (EN 1853:1999+A1:2009) are:

- Addition of hook-lift trailers;
- Addition of conveyors;
- Addition of an Annex regarding “Verification of stability by calculation”;
- Update of Normative references.

NOTE Due to lack of time and the need to respect the 3-year timeframe, some points are going to be completed during the CEN enquiry. These points are identified in notes in 3.10, 4.6.2, 4.9, 4.12.2, 6.2 and C.1.

Introduction

This document is a type-C standard as stated in EN ISO 12100.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organizations, market surveillance etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises);
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

When requirements of this type-C standard are different from those which are stated in type-A or type-B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements of this type-C standard.

prEN 1853:2015 (E)**1 Scope**

This European Standard specifies safety requirements and their verification for the design and construction of trailers with a tipping body, balanced and semi mounted, used in agriculture, as defined in 3.1. It includes also hook lift trailers, trailers with conveyor device as defined in 3.9.

This European Standard does not deal with trailers equipped with pick-up devices and/or rear spreading devices.

NOTE Trailers with load push/push-off device, batten or alternative moving floor may be removed from this standard, provided acceptance of a new work item on loader wagons and forage transport wagons (EN ISO 4254-17).

This European Standard, taken together with EN ISO 4254-1, deals with the significant hazards, hazardous situations and events relevant to agricultural trailers, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Table A.1), excepting the hazards arising from:

- hazards related to conveying devices other than those defined in 3.9.1 and 3.9.2, for example load push/push-off device;
- hazards related to the environment and road safety;
- hazards related to braking.

In addition, it specifies the type of information on safe working practices to be provided by the manufacturer.

This document is not applicable to trailers which are manufactured before the date of its publication as EN.

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 ISO 4254-1:2013, *Agricultural machinery — Safety — Part 1: General requirements (ISO 4254-1:2013)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

ISO 5676:1983, *Tractors and machinery for agriculture and forestry — Hydraulic coupling — Braking circuit*

ISO 15817:2005, *Earth-moving machinery — Safety requirements for remote operator control*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

3.1 trailer

vehicle used in agriculture only for transportation and which, through its design, is adapted and intended to be towed by a tractor or a self-propelled machine

3.1.1 balanced trailer

trailer from which no vertical load is transferred to the towing vehicle, see Figure 1

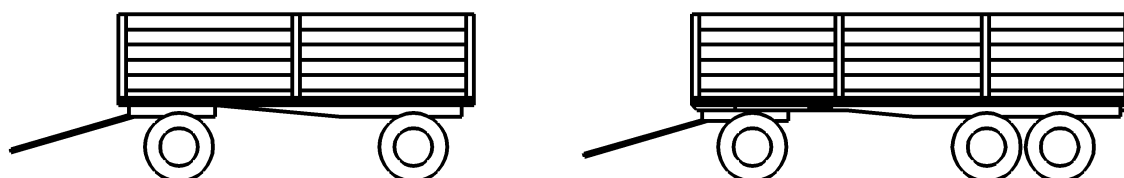


Figure 1 — Examples of balanced trailer

3.1.2 semi-mounted trailer

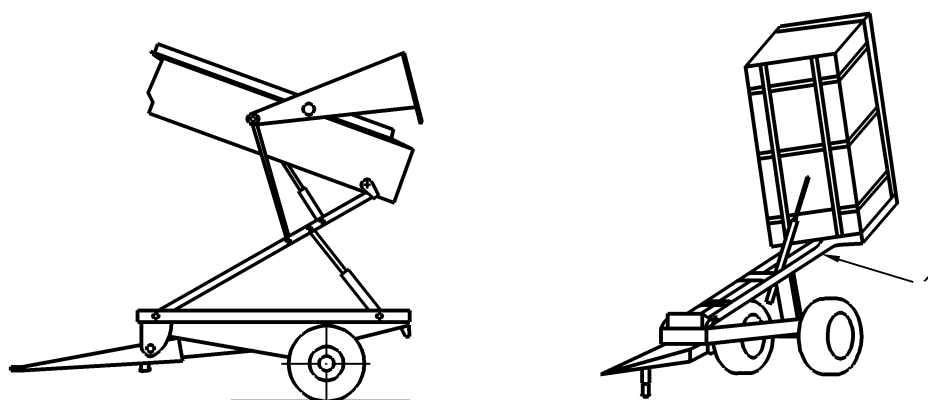
trailer from which part of vertical load is transferred to the towing vehicle, see Figure 2



Figure 2 — Examples of semi-mounted trailer

3.1.3 high-tip trailer

trailer equipped with a system to raise the tipping axis in relation to the chassis, see Figure 3



Key

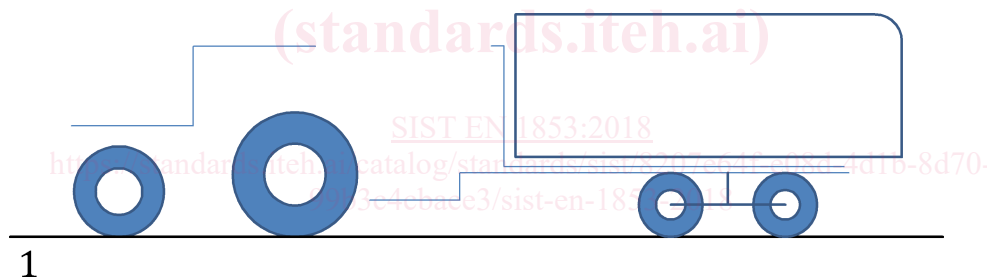
1 tipping axis

Figure 3 — Examples of high-tip trailer

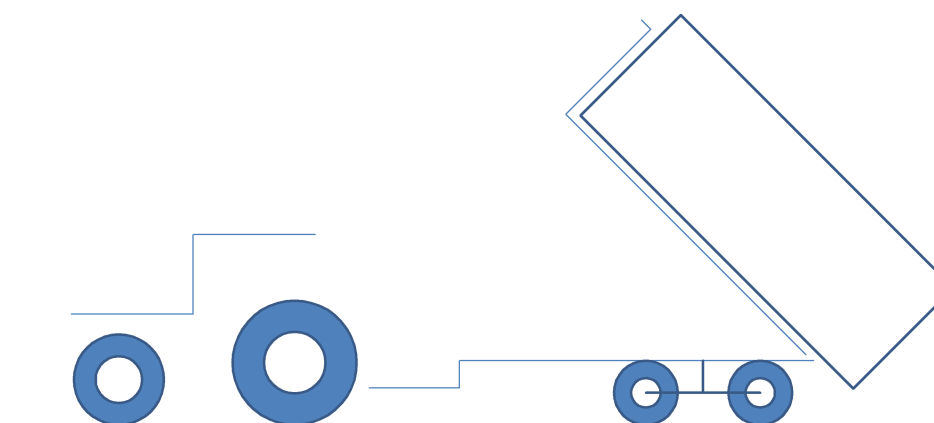
3.1.4

hook lift trailer

trailer including a hook lift system for transporting, tipping and exchanging of roll off loading platforms, e.g. containers, dump bodies, frames



a) Transporting mode



b) Tipping mode

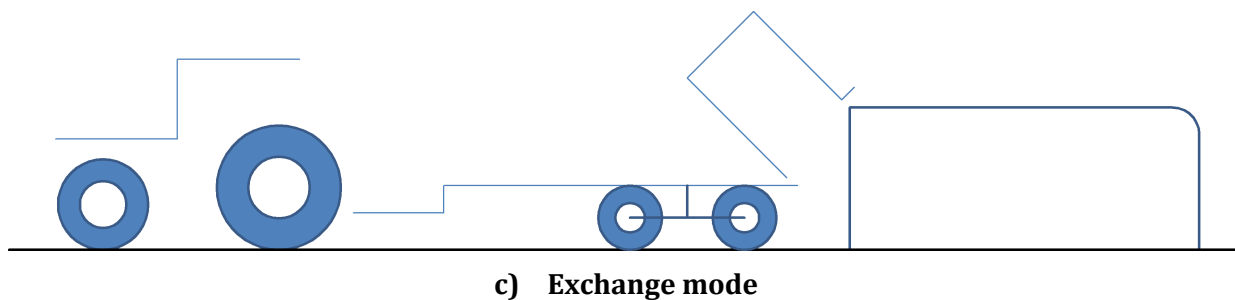
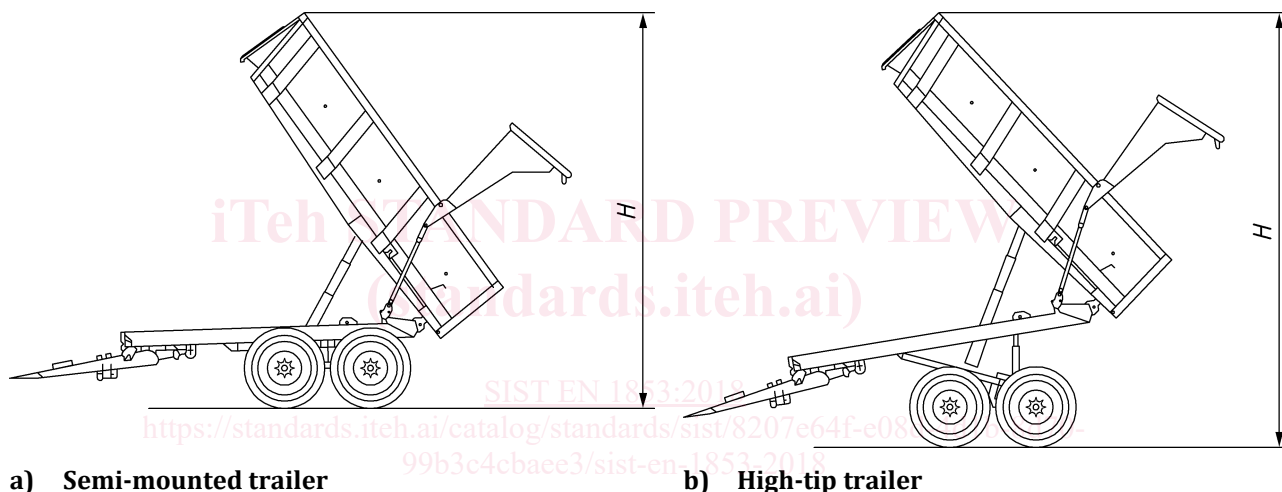


Figure 4 — Example of hook lift trailer

3.4

highest tipping position

vertical distance between ground plane and the highest part of the raised load body when in maximum tipping position, as shown in Figure 4



Key

H highest tipping position

Figure 5 — Highest tipping position

3.5

sideboard

fixed or movable wall that constitutes the load retaining side of the body and which may be hinged on the platform of the trailer

3.6

load body

volume consisting of a platform with a front wall, two sideboards and a gate to contain the product for its transport and discharging

[SOURCE: EN 690, 3.2 modified]

3.7

tipping

action that allows the load carried in the trailer to be discharged by tilting the body

Note 1 to entry: The tipping can be lateral or to the rear.

prEN 1853:2015 (E)**3.9****conveyor device**

device able to convey/move/carry the material in the load body to the discharge gate, that are of different types: such as scraper floor, conveyor belt, load push/push-off device or alternative moving floor

Note 1 to entry: A combination of these devices is possible.

[SOURCE: EN 690, 3.3 modified]

3.9.1**scraper floor**

conveyor device made by two or more dragging chains and by a number of slats

[SOURCE: EN 690, 3.3.1]

3.9.2**conveyor belt**

conveyor device made by belt

[SOURCE: EN 690, 3.3.2]

3.9.3**load push/push-off device**

conveyor device formed by a moveable wall for pushing the material in the load body towards the discharge opening

[SOURCE: EN 690, 3.3.3 modified]

3.9.4**alternative moving floor**

conveyor device made by alternative moving battens

3.10**automatic blocking suspension device**

system that acts automatically to prevent the pitch upwards and increases the stability of the trailer

NOTE To be clarified in link with Clause 4 during the CEN enquiry.

4 Safety requirements and/or protective/risk reduction measures**4.1 General**

Machinery shall comply with the safety requirements and/or protective measures of this clause.

In addition, the machine shall be designed according to the principles of EN ISO 12100 for relevant but not significant hazards which are not dealt with by this document.

Unless otherwise specified in this standard, the trailer shall comply with the requirements of EN ISO 4254-1:2013 and with EN ISO 13857:2008, Table 1, Table 3 and Table 4.