SLOVENSKI STANDARD
SIST-TP CEN/TR 17202:2018

01-junij-2018

Pohištvo - Smernice za splošno varnost - Ujetje prstov

Furniture - General safety guidelines - Entrapment of fingers

Möbel - Allgemeine Sicherheitsleitfäden - Fingerfangstellen

Ameublement - Lignes directrices générales de sécurité - Coincement des doigts

Ta slovenski standard je istoveten z: **CEN/TR 17202:2018**

ICS:

97.140 Pohištvo Furniture

SIST-TP CEN/TR 17202:2018 **en**

TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

CEN/TR 17202

April 2018

ICS 97.140

English Version

Furniture - General safety guidelines - Entrapment of fingers

Ameublement - Lignes directrices générales de sécurité - Coincement des doigts

Möbel - Allgemeine Sicherheitsleitfäden - Fingerfangstellen

This Technical Report was approved by CEN on 2 February 2018. It has been drawn up by the Technical Committee CEN/TC 207.

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

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

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

Ref. No. CEN/TR 17202:2018 E

Contents

Page

European foreword

This document (CEN/TR 17202:2018) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

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.

Introduction

This document is a non-normative CEN publication which provides guidance information on the common hazards that should be taken into consideration when developing safety standards for furniture.

They have been drawn up by a working group of experts set up by CEN/TC 207 with the prime objective of harmonizing the approach to hazard, risk assessment and injury prevention. These guidelines give recommendations on preventative measures to avoid injuries that could be caused by furniture.

The standards developed by CEN/TC 207 cover a wide range of users, including vulnerable group such as children and the elderly. Furniture is a group that has large variations between different products, however, many safety hazards associated with this diverse group of products are very similar. These guidelines identify many of these safety hazards and give details that enable similar safety principles to be applied to the drafting of standards across the group of products.

The information given in these guidelines reflects the state of the art at publication. Standards and regulations will continuously be developed. Other sources may also provide useful information for the reader.

How to use this guideline

The safety recommendations and test methods given are intended to give guidance and to lead to consistency when writing safety standards for furniture. It is recommended to use these guidelines when drafting standards.

The safety recommendations detailed do not constitute an exhaustive set that can be applied to all furniture products. The application to particular products should be evaluated by experts.

In these guidelines rationales are given to explain the potential hazard. Wherever possible, recommendations, test equipment and test methods are given which can be used when drafting standards. The terminology in these guidelines is not the one required for standards: the word *'shall'* is meant to be used in standards, not *'should'* as given in these guidelines.

CEN/TC 207 is, wherever possible when writing new standards or revising existing standards, drafting their standards on a hazard based format.

This document should enable working groups to draft their standards in a hazard based format by proceeding in the following way:

— identification of the hazards and assessment of the risk;

— definition of the recommendations to address an identified hazard and risk;

— definition of relevant test methods to check that the recommendations are met;

— provision of an Annex which contains anthropometric data for the inclusion of the recommendations.

1 Scope

This document, contains the general safety philosophy, a guideline on the safety assessment that experts are recommended to use when drafting standards and guidance on specific general safety recommendations, and test methods, relating to hazards caused by holes and openings that are common to all types of furniture.

The Technical Report contains guidance that is intended to be used by designers and manufacturers to assess any inherent risk within their products.

The Technical Report is intended to address common risks posed by items of furniture to adults and children over 36 months old. For products designed for children under 36 months attention is drawn to CEN/TR 13387 series of documents.

Safety risks addressed by this document are hazards caused by holes and openings and specifically:

— entrapment of fingers;

— shearing or compression/crushing of fingers;

— sharp edges.

Safety risks not addressed by this document, because they are considered outside of the scope of this report and associated with specific product types, but can be caused by holes and openings include:

— entrapment of head and neck;

— entrapment of limbs;

These guidelines do not cover all types of hazards and risks, such as inappropriate use of products, or inadequate supervision of children.

NOTE Attention is drawn to the importance of ensuring that all other potential hazards relevant to the product e.g. stability, strength and the effects of electrical power etc., are fully addressed in the process of standards writing.

This document has one Annex:

Annex A (informative) – Anthropometric data.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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
harm
injury or damage to the health of people, or damage to property or the environment

3.2
hazard
potential source of harm

3.3
hazard characterisation
quantitative evaluation of the nature of the adverse health effects following exposure to a risk source(s)

3.4
hazard identification
identification of a risk source(s) capable of causing adverse effect(s)

3.5
intended use
use in accordance with information provided together with a product

3.6
risk
combination of the probability of occurrence of harm and the severity of that harm

Note 1 to entry: The probability of occurrence includes the exposure to a hazardous situation, the occurrence of a hazardous event, and the possibility to avoid or limit the harm.

3.7
risk analysis
systematic use of available information to identify hazards and to estimate the risk

3.8
risk assessment
overall process comprising a risk analysis and a risk evaluation

Note 1 to entry: In practical terms this means the evaluation, including the identification of the related uncertainties, of the likelihood and severity of an adverse effect(s) following exposure under defined means to a risk source(s).

3.9
risk evaluation
procedure based on the risk analysis to determine whether tolerable risk has been exceeded

4 General safety

Safety is often a balance between being safe from injury and the other demands of an item of furniture, for example, ensuring that the item is fit for purpose as well as meeting consumers' needs and expectations.

Attention should be paid to:

— the intended users of the product, i.e. adults, children;

— the intended and foreseeable use of the product, bearing in mind that many products can be used in environments where both children and adults are present.

Items of furniture should be designed to be safe. Hazards should be eliminated wherever possible. For cases where a hazard cannot be eliminated or sufficiently minimized – by design or safeguards – product related information should be given. However product related information should not be used as an alternative to safe design.

5 Hazard and risk assessment

5.1 Introduction

The approach to hazard risk assessment described in this clause should ensure that the specific hazards addressed by this document are assessed when developing safety standards for furniture.

This clause details a process to identify these hazards and to assess the risks of injury to the user associated with furniture.

When developing a new furniture safety standard, revising an existing one or working with a standard where safety needs to be addressed, it is necessary to conduct a hazard and risk assessment. This involves gathering information from a variety of sources such as accident data, RAPEX and recall notifications, legal reports and other reliable sources of information such as expert opinion.

Additionally, reference should be made to relevant furniture safety guidelines, publications and safety standards.

The hazard risk assessment methodology described in this clause may also be used to assist designers and manufacturers in the development of new product.

5.2 Methodology

A hazard and risk assessment table is provided for the hazards covered by this document.

The table does not list all the known hazards that have been identified through review of available guides and Standards, specifically those for children under 36 months, however standards for products specifically designed for this age group should reference the CEN/TR 13387 series of guidance documents. Additional hazards not listed in the table may be associated with certain product categories and should also be considered. The methodology can be used for all potential risks.

Before the hazard and risk assessment table can be completed, all available data, such as accident data, RAPEX and recall notifications, legal reports and other reliable sources of information, such as expert opinion, require analysis. There is also a need to fully review the products available and to understand how a user will interact with a product. It is also necessary to understand the type of injuries that can occur and how they are caused, as well as how accidents themselves occur and the likely outcomes.

Table 1 — Hazard and risk assessment table

Hazard List	Hazard identification						Hazard analysis				Risk level	Risk management measures				Comments
	Accident data	RAPEX	Product recalls	Reported incidents	Product reports	Expert opinion	Minor or reversible injuries	Serious and reversible, or minor and irreversible injuries	Serious and irreversible injuries	Death	L (Low) – M (Medium) – H (High)	Hazard addressed by another similar safety standard or a previous version	Hazard to be addressed by safety recommendation	Hazard to be addressed by product information	Hazard not to be addressed	
Entrapment of fingers																
Hazards due to moving parts, i.e. shearing or compression																

6 Accessibility

This guidance document does not specify exact accessible zones for fingers for all products, as these should be determined in relation to the hazards and risks of individual products when drafting a standard. As a general guidance to the types of contact associated with the specified hazards:

— the hazardous part is in reach of the user from the intended position of use by hands and there is a high probability of contact. Recommendation are needed to address this primary contact;

or

— the hazardous part may be reached by the user, beyond the intended position of use. Access to hazardous parts is gained by passing/moving around the product or when contorting the body to touch the hazardous part. The risk of harm deriving from contact may be less probable. Recommendation may be needed to address this secondary contact, dependant on the associated risk;

— the hazardous part may be reached by a person other than the user, with the product in its intended position of use. Access to hazardous parts is gained by passing/moving around the product. The risk of harm deriving from contact may be less probable. Recommendation may be needed to address this secondary contact, dependant on the associated risk;

— the hazardous part exists, but cannot be reached by any user.

Irrespective of the access category, the reasonably foreseeable conditions of use should always be considered when designing items of furniture and/or writing product standards.

The following are furniture specific examples of how an accessible zone could be defined, however exact requirements may be specific to each product group and end use:

— seating, the accessible zone should be 120 mm in from the sides and the front of the seat;

— tables, the accessible zone should be 500 mm in from the edges users are likely to sit at and 200 mm from all other edges;

— storage, the accessible zone should be any parts that are less than 1000 mm above any surface on which a child could stand, but with the exception of doors, flaps and extension elements including their hardware.

If any adjustment devices require movement outside the recommended access zone, they should be considered to be part of the accessible zone even though some contortion of the body may occur. Any area within 50 mm of the area fingers interact with these devices should also be considered as accessible by the user.

NOTE 1000 mm is the dimension defined in EN 1176-1 for access by children of 36 months or older.

7 Entrapment of fingers

7.1 Rationale

This clause deals with the entrapment of fingers in static openings and gaps. Hazards to fingers associated with moving parts, which result in crushing and shearing are covered in Clause 8.

This hazard occurs when a user's finger becomes stuck in openings / gaps and the flow of blood to the finger is reduced. Additionally the weight or movement of the user may cause dislocation or displacement of a finger joint.

A user may not always have the ability to extract their finger or fingers from the openings / gaps. Reducing the depth of penetration in the free openings / gaps may avoid potential hazards.

The shape of the opening / gap is also to be considered when assessing a risk: a round or equilateral shape may cause reduction of blood circulation, whereas a slot may not present a large risk.

The hazard associated with flexible materials is considered a different risk to that posed by rigid materials, as in most cases it is possible to flex the material to allow a finger to be removed from the hazard.

NOTE 1 A flexible material is one which can deform under the loads applied in normal use creating a change in gap size. This can create a shear and compression point.

In furniture the risk is mainly associated with the open ends of tubular components, or holes in rigid components, where a finger can enter to a depth greater than 10 mm (see Figure 1) and where young children are present.

NOTE 2 Examples of holes in rigid components include holes drilled in wooden or metal bars with a depth greater than 10 mm.

NOTE 3 Only entrapment of fingers is considered in this hazard as it is not considered common for a thumb to be inserted within a hole.