



SLOVENSKI STANDARD
SIST EN 13698-1:2003

01-oktober-2003

Specifikacija izdelovanja palet – 1. del: Specifikacija za konstrukcijo ravnih lesenih palet 800 mm x 1200 mm

Pallet production specification - Part 1: Construction specification for 800 mm x 1200 mm flat wooden pallets

Produktspezifikation für Paletten - Teil 1: Herstellung von 800 mm x 1200 mm Flachpaletten aus Holz

Spécification de produit pour les palettes - Partie 1: Spécification de fabrication des palettes en bois, de dimensions 800 mm x 1200 mm

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Ta slovenski standard je istoveten z: EN 13698-1:2003

ICS:

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

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en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13698-1

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English version

Pallet production specification - Part 1: Construction
specification for 800 mm x 1200 mm flat wooden pallets

Spécification de produit pour les palettes - Partie 1:
Spécification de fabrication des palettes en bois, de
dimensions 800 mm x 1200 mm

Produktspezifikation für Paletten - Teil 1: Herstellung von
800 mm x 1200 mm Flachpaletten aus Holz

This European Standard was approved by CEN on 10 April 2003.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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

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Foreword

This document (EN 13698-1:2003) 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 January 2004, and conflicting national standards shall be withdrawn at the latest by January 2004.

Annexes A, D and F are normative. Annexes B, C, E and G are informative.

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

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Introduction

All general purpose re-usable pallets, irrespective of the material from which they are made, are required to conform to the dimensional requirements and performance criteria specified in the following standards:

EN 13382:2002	<i>Flat pallets for materials handling — Principal dimensions</i>
prEN ISO 8611-1	<i>Pallets for materials handling — Part 1: Test methods for flat pallets (ISO/DIS 8611-1:2000)</i>
prEN ISO/DIS 8611-2	<i>Pallets for materials handling - Flat pallets - Part 2: Performance requirements and selection of tests</i>
prEN ISO/DIS 8611-3	<i>Pallets for materials handling – Flat pallets - Part 3: Maximum working load</i>

Tests performed by various European railway companies, and over 30 years of experience in through transport of goods, have demonstrated that the design of pallet 'Europallet' conforms to the relevant dimensional requirements and appropriate tests specified in the above standards. This certifies that the quality of the pallet is suitable for normal purposes as regards the physical stresses involved in distribution and handling. Pallets in full conformity to this specification are therefore exempt from the load testing programs described in the standards relating to performance listed above.

This European Standard is largely based upon, but not identical to, UIC-Code 435-2:1994 *Standard of quality for a European flat pallet made of wood with four openings and measuring 800 mm × 1200 mm.*

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1 Scope

This European Standard specifies the manufacturing characteristics of a flat re-usable wooden 800 mm × 1200 mm, double deck, non-reversible, 4-way entry, 9 block pallet 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

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

ENV 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*

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

prEN ISO 8611-1:2000, *Pallets for materials handling - Part 1: Test methods for flat pallets (ISO/DIS 8611-1:2000)*

EN ISO 12777-3, *Methods of test for pallet joints – Part 3: Determination of strength of pallet joints (ISO 12777-3:2002).*

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

3 Terms and definitions

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

3.1

stacking

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

3.2

nominal load

reference load capacity, in kilograms, assuming a 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

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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 Nominal and safe working loads

The nominal load of pallets conforming to this standard is to be established by tests conducted under the review of ISO 8611:1991. Annex G gives general information on safe working loads under different loading conditions. The safe working load of the pallet is 1 500 kg for a uniformly distributed load.

5 Construction

5.1 Materials

5.1.1 Timber

5.1.1.1 Timber species

Timber species are given in annex A.

5.1.1.2 Timber quality grade

The timber quality grade shall conform to A.2. [SIST EN 13698-1:2003](https://standards.iteh.ai/catalog/standards/sist/c9ad6323-0285-41b1-9a8a-2b8f1ef495f9/sist-en-13698-1-2003)

5.1.1.3 Moisture content

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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 %.

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

The reference moisture content shall be 20 %.

5.1.2 Particle board

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

5.1.3 Fasteners

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

5.2 Design and manufacture

5.2.1 Component parts

Component parts of pallets shall conform to Table 1 and Figure 1.

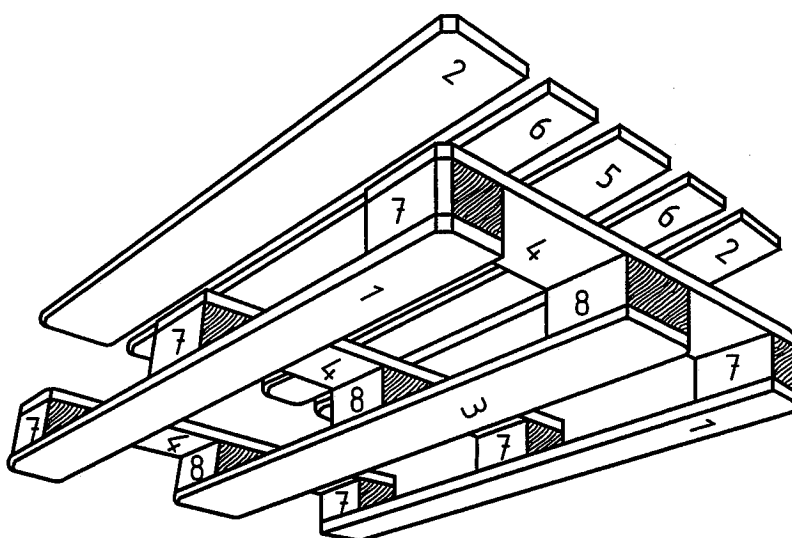
Table 1 - Dimensions and tolerances of pallet components

Part	Component ¹⁾	Number of components	Dimensions at 22 % moisture content		
			mm		
			Length	Width ²⁾	Thickness ²⁾
1	Bottom deck lead board	2	1200 ± 3	100 ± 3	22 ⁺² ₀
2	Top deck lead board	2	1200 ± 3	145 ⁺⁵ ₋₃	22 ⁺² ₀
3	Central bottom deck board	1	1200 ± 3	145 ⁺⁵ ₋₃	22 ⁺² ₀
4	Stringer board	3	800 ± 3	145 ⁺⁵ ₋₃	22 ⁺² ₀
5	Central top deck board	1	1200 ± 3	145 ⁺⁵ ₋₃	22 ⁺² ₀
6	Intermediate top deck board	2	1200 ± 3	100 ± 3	22 ⁺² ₀
7	Outer skid block	6	145 ⁺⁵ ₋₃	100 ± 3	78 ⁺¹ ₀
8	Centre skid block	3	145 ⁺⁵ ₋₃	145 ⁺⁵ ₋₃	78 ⁺¹ ₀
9	Fasteners ³⁾				
10	Fasteners ³⁾				
11	Fasteners ³⁾				

¹⁾ See Figures 1, 2 and C.1

²⁾ See Annex B <https://standards.iteh.ai/catalog/standards/sist/c9ad6323-0285-41b1-9a8a-2b8f1ef495f9/sist-en-13698-1-2003>

³⁾ See A.4



Key

See Table 1

Figure 1 — 800 mm × 1200 mm pallet component parts

EN 13698-1:2003 (E)**5.2.2 Boards and blocks**

Boards and blocks shall meet the following requirements:

- a) All boards and natural timber blocks shall be of one piece.
- b) The outer surfaces of the top and bottom decks shall be unplanned.
- c) The wood fibres of the outer skid blocks shall be parallel to the longitudinal axis of the pallet.
- d) Skid blocks shall be of natural timber or particle board (see 5.1.2).

5.2.3 Pallet assembly and fastener positions**5.2.3.1 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 with the wood grain (which may split the board), 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.

NOTE A recommended nail pattern for pallets is given in annex C.

5.2.3.2 Assembly top board block

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

5.2.3.3 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. The top deck leadboard, and if necessary the central deck board, shall be fixed to each stringer board by one fastener. Any fastener protruding below the stringer board shall be bent back.

NOTE A staple is considered to be a single fastener.

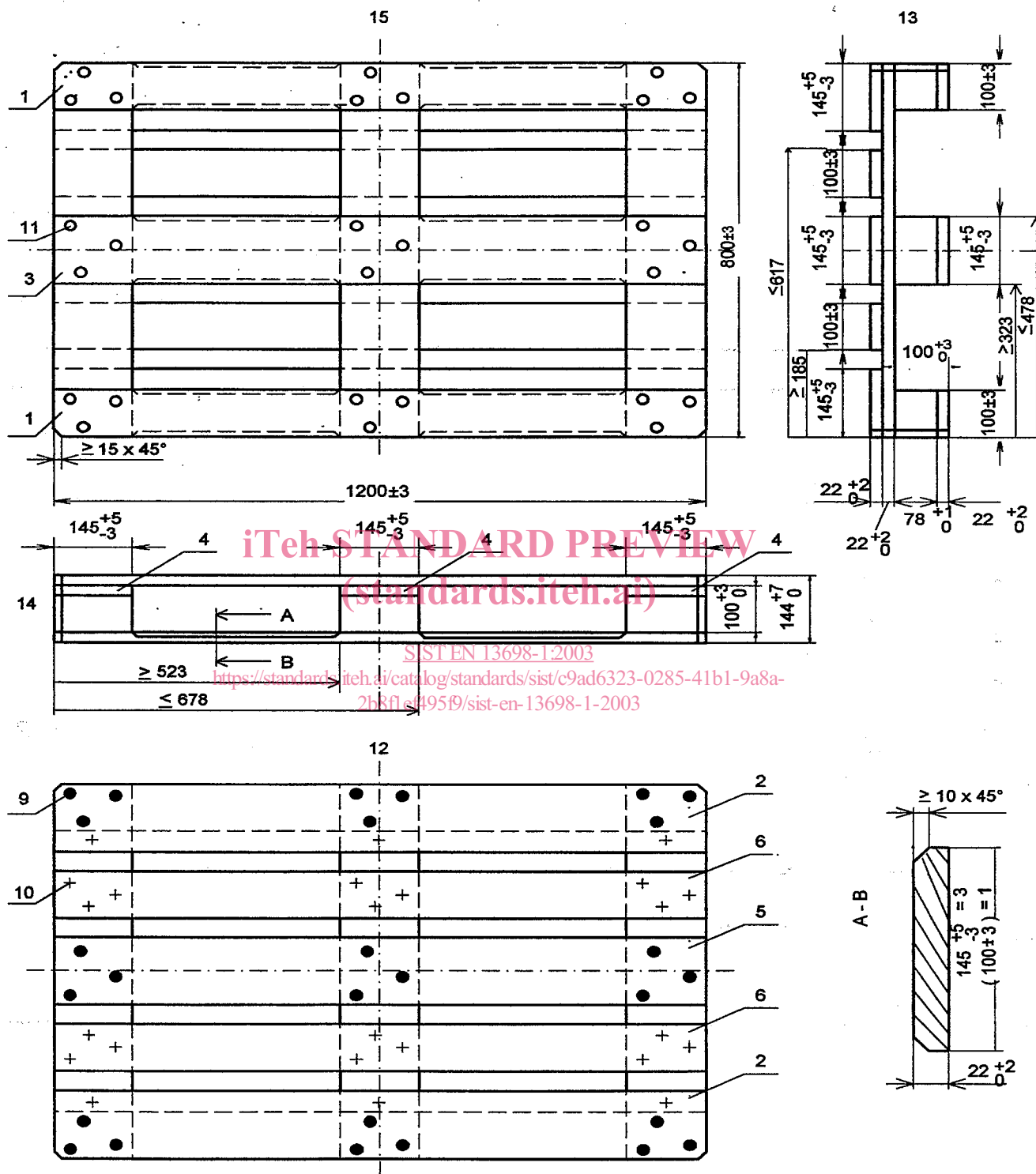
5.3 General assembly details

General assembly details of the pallet, including dimensions and tolerances, shall conform to Figure 2 and to Table 2. The chamfering section A–B shall be on all three bottom boards.

Table 2 – General assembly details — Overall tolerances in millimetres

Length	1200 ± 3
Width	800 ± 3
Height	144 $\begin{smallmatrix} +7 \\ 0 \end{smallmatrix}$

Dimensions in millimetres



- Key**
- 1-11 See Table 1 and Table C.2
 - 12 Top view
 - 13 Side view
 - 14 Front view
 - 15 Bottom view

Figure 2 — General assembly details, dimensions and tolerances