



SLOVENSKI STANDARD
oSIST prEN 18111:2024
01-december-2024

Blagajne - Varnost

Cash desk - Safety

Kassentische - Sicherheit

Meuble de caisse - Sécurité

Ta slovenski standard je istoveten z: prEN 18111

ICS:

13.100	Varnost pri delu. Industrijska higiena	Occupational safety. Industrial hygiene
13.180	Ergonomija	Ergonomics

oSIST prEN 18111:2024

en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 18111

October 2024

ICS 13.180

English Version

Cash desk - Safety

Meuble de caisse - Sécurité

Kassentische - Sicherheit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 148.

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.

This draft European Standard was established by CEN 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard. [18111:2024](https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024)

<https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024>



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword	4
Introduction	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 Safety requirements and/or protective measures	7
4.1 General.....	7
4.2 Ergonomic aspects.....	8
4.2.1 Work places	8
4.2.2 Work spaces.....	14
4.2.3 Handling area	26
4.2.4 Recommendations for positioning of typical devices.....	30
4.2.5 Fields of vision	32
4.3 Conveyor belt	33
4.3.1 General.....	33
4.3.2 Safety of the belt and housing	34
4.3.3 Belt hygiene	34
4.4 Electrical components and installation	34
4.4.1 General.....	34
4.4.2 Motor	35
4.4.3 Conveyor belt control box.....	35
4.4.4 Monitoring the position of the safety lid by sensors.....	35
4.4.5 Sensor for automatic mode	36
4.4.6 Installation of cables.....	37
4.5 Furniture.....	37
4.5.1 Chair.....	37
4.5.2 Footrests	38
4.5.3 Standing-aid.....	38
4.6 Height adjustable cask desks.....	38
5 Verification of the safety measures.....	38
6 Information for use	41
6.1 General.....	41
6.2 Daily inspections.....	41
Annex A (informative) Accessibility for disabled customers.....	42
Annex B (informative) List of significant hazards.....	45
Annex C (informative) Environmental aspects	48
C.1 General.....	48
C.2 Temperature.....	48
C.3 Wind and hygienic shield.....	48

C.4	Scanner	48
C.5	Noise	49
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Regulation (EU) 2023/1230 aimed to be covered		51
Bibliography		53

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[oSIST prEN 18111:2024](https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024)

<https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024>

prEN 18111:2024 (E)**European foreword**

This document (prEN 18111:2024) has been prepared by Technical Committee CEN/TC 148 “Continuous handling equipment and systems - Safety”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[oSIST prEN 18111:2024](https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024)

<https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024>

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/cashier (small, medium and large enterprises);
- machine users/cashier (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises);
- consumers (in the 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.

[oSIST prEN 18111:2024](https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024)

<https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024>

prEN 18111:2024 (E)**1 Scope**

This document deals with all significant hazards, hazardous situations or hazardous events relevant to cash desks, when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer.

This document defines the requirements for the design of cash desks according to 3.1 in retail industries irrespective of the sales area of the shop. This document is also applicable to cash desks without conveyor belts.

This document does not consider the equipment for the registration and payment process (i.e. scanner, printer, screens), except of recommendations of the placement for such equipment.

This document is not applicable to the machinery or machinery components manufactured before the date of its publication.

This document does not consider cash desks operated by handicapped cashiers.

Information concerning cash desks for disabled customers could be find in Annex A.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1335-1:2020+A1:2022, *Office furniture - Office work chair - Part 1: Dimensions - Determination of dimensions*

EN 60204-1:2018, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2016)*

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

EN ISO 13850:2015, *Safety of machinery - Emergency stop function - Principles for design (ISO 13850:2015)*

EN ISO 14738:2008, *Safety of machinery - Anthropometric requirements for the design of workstations at machinery (ISO 14738:2002, including Cor 1:2003 and Cor 2:2005)*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at <http://www.electropedia.org/>

— ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 cash desk

cash desks are characterized in a way that goods are placed by the customer on a stationary or moving surface (i.e. conveyor belt), separated by the cashier and fed into a registration process

Note 1 to entry: After registration the goods are placed again on a moving or stationary surface and finally seat for and picked up by the customer.

3.2

small handling area

area within reach of both forearms in front and lateral of the body to manipulate goods (i.e. scanning) and high frequency operation of equipment

Note 1 to entry: All strenuous movement of the upper body shall be avoided.

3.3

extended handling area

area within reach of both arm in front and lateral of the body to manipulate goods and low frequency operation of equipment

3.4

conveyor belt control box

main element controlling the operation of the belt

3.5

detection tasks

tasks in which the cashier is alerted by the system

3.6

control tasks

tasks in which the cashier actively seeks information

3.7

small

small goods, are goods, which can be handled regularly within forearm's reach (e. g. a bottle of milk, a paperback book, a pair of shoes, a brush)

3.8

low weight

goods with a weight regularly below 5 kg (e. g. a bottle of milk, a paperback book, a pair of shoes, a brush)

3.9

heavy

goods with a regularly over 5 kg (e. g. a sixpack of 1,5 L beverage bottles, a 5 L bucket of paint)

3.10

large

goods which have to be handled within arm's reach (e. g. a sixpack of 1,5 L beverage bottles, a A2 sheet of craft paper, a coat, a cable drum)

4 Safety requirements and/or protective measures

4.1 General

Machinery shall comply with the safety requirements and/or protective/risk reduction measures of this clause. In addition, the machine shall be designed according to the principles of EN 12100:2010 for relevant but not significant hazards which are not dealt with by this document.

All parts of the cash desk shall not have sharp edges and corners and shall not contain harmful substances (i.e. asbestos, critical plasticizer).

prEN 18111:2024 (E)

4.2 Ergonomic aspects

4.2.1 Work places

4.2.1.1 General

Staff at cash desks are exposed to high physical and mental stress. The most important stress factors are:

- Strain on the musculoskeletal system due to one-sided strain on the muscles as a result of unfavourably and unfavourable arrangement of equipment and controls at the workplace e.g. lifting and moving goods, large gripping distances, unfavourable operating heights and angles, etc.).
- Workplaces that are not designed for the body (lack of legroom, unfavourable working heights, enforced postures etc.).
- Mental stress, especially at peak times, in connection with incorrect price entry.
- Customer behaviour.

Stress caused by environmental influences, see Annex C for measures to reduce stress.

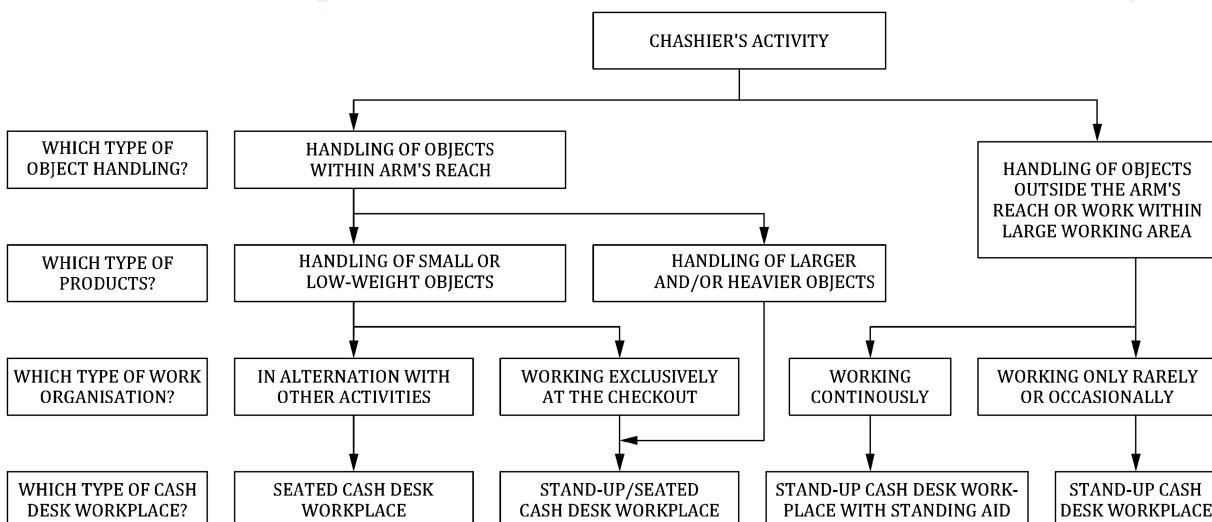
Cash desks shall therefore be designed in such a way that they comply with the principles of work physiology, according to EN ISO 14738:2008.

The floor in the checkout shall have a completely even surface and shall not be slippery.

The following principles for the design of cash desks are aimed at minimizing the strain on cashiers to a minimum in order to prevent health hazards and impairments.

Only the instruction of the cashier staff enables the ergonomically correct use of the cashier workplace, e.g. correct adjustment of the cashier's work chair, ergonomically correct operation of the equipment and controls.

Figure 1 explains the principle to find the correct type of cash desk for its application. A height adjustable cash desk can be used to accommodate different work loads by allowing different working postures.



**Figure 1 — Scheme for determining the type of cash desk workplace
(Explanation of low-weight and heavy objects)**

4.2.1.2 Seated cash desk workplaces

The work surface heights for seated cash desk workplaces shall be:

- For mostly small and light goods (regularly below 5 kg, rarely above): Top edge of work surface 750 mm to 825 mm above floor or platform (according to Figure 2).

The dimensions of the legroom for seated (and as well for stand-up/seated) cash desk workplaces (according to Figure 2) shall be:

- Height at least 650 mm, for seated workplaces in relation to the floor (platform) and the lower edge of the work surface;
- Width at least 800 mm;
- Footwell depth at least 600 mm at floor level (platform).

Depth of knee space below the lower edge of the work surface at least 450 mm.

A free space for the feet shall be ensured. For the feet there shall be a height of minimum 225 mm without any equipment installed.

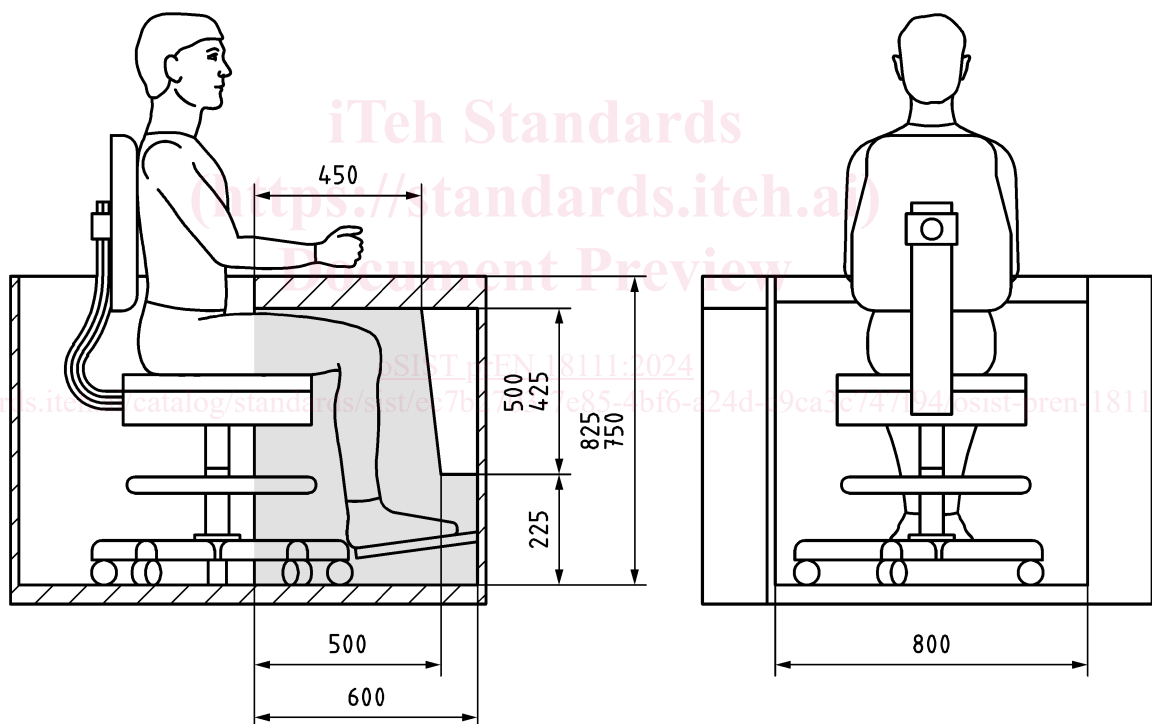


Figure 2 — Seated cash desk working place

prEN 18111:2024 (E)**4.2.1.3 Seated / stand-up cash desk workplaces**

The work surface heights for seated / stand-up cash desks shall be:

- For mostly larger and/or heavier goods: Top edge of work surface 960 mm to 1010 mm as shown in Figure 3a).

The dimensions of the legroom for seated / stand-up (and as well for seated) cash desks (according to Figure 3a) and 3b)) shall be:

- Height at least 650 mm, for seated workplaces in relation to the floor (platform) and the lower edge of the work surface;
- Width at least 800 mm;
- Footwell depth at least 600 mm at floor level.

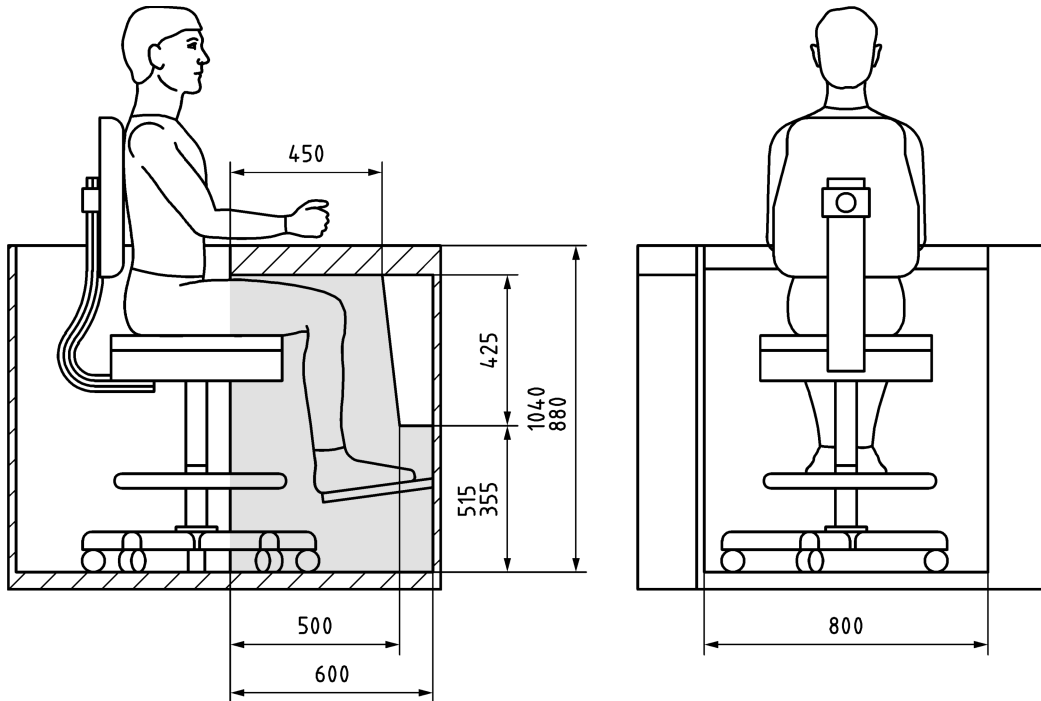
Depth of knee space below the lower edge of the work surface at least 450 mm.

A free space for the feet shall be ensured. For the feet there shall be a height of minimum 225 mm without any equipment installed.

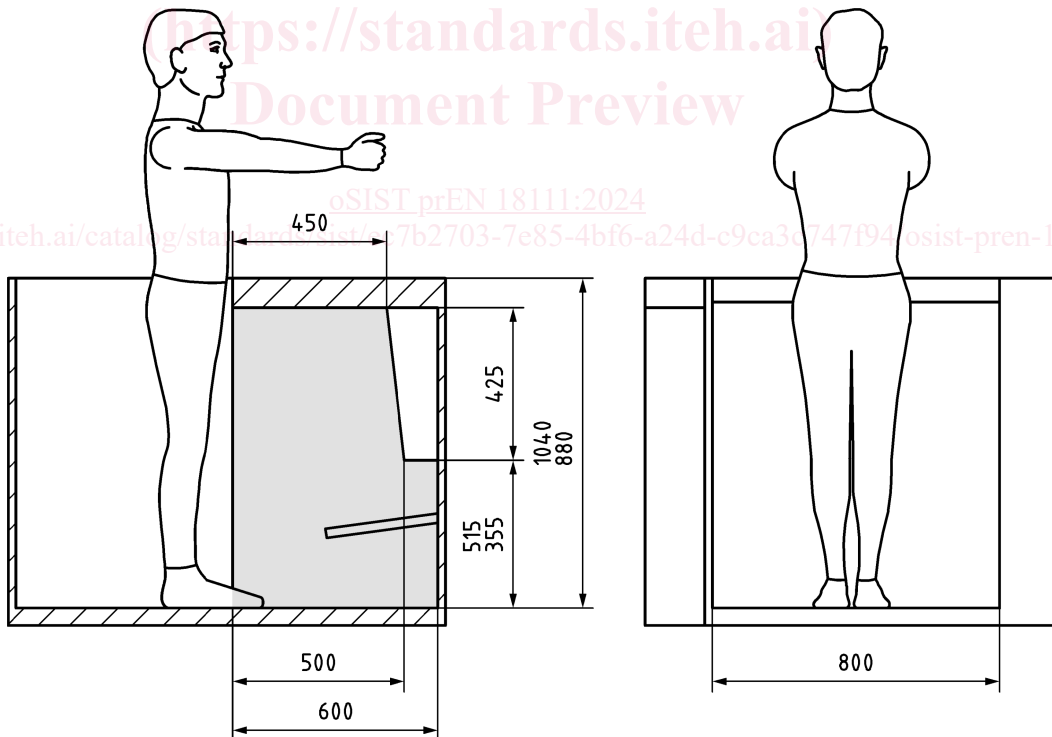
iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[oSIST prEN 18111:2024](https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024)

<https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024>



a) Seated / Stand-up cash desk working place with cashier seated



b) Seated / Stand-up cash desk working place with cashier standing

Figure 3 — Seated / stand-up cash desk workplaces

prEN 18111:2024 (E)**4.2.1.4 Stand-up cash desk workplace (with or without standing seat)**

The work surface heights for stand-up cash desk workplaces shall be:

- For mostly larger and/or heavier goods: Top edge of work surface between 880 mm and 960 mm.

The dimensions of the legroom for stand-up cash desk workplaces shall be:

- Standing cash desks without standing seat (Figure 4a)).

Footwell depth of 210 mm, footwell height of 225 mm over the width of the free unobstructed area when standing: 800 mm.

- Standing cash desks with standing seat (Figure 4b)): Foot space depth at least 420 mm, knee space depth at least 240 mm over the width of the free, unobstructed area when standing with standing seat: 800 mm).

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[oSIST prEN 18111:2024](https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024)

<https://standards.iteh.ai/catalog/standards/sist/ec7b2703-7e85-4bf6-a24d-c9ca3c747f94/osist-pren-18111-2024>