



SLOVENSKI STANDARD

SIST EN 13698-2:2009

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SIST EN 13698-2:2003

Specifikacija izdelovanja palet - 2. del: Specifikacija za konstrukcijo ravnih lesenih palet 1000 mm x 1200 mm

Pallet production specification - Part 2: Construction specification for 1000 mm x 1200 mm flat wooden pallets

Produktspezifikation für Paletten - Teil 2: Herstellung von 1 000 mm x 1 200 mm-Flachpaletten aus Holz

Spécification de produit pour les palettes - Partie 2: Spécification de fabrication des palettes plates en bois, de dimensions 1000 mm x 1200 mm

Ta slovenski standard je istoveten z: EN 13698-2:2009

ICS:

55.180.20 X^ } æ ^} • \ ^ Á æ ^ c^ General purpose pallets

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EUROPEAN STANDARD
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English Version

Pallet production specification - Part 2: Construction specification for 1000 mm x 1200 mm flat wooden pallets

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

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Foreword

This document (EN 13698-2:2009) has been prepared by Technical Committee CEN/TC 261 "Packaging", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by December 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13698-2:2003.

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

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Introduction

Tests on the perimeter base pallet and over 30 years of experience with the skid pallet in through transit of goods, have demonstrated that these designs of pallet comply with the relevant dimensional requirements and appropriate tests specified in certain standards. This certifies that the quality of the pallet is suitable for normal purposes as regards the physical stresses involved in distribution and handling.

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1 Scope

This European Standard specifies the manufacturing characteristics of flat re-usable wooden 1000 mm × 1200 mm, double deck, non-reversible, 4-way entry, 9 block skid and perimeter base pallets suitable for transport, storage, handling or exchange use. It also gives some requirements for manufacture and marking and addresses the issue of safety.

2 Normative references

The following referenced documents are indispensable for the application 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 717-1, *Wood-based panels – Determination of formaldehyde release – Part 1: Formaldehyde emission by the chamber method*

EN 1087-1, *Particleboards – Determination of moisture resistance – Part 1: Boil test*

EN 1310:1997, *Round and sawn timber – Method of measurement of features*

EN 12246:1999, *Quality classification of timber used in pallets and packaging*

EN 13183-1, *Moisture content of a piece of sawn timber – Part 1: Determination by oven dry method*

EN 13183-2, *Moisture content of a piece of sawn timber – Part 2: Estimation by electrical resistance method*

EN 13382, *Flat pallets for materials handling – Principal dimensions*

EN ISO 445:1998, *Pallets for materials handling – Vocabulary (ISO 445:1996)*

EN ISO 8611-1:2004, *Pallets for materials handling – Flat pallets – Part 1: Test methods for flat pallets (ISO 8611-1:2004)*

ISO 3133, *Wood – Determination of ultimate strength in static bending*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 445:1998 and the following apply.

3.1

stacking

placing of pallets with unit loads, one upon the other, without recourse to intermediate shelves or racking

3.2

nominal load

reference load capacity, in kilograms, assuming an uniformly distributed load

3.3

safe working load

maximum load capacity, in kilograms, in a defined loading situation

3.4

concentrated load

load concentrated over an area between 30 % and 85 % of the pallet deck

EN 13698-2:2009 (E)**3.5
uniformly distributed load**

load spread evenly across the full surface of the pallet deck

**3.6
solid load**

single, compact, rigid, homogeneous load, covering approximately the complete surface of the pallet

4 Pallet types**4.1 Type 1**

Re-useable wooden flat pallet, double deck, non-reversible, 4-way entry, skid pallet.

4.2 Type 2

Re-useable wooden flat pallet, double deck, non-reversible, 4-way entry, perimeter base pallet.

5 Nominal and safe working loads

The nominal load of pallets conforming to this standard will be established by tests conducted under the review of EN ISO 8611. Annex E gives general information on safe working loads under different loading conditions.

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6 Construction

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6.1 Materials

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6.1.1 Timber species

Timber species are given in Annex A.

6.1.2 Timber quality grade

The timber quality grade shall conform to A.2.

6.1.3 Moisture content

Moisture content shall be determined in accordance with EN 13183-1 or EN 13183-2.

At the time of delivery the moisture content of the component parts of the pallets shall not exceed 22 %.

The reference moisture content shall be 20 %.

NOTE Dimensions at other moisture levels may be calculated using the correction factors given in Annex B.

6.1.4 Particle board

High density, moisture resistant particle board conforming to A.3 is permitted for blocks.

6.1.5 Fasteners

Pallets shall be assembled with fasteners conforming to A.4.

6.2 Design and manufacture

6.2.1 Component parts

6.2.1.1 Type 1: Skid pallet 1000 mm × 1200 mm

Component parts of the skid pallet 1000 mm × 1200 mm shall conform to Table 1 and Figure 1.

Table 1 — Component parts for the skid pallet 1000 mm × 1200 mm

Part ^a	Component ^a	Number of components	Dimensions at 20% moisture content mm		
			Length	Width ^b	Thickness ^b
1	top deck lead board	2	1200 ± 3	145 ⁺⁷ ₋₃	22 ⁺² ₀
2	intermediate top deck board	4	1200 ± 3	100 ± 3	22 ⁺² ₀
3	central top deck board	1	1200 ± 3	145 ⁺⁷ ₋₃	22 ⁺² ₀
4	stringer board	3	1000 ± 3	145 ⁺⁷ ₋₃	25 ⁺² ₀
5	bottom deck board	3	1200 ± 3	145 ⁺⁷ ₋₃	22 ⁺² ₀
6	block	9	145 ⁺⁷ ₋₃	145 ⁺⁷ ₋₃	78 ⁺¹ ₋₃
7	nail	27	See A.4.		
8	nail	27			
9	nail or staples	36			
^a	See Figure 1.				
^b	See Annex B.				

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6.2.1.2 Type 2: Perimeter base pallet 1000 mm × 1200 mm

Component parts of the perimeter base pallet shall conform to Table 2 and Figure 2.

Table 2 — Component parts of perimeter base pallet 1000 mm × 1200 mm

Part ^a	Component ^a	Number of components	Dimensions at 20 % moisture content		
			mm		
			Length	Width ^b	Thickness ^b
1	top deck lead and central top deck board	3	1200 ± 3	120 ± 3	22 ⁺² ₀
2	Intermediate top deck board	2	1200 ± 3	120 ± 3	22 ⁺² ₀
3	Intermediate top deck board	2	1200 ± 3	100 ± 3	22 ⁺² ₀
4	stringer board	3	1000 ± 3	145 ⁺⁵ ₋₃	22 ⁺² ₀
5	bottom length deck board	3	1000 ± 3	120 ± 3	22 ⁺² ₀
6	bottom width deck board	2	1000 ± 3	100 ± 3	22 ⁺² ₀
7	block	9	145 ⁺⁵ ₋₃	120 ± 3	98 ± 2
8	square twisted or annular ring rolled nail	27	See A.4.		
9	square twisted or annular ring rolled nail	39			
10	plain shank nail	36			

a See Figure 2.
b See Annex B.

6.2.2 Boards and blocks

All boards and natural timber blocks shall be of one piece.

The outer surfaces of the top and bottom decks shall be unplanned.

The wood fibres of the outer skid blocks shall be parallel to the longitudinal axis of the pallet.

Blocks shall be of natural timber or particle board (see 6.1.4).

6.2.3 Pallet assembly and fastener positions

6.2.3.1 General

All fasteners shall be driven in vertically, at a minimum of 20 mm from the edges of the boards, and, for particle board blocks, a minimum of 20 mm from the centre hole if present. Fasteners shall not be inserted parallel to the wood grain (which may split the board or block) and shall be spaced as far apart as possible. Nail heads shall not protrude above the surface of the board (this also applies after drying the pallet) or be sunk below the board surface by more than 3 mm. Fasteners shall not pierce the sides of blocks.

No splits resulting from nailing shall be visible on the blocks or boards after assembly.

6.2.3.2 Assembly deck board: block

For each block, a minimum of three nails shall be used on both the top and bottom surfaces.

The bottom deck length board of the perimeter base pallet shall be fixed to the outer blocks with two nails.

6.2.3.3 Assembly top deck board: stringer board

A minimum of three fasteners shall be used for fixing each intermediate top deck board to a stringer board.

Any fastener protruding below the stringer board shall be bent back.

NOTE A staple is considered to be a single fastener.

6.3 General assembly details (standards.iteh.ai)

General assembly details of the pallets, including dimensions and tolerances, shall conform to Table 3 and to Figure 1 for skid pallet and to Figure 2 for perimeter base pallet. The chamfering of the bottom deck boards shall be on all bottom deck boards. All dimensions shall be in conformity with EN 13382.

Table 3 — General assembly – Overall tolerances in millimetres

Dimension	Tolerance
Length	1200 ± 3
Width	1000 ± 3
Height of skid pallet	147 ⁺⁷ ₀
Height of perimeter base pallet	164 ⁺⁸ ₋₂

NOTE Height tolerances are the sum of the tolerances of the individual components.