SLOVENSKI STANDARD
oSIST prEN 747-1:2022

01-september-2022

Pohištvo - Pogradi in visoke postelje - 1. del: Zahteve za varnost, trdnost in trajnost

Furniture - Bunk beds and high beds - Part 1: Safety, strength and durability requirements

Möbel - Etagenbetten und Hochbetten - Teil 1: Anforderungen an die Sicherheit, Festigkeit und Dauerhaltbarkeit

Meubles - Lits superposés et lits surélevés - Partie 1: Exigences de sécurité, de résistance et de durabilité

Ta slovenski standard je istoveten z: **prEN 747-1**

ICS:

97.140	Pohištvo	Furniture

oSIST prEN 747-1:2022 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 747-1

September 2022

ICS 97.140

Will supersede EN 747-1:2012+A1:2015

English Version

Furniture - Bunk beds and high beds - Part 1: Safety, strength and durability requirements

Meubles - Lits superposés et lits surélevés - Partie 1: Exigences de sécurité, de résistance et de durabilité

Möbel - Etagenbetten und Hochbetten - Teil 1: Anforderungen an die Sicherheit, Festigkeit und Dauerhaltbarkeit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 207.

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.

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

This document (prEN 747-1:2022) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 747-1:2015.

In comparison with the previous edition, the following technical modifications have been made:

— Standard was fully revised;

— Modification of the title;

— Specification of the scope;

— Terms and definitions of high bed, tread, completely bound opening, partially bound opening, upper bed, means of access, and handrail added;

— Requirements for the materials improved;

— Requirements for vertically protruding parts added;

— Requirements for accessible holes, gaps and openings added;

— Requirements for bed base(s) given in more detail;

— Requirements for safety barriers around beds added;

— Requirements for means of access added;

— Requirements for shear and squeeze points added;

— Requirements for platform and stairs added;

— Requirements for all other accessible holes, gaps or openings added;

— Requirements for strength of means of access: Attachment, deflection and strength added;

— Requirements for strength of frame and fastenings given in more detail;

— Requirements for the stability given in more detail;

— Requirements for the instructions for use given in more detail;

— Requirements for the marking in more detail;

— Requirements for the purchase information added;

— Addition of informative Annex A.

EN 747 is divided into the following parts:

— EN 747-1, *Furniture — Bunk beds and high beds — Part 1: Safety, strength and durability requirements;*

— EN 747-2, *Furniture — Bunk beds and high beds — Part 2: Test methods.*

1 Scope

This document specifies requirements for the safety, strength and durability of bunk beds and high beds for domestic and non-domestic use.

It applies to bunk beds and high beds with an internal length greater than 1 400 mm and a maximum bed base width of 1 200 mm, and with the upper surface of a bed base of 600 mm or more above the floor. Safety requirements for other products included in a bunk bed/high bed, for example a table or storage furniture, are not included in this document.

This document does not apply to bunk beds and high beds used for special purposes, including but not limited to prisons, the military and fire brigades.

The document contains one annex:

— Annex A (informative) – Rationales.

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.

prEN 747-2:2022, *Furniture — Bunk beds and high beds — Part 2: Test methods*

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 https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
bunk bed
set of components that can be assembled as two beds, one above the other, where the upper surface of any bed base (3.4) is 600 mm or more above the floor

3.2
high bed
set of components that can be assembled as a bed, where the upper surface of the bed base (3.4) is 600 mm or more above the floor, irrespective of the use to which the space below is put

3.3
bed end structures
upright units at the head and foot of the bed to which the side rails (3.6) are attached

3.4
bed base
support structure for a mattress

3.5
safety barrier
component intended to prevent an occupant falling from an upper bed (3.10)

3.6
side rails
longitudinal members attached to the bed end structures (3.3) by which the bed base (3.4) can be supported

3.7
tread
structure intended as a foothold

3.8
completely bound opening
opening that is continuously surrounded

3.9
partially bound opening
opening that is partially surrounded

3.10
upper bed
bed for which the upper surface of its bed base (3.4) is 600 mm or more above the floor

3.11
means of access
ladder(s) or stairs to facilitate access to and egress from an upper bed (3.10) or an access platform

3.12
handrail
rail or another component intended to assist the user to balance

4 Safety requirements

4.1 Construction

4.1.1 General

When the bed is fully assembled, accessible edges and corners shall be rounded or chamfered and free from burrs or sharp edges.

There shall be no open-ended tubes.

All assembly and pilot holes shall be made by the manufacturer.

There shall be no clothes hooks or similar items more than 600 mm from the floor.

Vertically protruding parts above 600 mm from the floor shall either:

a) have an uninterrupted minimum horizontal dimension of 300 mm without any other vertical protrusion (see Figure 1 a), or

b) have an uninterrupted vertical dimension of at least 600 mm measured from the highest adjacent part (see Figure 1 b), or

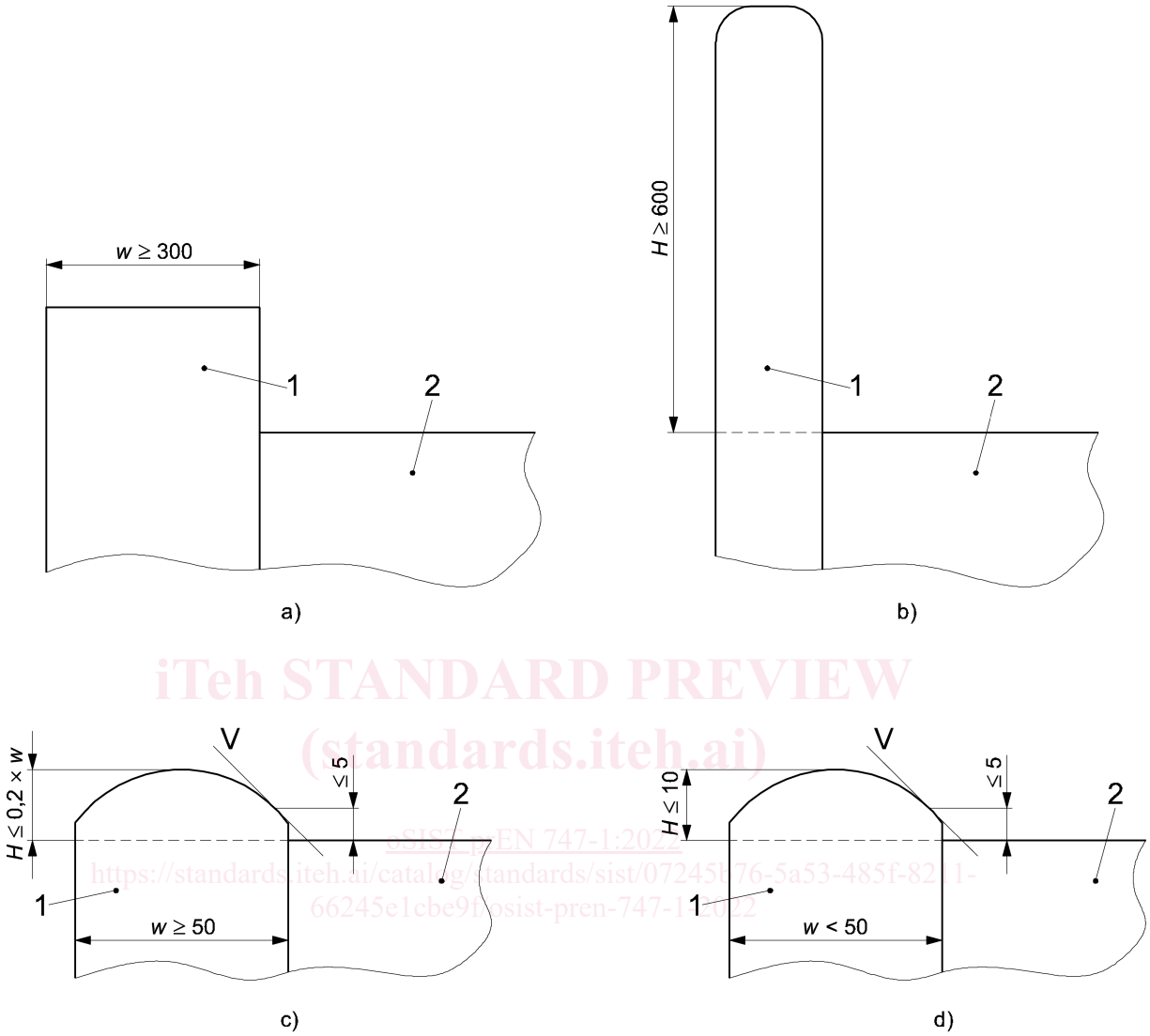
c) where the largest dimension is 50 mm or more (see Figure 1), have a maximum height at which a line, drawn at 45° touches it, of not more than 5 mm above at least one adjacent/adjoining horizontal component; the maximum vertical protrusion above that component shall not exceed 20 % of the largest horizontal dimension of parts (see Figure 1 c), or

d) where the largest dimension is less than 50 mm, have a maximum height at which a line, drawn at 45° touches it, of not more than 5 mm above at least one adjacent/adjoining horizontal component; the maximum vertical protrusion above that component shall not exceed 10 mm (see Figure 1) of parts (see Figure 1 d).

It shall not be possible to dismantle the bed or its components without the use of a tool.

The dimensional requirements apply both before and after testing without re-tightening.

Dimensions in millimetres



Key

1 vertically protruding part
2 highest adjacent part
w width of protruding part
H height of protruding part
V 45° angle to the horizontal

Figure 1 — Examples of a vertically protruding part

4.1.2 Accessible holes, gaps and openings

4.1.2.1 General

There shall be no accessible completely bound openings (3.8) in rigid material with a diameter/width greater than 7 mm and less than 12 mm, unless the depth is less than 10 mm or unless the shape assessment probe (prEN 747-2:2022, 5.2.2) enters when tested according to 6.3.1 of prEN 747-2:2022.

Additionally, accessible completely bound openings (3.8) in safety barriers (3.5), bed bases (3.4) and treads (3.7) shall fulfil the requirements specified in the respective clauses, i.e. 4.1.3 Bed base(s), 4.1.4 Safety barriers around upper beds and 4.1.5 Means of access.

4.1.2.2 Head entrapment on the outside of the bunk bed/high bed

The following requirements apply only to openings where the lowest part is 600 mm or more from the floor.

Partially bound opening (3.9), V and irregular shaped openings shall be constructed so that:

a) portion B of the template shall not enter the opening to the full thickness of the template when tested according to 6.3.2 of prEN 747-2:2022; or

b) the apex of portion A of the template shall contact the base of the opening when tested according to 6.3.2 of prEN 747-2:2022.

4.1.3 Bed base(s)

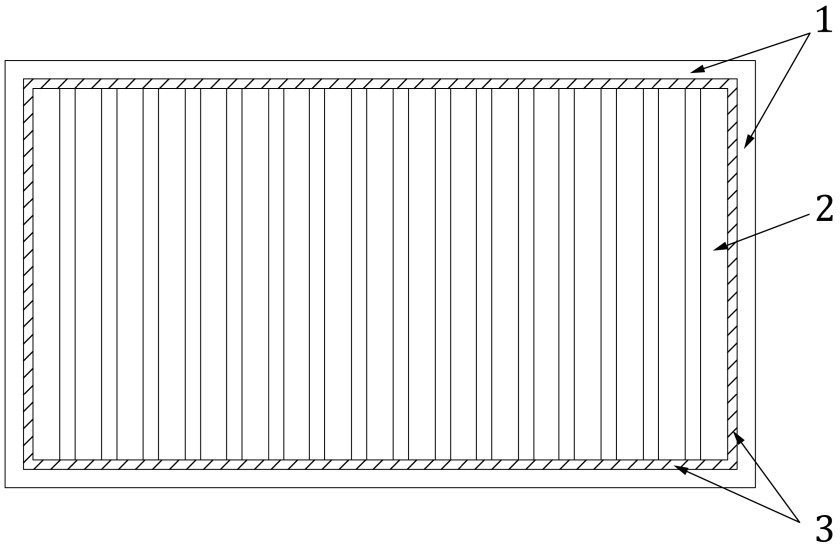
4.1.3.1 Dimensional requirements

For bunk beds, the distance between the upper surface of the bed base of the lower bed and any part of the underside of the bed base of the top bed shall be at least 750 mm.

4.1.3.2 Gaps and openings (see A.2)

There shall be no gap greater than 25 mm adjacent to the inner surfaces of the side and end rails (see Figure 2).

For beds where the bed base is an independent component, which is fitted between the side and end rails, the gap between the base and the side and end rails, shall be less than 25 mm when tested according to 6.3.1 of prEN 747-2:2022.



Key

1 bed frame (side and end rails)

2 bed base (slat)

3 gaps between bed base and bed frame

Figure 2 — Illustration of zone in which 25 mm gaps are not permitted

For beds, where the side and/or end rails are an integral part of the bed base, e.g. where slats are mounted directly into the side/and or end rails, or where a slatted bed base is supported by a load bearing component fixed to the side and/or end rails, there shall be no gaps greater than 25 mm directly adjacent to the side and end rails. These designs shall be tested according to 6.3.1 of prEN 747-2:2022.

All gaps between bed base components, (e.g. slats, mesh) shall not exceed 75 mm when measured according to 6.3.1 of prEN 747-2:2022.

4.1.3.3 Ventilation (see A.3)

The bed base shall allow ventilation.

This requirement is fulfilled if there is a minimum ventilation area of 35 cm^2 distributed across the bed base (e.g. 8 holes with a diameter of 24 mm in a solid bed base, gaps between slats). The ventilation shall be in more than one location. The openings shall fulfil the requirements in 4.1.2.

4.1.3.4 Structural integrity

The bed shall have means (e.g. fastening) of preventing the side rails (3.6) from bending outwards. This requirement is fulfilled if the bed base(s) and/or its elements do not break or become detached when tested with the horizontal outwards force according to 6.4.2.1 of prEN 747-2:2022.

When tested according to 6.4.2.2, 6.4.2.3 and 6.4.2.4 of prEN 747-2:2022, the bed base and/or its elements shall not break or become detached.