SLOVENSKI STANDARD
SIST EN 13382:2002

01-september-2002

Ravne palete za ravnanje z materiali - Osnovne mere

Flat pallets for materials handling - Principal dimensions

Flachpaletten für die Handhabung von Gütern - Hauptmaße

Palettes plates pour la manutention et le transport de marchandises - Dimensions principales

Ta slovenski standard je istoveten z: **EN 13382:2002**

ICS:

55.180.20 Veļ namenske palete General purpose pallets

SIST EN 13382:2002 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13382

April 2002

ICS 55.180.20

English version

Flat pallets for materials handling - Principal dimensions

Palettes plates pour la manutention et le transport de marchandises - Dimensions principales

Flachpaletten für die Handhabung von Gütern - Hauptmaße

This European Standard was approved by CEN on 15 November 2001.

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, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 13382:2002 E

Contents

Foreword

This document (EN 13382:2002) 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of an identical text or by endorsement, at the latest by October 2002, and conflicting national standards shall be withdrawn at the latest by October 2002.

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, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Annex A is normative.

Introduction

ISO 6780 was primarily written for pallets for through transit only. This European Standard is based upon, but not identical to ISO 6780:1988, “General purpose flat pallets for through transit of goods — Principal dimensions and tolerances”, with special changes to suit European handling systems. It is anticipated that these changes will be proposed to ISO/TC 51 for possible adoption in due course. In particular, the entry height changes made to ISO 509, “Pallet trucks — Principal dimensions”, assume changes to ISO 6780, including a minimum height of entry of 95 mm.

An increasing number of standardized pallets are used in automatic storage retrieval machines or on automatic production lines, roller conveyers and wrapping devices. The minimum height of access for lifting devices as given in this European Standard may not be sufficient in all circumstances. The dimensional requirements should take into account the requirements for fork lift and hand, pallet trucks, automatic storage retrieval machines and special telescopic fork system requirements. For these systems, the most commonly used pallets are those with 100 mm entry height.

Widening of the scope of this European Standard has necessitated a removal of the normative requirement for stacking up to 4-high allowing for the widespread use of racking systems which permit single or 2-high stacking. The specifier can choose the appropriate level of stacking ability of 2- or 4-high.

With regard to tolerances, this document allows for manufacture from all materials and the need for both a manufacturing and a material movement tolerance.

1 Scope

This European Standard specifies the principal dimensions and tolerances for new single-deck and double-deck non-reversible flat pallets of all entry types related to their transportation and handling by pallet trucks, fork lift trucks and other appropriate equipment.

NOTE Depending on end use and the meeting of tests specified in ISO 8611, such pallets are intended to be stacked:

a) in store up to 4-high;

b) in transit up to 2-high.

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).

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

ISO 3394, *Dimensions of rigid rectangular packages — Transport packages*

ISO 8611, *General-purpose flat pallets for through transit of goods — Test methods*

3 Terms and definitions

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

3.1
through transit
pallet usage cycle which anticipates that the full range of mechanical handling equipment may be applied at some stage of the journey

4 Dimensions

4.1 Plan dimensions

4.1.1 Nominal overall dimensions

The nominal overall plan dimensions of pallets shall be as follows:

a) commonly used modular sizes based upon plan module (*M*) specified in ISO 3394 of 600 mm × 400 mm:

800 mm × 1 200 mm (4*M*);

1200 mm × 1 000 mm (5*M*);

1000 mm × 1 200 mm (5*M*);

b) other modular sizes:

800 mm × 600 mm (2*M*)

1200 mm × 1 200 mm (6*M*)

c) non-modular sizes:

see annex A.

4.1.2 Stringer or the stringerboard dimensions

The stringer or the stringerboard dimension is the pallet length and the length (*L*) is always quoted first in designating plan size. For pallets without stringers the longest dimension is the length.

4.1.3 Moisture content and temperature

With sawn timber the dimensions stated relate to measurement at an average moisture content of (20 ± 2) %. For plastics, dimensions are measured at a temperature of (23 ± 2) °C.

4.1.4 Tolerances

The tolerances on the nominal overall plan dimensions given in 4.1.1 shall be ± 3 mm or ± 0,4 %, whichever is the greater.

4.2 Vertical dimensions of the entries and openings for lifting devices

4.2.1 Vertical entry apertures

The vertical entry apertures for the forks of fork lift trucks and the fingers of pallet trucks shall be not less than 95 mm high (see Figure 1).

NOTE For the pallets used in automatic storage and automatically driven conveyors, a minimum entry height of 100 mm is recommended.

4.2.2 Distance from the underside of the lowest element of the top deck to the ground

The distance from the underside of the lowest element of the top deck to the ground shall not exceed 156 mm for pallets of all designs [see Figure 1c)]. If notches for the forks of fork lift trucks are provided, the distance from the top of the notch to the ground shall be not less than 55 mm (see Figure 3).

4.3 Horizontal dimensions of the entries and openings for lifting devices

4.3.1 Board arrangement and horizontal dimensions

The arrangements and horizontal dimensions of the entries for the forks of fork lift trucks and the fingers of pallet trucks shall be as shown in Figure 4 and as specified in Table 1.

4.3.2 Board arrangements and dimensions of the openings in the bottom deck of pallets

The arrangements and the dimensions of the openings in the bottom deck of pallets to allow the use of pallet trucks shall be as shown in Figure 4 and as specified in Table 1.

4.3.3 Centre blocks/stringers

Centre blocks/stringers shall be positioned within ± 4 mm of the pallet centre line. For pallets with two or more intermediate stringers or rows of blocks the centre of the stringers or blocks shall be positioned within ± 4 mm of their nominal position.

4.4 Profiling of bottom deck members

To facilitate entry of the finger-wheels of a pallet truck, the thickness of the members of the bottom deck of a pallet shall not exceed 28 mm. If the thickness exceeds 16 mm, the leading and trailing edges of the members of the bottom deck shall be chamfered on each side of the top face as follows:

a) the angle between the chamfered face and the horizontal shall be maximum 50°, as shown in Figure 2a);

b) the height of the vertical face of the member shall not exceed 16 mm, as shown in Figure 2a).

Pallets not intended to be used for through transit are exempt from requirements for profiling.

NOTE To aid the use of trucks when using the minimum (95 mm) entry height in 2-way entry pallets, stop chamfers should be considered (see Figure 2).

4.5 Dimensions specific to wing pallets

Any projection of 65 mm or greater shall be defined as a wing and therefore subject to the specific performance requirements for wing pallets given in ISO 8611, however, the overall (deck) sizes shall fall within the sizes given in 4.1.

NOTE The nominal dimensions of the wing pallet are the overall dimensions, however dimensions of the base apertures, entries and openings, are determined by the base plan dimensions.

4.6 Bearing surface of bottom deck

4.6.1 Double-deck pallets

For double-deck pallets for stacking, the bearing surface of the element or elements of the bottom deck in contact with the payload directly below or with the ground shall be equal to or greater than 35 % of the nominal overall plan area.

NOTE This value should be regarded as the absolute minimum and should be increased wherever practicable.

This value is for solid plane area; where plastic or steel pallets employ a non-continuous or mesh design in the bottom bearing surface elements they shall have a minimum 1:3, ratio of contact: plane surface area.

4.6.2 Stacking

Single-deck pallets shall not be stacked.

4.7 Squareness

At the time of manufacture, the difference in length of the two plan diagonals shall not exceed 1 % of the nominal diagonal length.

4.8 Flatness

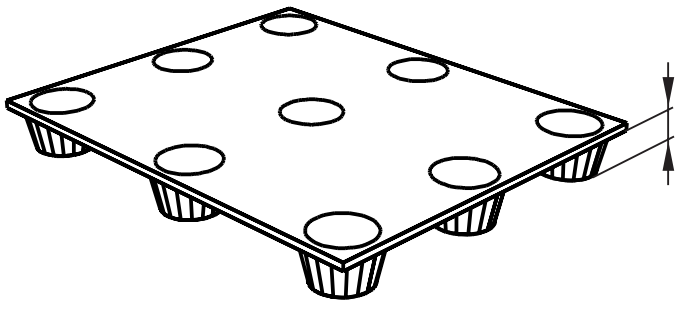
At the time of manufacture no part of the top deck shall deviate more than 7 mm out of plane at the six measurement positions of Figure 5.

4.9 Corner chamfer

Where a vertical chamfer is required on the corners of the pallet, it shall be at 45°± 5° with a face width of 10 mm minimum, as shown in Figure 2b). Alternatively, if corner chamfers are rounded, the radius shall be 10 mm minimum.

Table 1 — Horizontal dimensions of entries and bottom deck openings for two-way and four-way pallets (see figure 4) *permitting the use of standardised pallet trucks with single or tandem trail wheels*

Nominal dimension of pallet	Entries and openings	
L or *W*	L_1 and W_1	L_2 and W_2
	max.	min.
600	160	580
800	160	580
1 000	160	710
1 100	160	710
1 140	160	710
1 200	160	710
1 300	160	710
NOTE W = 600 and W_2 = 580 apply to pressed sheet steel blocks.		



Free entry not less than 95 mm, not more than 156 mm

1a) 4-way pallet with free entries