| CP | CHEMICAL INDUSTRY PALLETS | July 2017<br>Edition: 7 |
|---|---|---|

## Foreword

The European chemical and polymer industry is using a large amount of wooden pallets for the distribution of goods. For environmental, quality and safety reasons there is a strong need to organise the use and re-use of these pallets.

Within PlasticsEurope, a team of experts from various chemicals and plastics producing companies, together with pallet specialists, have developed in the early '90 a standard for wooden pallets and drafted the present manufacturing and reconditioning specifications of the Chemical industry Pallets, called CP pallets. Special attention has been paid to quality, safety and environmental aspects.

Although CP pallets have been designed for specific packages commonly used within the chemical and polymer industry, they are also suitable for other loads.
Tests performed by various companies and testing institutes and experience from the use and re-use of millions of CP's since 1991 have demonstrated that they conform to the needs of the chemical and polymer industry and their customers. However, PlasticsEurope Services cannot be held responsible for any problems or liabilities which may result from the use of the CP pallets system.

## Scope

This document describes the pallet supplier registration and the system to collect used CP pallets. It defines the CP manufacturing, reconditioning and quality assurance criteria. It informs about the safe working load of CP's.

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**Note**: The content of this document is not essentially different from the previous edition, but has been completed with clarifications about the Supplier registration (header A.) and Marking (header B. 3.3.6).
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This edition 7 annuls and replaces the previous edition 6 dated April 2004.

## Contents



**Attachments [27]**

- Design drawings CP1 to CP9;
- Fastening patterns CP1 to CP9;
- Inspection reports CP1 to CP9.

## A. Supplier registration

Suppliers of CP pallets shall ask PlasticsEurope Services for initial registration. Candidates for registration will receive a questionnaire to be filled in. After completion of the administrative filling, the production site will be subject to an initial inspection. The registration costs are 1.250 EUR to be paid in advance charged by PlasticsEurope Services.

The supplier code that PlasticsEurope will adjudge is unique per production site and shall be used for the marking of all newly manufactured CP pallets.

Registered suppliers are committed to respect the manufacturing and reconditioning specifications and to comply with the collection conditions of used CP's [see relevant chapters about the manufacturing & reconditioning specifications and about the collection of used CP's hereafter].

PlasticsEurope Services wants to improve the quality monitoring of the CP pallets to avoid issues related to CP pallets used on the market, like fake pallets, pallets made with low quality materials or pallets not respecting the strict production parameters included in the present guidelines. This situation is creating issues and risks for the users of pallets and also distortion of competition on the market.

Therefore, periodic inspections of the CP pallets production facilities are put in place. The inspections are performed by a professional inspection company.

To also better protect the CP pallets against unfair competition, CP pallets producers have to insert on the right block of each produced CP pallet a the "Certipal" trademark. All contribution for the use of the Certipal trademark and inspections are collected by Certipal Comply based on a new license agreement via: info@certipal.org.

PlasticsEurope Services and its sub-contractors are only in charge of the administration of the CP system. Given this limited role, PlasticsEurope Services cannot be held responsible for any problems or liabilities, which may result from the use of the supplier code.

## B. Manufacturing specification

### 1. Scope

This part of the standard specifies the manufacturing of nine four-way pallets – five skid pallets and four full perimeter base pallets.
They have been designed taking into account the specific requirements of commonly used packages in the chemical industry. Some examples of applied pallet loads are mentioned in table 1.

| CP-design | Pallet dimensions | Examples of applied pallet loads |
|---|---|---|
| 1 | 1000 × 1200 mm | Sacks, cardboard boxes, Flexible Intermediate Bulk Containers |
| 2 | 800 × 1200 mm | Cardboard boxes, fibre drums, cans |
| 3 | 1140 × 1140 mm | Drums, Flexible Intermediate Bulk Containers, octabins |
| 4 | 1100 × 1300 mm | Sacks |
| 5 | 760 × 1140 mm | Cardboard boxes |
| 6 | 1200 × 1000 mm | Sacks |
| 7 | 1300 × 1100 mm | Sacks |
| 8 | 1140 × 1140 mm | Octabins with bottom discharge facility |
| 9 | 1140 × 1140 mm | Drums, Flexible Intermediate Bulk Containers, octabins |

Table 1

## 2. Normative references

This specification is based on following international standards:

| | | |
|---|---|---|
| EN 717-1 | 2004 | Wood based panels – Determination of formaldehyde release – Part 1: Formaldehyde emission by chamber method. |
| EN 844-6 | 1997 | Round and sawn timber – Terminology – Part 6: Terms relating to dimensions of sawn timber. |
| EN 844-7 | 1997 | Round and sawn timber – Terminology – Part 7: Terms relating to anatomical structure of timber. |
| EN 844-8 | 1997 | Round and sawn timber – Terminology – Part 8: Terms relating to features of round timber. |
| EN 844-9 | 1997 | Round and sawn timber – Terminology – Part 9: Terms relating to features of sawn timber. |
| EN 844-10 | 1998 | Round and sawn timber – Terminology – Part 10: Terms relating to stain and fungal attack. |
| EN 1087-1 | 1995 | Particleboards – Determination of moisture resistance – Part 1: Boil test. |
| EN 1310 | 1997 | Round and sawn timber – Measurement of features. |
| EN 12246 | 1999 | Quality classification of timber used in pallets and packaging. |
| ISO 445 | 2013 | Pallets for materials handling – Vocabulary. |
| ISO 13061-1 | 2014 | Wood – Determination of moisture content for physical and mechanical tests. |
| ISO 13061-3 | 2014 | Wood – Determination of ultimate strength in static bending. |
| ISO 6780 | 2003 | General-purpose flat pallets for through transit of goods - Principal dimensions and tolerances. |
| ISO 8611-1 | 2011 | General purpose flat pallets for through transit of goods – Test methods. |
| ISPM 15 | 2009 | International Standards for Phytosanitary Measures - Revision |

# 3. Construction

## 3.1. Materials requirements

### 3.1.1. Sawn timber

#### 3.1.1.1. Wood species

CP's shall be constructed from wood species listed in tables 2 & 3[1].

| European grown conifers | Botanical name |
|---|---|
| Douglas fir | Pseudotsuga ssp. |
| Fir | Abies ssp. |
| Larch | Larix ssp. |
| Pine | Pinus ssp. |
| Redwood | Pinus sylvestris |
| Spruce | Picea ssp. |

Table 2

| European grown deciduous woods | Botanical name |
|---|---|
| Acacia | Robinia ssp. |
| Alder[2] | Alnus ssp. |
| Ash | Faxinus excelsior |
| Beech | Fagus sylvatica |
| Birch | Betula ssp. |
| Chestnut [-Horse] | Aesculus hippocastanum |
| Elm | Ulmus ssp. |
| Maple | Acer ssp. |
| Oak | Quercus ssp. |
| Plane | Platanus ssp. |
| Poplar[3] | Populus ssp. |

Table 3

Other species or species grown elsewhere with an ultimate strength in static bending of at least 42 N/mm², measured on samples with a moisture content of 20 % and in accordance with ISO 3133, may be used.

#### 3.1.1.2. Quality

The timber quality[4] shall conform to the following criteria:
- Bark & bark pockets are not permitted;
- Sound sapwood is permitted;
- Wane [measured according to EN 1310, clause 4.8]:
  - Is only permitted at the underside of intermediate deck boards up to $^1/_3$ of the thickness of the board;
  - Is not permitted at other components.

[1] The use of weak species affects the Safe Working Load of the pallet. For safety reasons, the respect of the specified species is critical.
[2] May only be used for deck boards and blocks.
[3] May only be used for deck boards and blocks.
[4] Poor timber quality affects the Safe Working Load of the pallet. For safety reasons, the respect of the quality criteria is critical.

- Knots [measured according to EN 1310, clause 4.1.2]:
  - Inter-grown or dead knots < 30 mm are permitted;
  - Loose knots & unsound knots < 20 mm are permitted;
  - Branched knots are not permitted.
- Fissures [measured according to EN 1310, clause 4.9]:
  - Splits from one surface to the other in boards or blocks are not permitted;
  - Drying checks are permitted.
- Grain:
  - Significant slope of grain or spiral grain is not permitted.
- Preservatives:
  - No chemical treatment is permitted.
- Deterioration:
  - Mould[5] or rot[6] are not permitted;
  - Active insect infestation is not permitted;
  - Some blue stain[7] is permitted.

#### 3.1.1.3. Moisture content

The maximum moisture content[8] of timber is not defined in this document. CP's may be constructed from green timber. If not specified differently by the user, CP's will be supplied without any drying. The moisture content of green timber is normally higher than 30 %.

#### 3.1.1.4. Packaging issues related to wet timber [informative]

For some packages such as, cardboard boxes and paper sacks and for hygroscope products the moisture content of green timber might be unacceptable.

If only migration of moisture from the timber into the packaging material has to be avoided, limitation of the moisture content of the deck boards is in most cases sufficient.
A good practice is, as they are drying slower than intermediate deck boards, to check the moisture content of the lead & central deck boards.
An achievable value in Middle-European climate, avoiding artificial drying is 25 % moisture content.

If on the other hand the presence of moisture is very critical, the moisture content of all timber components shall be checked.
In that case values of moisture content below 20 % are required and in most seasons pallets have to be dried artificially.

[5] Mould is an infestation of timber by fungi that penetrate into wet wood.
[6] Rot is an infestation by fungi or other micro-organisms, showing a brown coloured and cubic-segmented structure or zones composed of soft decomposed fibres without strength. Rot affects the Safe Working Load of the pallet.
[7] Blue stain is a blue to black discoloration, caused by fungi, of the sapwood of conifers and some deciduous woods. As chemical treatment is not permitted, blue stain cannot be completely avoided in certain seasons, but does not affect the strength of the timber.
[8] Moisture content can be determined using portable battery operated moisture meters.

### 3.1.2. Particleboard blocks [optional]

High density, moisture resistant particleboard conforming to the following criteria may be used for blocks:
- Made exclusively from timber particles without any wood preservative;
- The mean weight per unit volume shall be minimum 0,580 g/cm³;
- The moisture content shall be between 7 and 13 %;
- The material shall produce a formaldehyde emission less than 0,1 ml per cubic meter of air, when determined in accordance with ENV 717-1;
- The bonding shall ensure, that the material is permanently bonded; the efficiency of the bonding process shall be determined in accordance with EN 1087-1;
- Retention of material strength, absence of splits, no loss of cohesion after test cycle in accordance with EN 1087-1 involving:
  - A two-hour immersion in water at 100 °C under ambient pressure;
  - Two hours drying in the oven at 65 °C [± 3 %].

### 3.1.3. Plastic blocks [optional]

Plastic conforming to the following criteria may be used for blocks:
- Composition:
  - Made of post-consumer mixed plastics;
  - Minimum density ≥ 0,800 g/cm³;
  - Specific shares to be met [in weight percentages]:
    - Polyolefin > 50 %;
    - Paper, wood flour, aluminium film < 5%;
    - Glass, stones, metals < 0,05 %.
- Design:
  - Square profile; round vertical corners up to a radius of 5 mm are permitted;
  - Vacuoles < 5 mm are permitted;
  - Concavity or convexity of the nailing surface shall be limited to 1 mm;
  - Hollow spaces and depressions, if present, shall be positioned at a minimum distance of 10 mm from the nailing position.
- The minimum weight shall conform to the values shown in table 4;

| Block dimension | Minimum weight |
|---|---|
| 135 mm × 80 mm × 80 mm | 0,550 kg |
| 120 mm × 80 mm × 80 mm | 0,480 kg |
| 100 mm × 80 mm × 80 mm | 0,400 kg |

Table 4

- The colour shall be dark grey to black;
- Unpleasant smelling is not permitted.

### 3.1.4. Fasteners

Depending on their position, different types of fasteners are needed to manufacture CP's [see also attached fastening patterns CP1 to CP9].

Nails shall conform to the criteria of table 5.

| Nails | Type N1 | Type N2 | Type N3 |
|---|---|---|---|
| Shank | Square twisted, spiral rolled or annular ring rolled | Plain | Square twisted, spiral rolled or annular ring rolled |
| Wire Ø | Minimum 3,4 mm | Minimum 2,5 mm | Minimum 3,4 mm |
| Length | Minimum 90 mm | Minimum 45 mm | Minimum 70 mm |
| Head Ø | Minimum 8,0 mm | Minimum 6,0 mm | Minimum 8,0 mm |
| Point | Diamond or chisel | Diamond or diamond offset[9] | Diamond or chisel |
| Material | Steel | Steel | Steel |
| Tensile strength | Minimum 700 N/mm² | Minimum 800 N/mm² | Minimum 650 N/mm² |

Table 5

Optionally also staples may be used. They shall conform to the criteria of table 6.

| Staples | Type N1 | Type N2 | Type N3 |
|---|---|---|---|
| Wire Ø | Minimum 2,5 mm | Minimum 1,8 mm | Minimum 2,5 mm |
| Length | Minimum 2 × 90 mm | Minimum 2 × 45 mm | Minimum 2 × 70 mm |
| Material | Steel | Steel | Steel |
| Tensile strength | Minimum 650 N/mm² | Minimum 750 N/mm² | Minimum 600 N/mm² |

Table 6

## 3.2. Dimensions

### 3.2.1. Pallet dimensions & permitted deviations

Pallet dimensions and permitted deviations shall be as shown in the attached design drawings CP1 - 9. The permitted length & width deviation is ± 3 mm. The permitted height deviation is + 5 / - 2 mm.

Pallets shall be square. The difference between diagonals shall not exceed 10 mm.

### 3.2.2. Permitted deviations of component parts made of sawn green timber

The permitted deviations of the component parts are mentioned in table 7 [see also attached design drawings CP1 to CP9].

| Component | Dimension | Permitted deviations |
|---|---|---|
| Board | Length | + 0 / - 3 mm |
| | Width | + 3 / - 0 mm |
| | Thickness | + 2 / - 0 mm |
| Block | Length | + 2 / - 2 mm |
| | Width | + 2 / - 2 mm |
| | Height | + 2 / - 2 mm |

Table 7

[9] Diamond points shall be used if the nailing bar is movable, diamond offset points if the nailing bar is fixed.

### 3.2.3. Permitted timber dimensions considering moisture content

The nominal dimensions & permitted deviations of the components in the attached design drawings are dimensions, which are intended to be achieved after the sawing process of green timber. These are the references for the pallet manufacturer when ordering timber.
The minimum dimensions[10] of table 8, which take into account the shrinkage of timber when drying shall be respected.

| Measure | Nominal dimension | Minimum dimension moisture content < 30 % |
|---|---|---|
| Board thickness | 18 mm | 17 mm |
| | 22 mm | 21 mm |
| | 36 mm | 34 mm |
| Board width | 75 mm | 71 mm |
| | 80 mm | 76 mm |
| | 100 mm | 95 mm |
| | 120 mm | 114 mm |
| | 125 mm | 119 mm |
| | 135 mm | 128 mm |
| Block height & width | 80 mm | 74 mm |

Table 8

## 3.3. Manufacturing requirements

### 3.3.1. Component parts

All boards and natural timber blocks shall be of one piece.
Blocks shall be of natural timber, particleboard [see clause 3.1.2. Particleboard blocks] or plastic [see clause 3.1.3. Plastic blocks].

### 3.3.2. Assembly

The position of the components shall conform to the attached design drawings. The permitted deviations in the assembled pallet are +3 and –3 mm.
Unless specified differently in the attached design drawings, the top deck boards shall be equally spaced.

The fixation of natural timber blocks shall conform to the indications of table 9 & 10:
- The fixation of (=) indicated species shall be in parallel to the direction of the wood fibres;
- The fixation of (#) indicated species shall be square to the direction of the wood fibres.

| European grown conifers | Botanical name | Fixation of blocks |
|---|---|---|
| Douglas fir | Pseudotsuga ssp. | # |
| Fir | Abies ssp. | # |
| Larch | Larix ssp. | # |
| Pine | Pinus ssp. | # |
| Redwood | Pinus sylvestris | # |
| Spruce | Picea ssp. | # |

Table 9

[10] For safety reasons the respect of minimum dimensions is critical.

| European grown deciduous woods | Botanical name | Fixation of blocks |
|---|---|---|
| Acacia | Robinia ssp. | # |
| Alder[11] | Alnus ssp. | # |
| Ash | Faxinus excelsior | # |
| Beech | Fagus sylvatica | = or # |
| Birch | Betula ssp. | = or # |
| Chestnut [-Horse] | Aesculus hippocastanum | = or # |
| Elm | Ulmus ssp. | # |
| Maple | Acer ssp. | = or # |
| Oak | Quercus ssp. | = or # |
| Plane | Platanus ssp. | # |
| Poplar[12] | Populus ssp. | # |

Table 10

Missing components are not permitted.

### 3.3.3. Joints

All fasteners shall be driven in vertically.
They shall not be driven in the same wood fibre. The number, the type and the positioning of fasteners shall conform to the attached fastening patterns, both for nails and staples [one nail = one staple].

Fasteners shall not protrude above the surface of the board. Nail heads shall be countersunk between 2 and 4 mm below the surface of the board.

Points of fasteners type N2 protruding below the top or bottom stringer boards shall be bent back. Fasteners shall not pierce the sides of blocks[13].

No splits resulting from assembling shall be visible on boards or blocks.

### 3.3.4. Bottom board chamfer [optional]

Bottom boards may be chamfered as shown in figure 1.

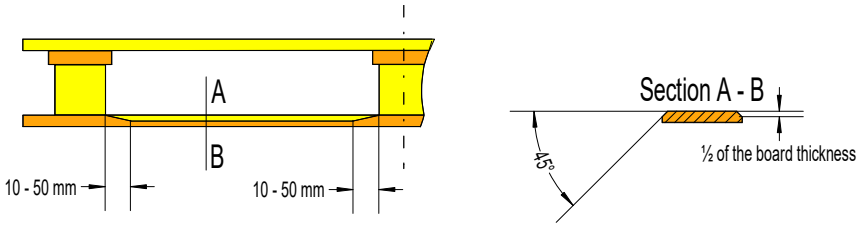



Figure 1

[11] May only be used for deck boards and blocks.
[12] May only be used for deck boards and blocks.
[13] Protruding or piercing nails are dangerous. For safety reasons, the respect of the specified requirements is critical.

### 3.3.5. Finishing

All timber components shall be sawn squarely and have a clean cut.
The outer surfaces of the deck and bottom boards shall not be planed.

Except for CP5, the four corners of the pallets shall be chamfered as shown in the attached design drawings.

Pallets shall be clean.

### 3.3.6. Marking

CP's shall be marked on the outer side of the blocks as shown in figure 2.
Markings shall be clearly legible. Only following techniques shall be used:

- Natural timber and particleboard blocks, by hot strong burning;
- Plastic blocks, by hot strong burning or by hot film stamping in white.

As the CP Pallets producers should follow the International Standard for Phytosanitary Measures (ISPM), number 15 rules, we now introduce in this edition the obligation to put on the left block the ISPM 15 mark of the CP pallets producer.

To improve the quality monitoring of the CP pallets, we also introduce on the right block the use of the registered trademark "Certipal" that is associated with regular plant inspections organised by a professional inspection company.

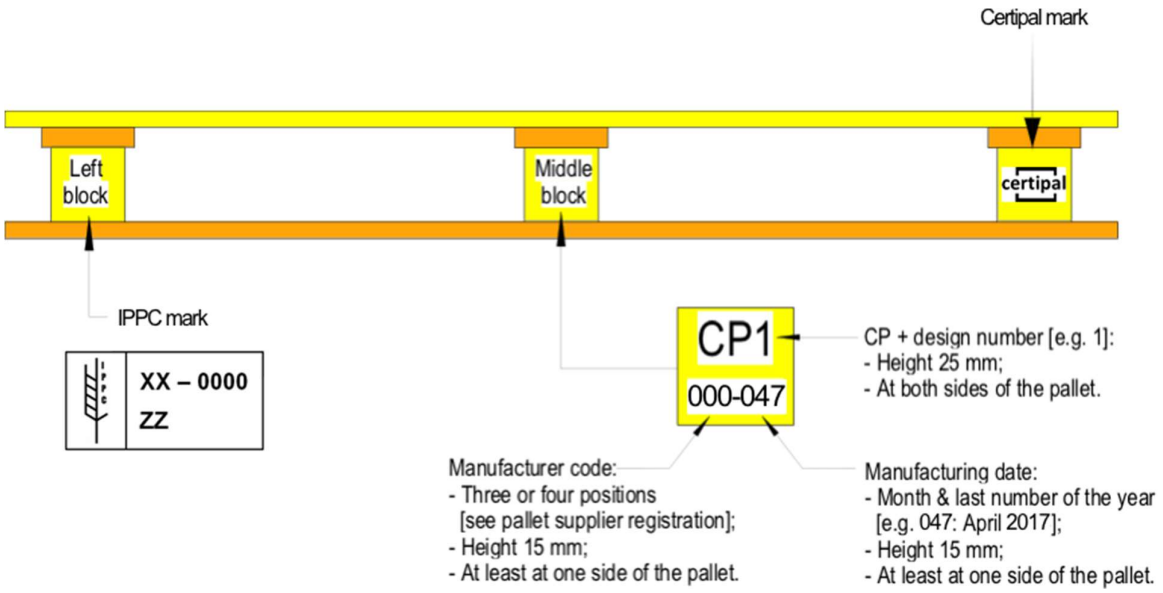



Figure 2

## C. Collection of used CP's

When requested, the registered CP supplier [see chapter A. Pallet supplier registration] shall offer to owners of used CP's the free collection of pallets up to at least 50 km from his facilities and shall respect the lead times of table 11.

| Number of pallets | Maximum collection lead time |
|---|---|
| > 400 | 2 weeks |
| 100 – 400 | 4 weeks |
| 20 - 100 | 3 months |

Table 11

No free collection has to be offered if:
- More than 10 % of the pallets have unacceptable deficiencies [see chapter D. Reconditioning specification];
- Less than 20 pallets are offered; they shall be accepted without costs when delivered to the registered supplier or collected after payment of transport costs.

No collection shall be offered for pallets manufactured without respect of the manufacturing specifications [poor timber quality or thickness, missing manufacturing markings, etc.] or for pallets contaminated with chemical products.

## D. Reconditioning specification

### 1. Scope

This part of the standard defines the unacceptable deficiencies of used CP's, and specifies the reconditioning criteria.

### 2. Unacceptable deficiencies

The following conditions make CP's unacceptable for re-use[14] and acceptance for reconditioning is limited to 10 % of the total amount of offered pallets:
- Missing or broken components;
- Component damage such as:
  - Missing wood on boards > ¼ of the width of the board or making a fastener shank visible;
  - Splits on boards > ½ of the width of the board;
  - Warped boards > ½ of the thickness of the board;
  - Missing wood on blocks, making a fastener shank visible;
  - Splits on blocks.
- Loose components or fasteners;
- Twisted blocks;
- Protruding nail heads;
- Pallets with mould or rot;
- Dirty or contaminated pallets;
- Pallets with materials or components that have been previously incorrectly applied.

Minor damages as a result of normal use and discoloration due to the weathering are permitted.

Pallets, which are unacceptable for re-use, shall either be reconditioned or disposed of properly.

[14] Unacceptable deficiencies make the pallet unsafe.

## 3. Reconditioning criteria

### 3.1. Repair

The acceptance of pallets for re-use is strongly influenced by the quality of the repair[15].

Damaged components shall be removed and replaced.
The replacing components shall be from either new timber or re-used CP-timber.
New components or re-used CP-components and fasteners shall conform to the manufacturing specification [see clause 3.1. Materials requirements & clause 3.2. Dimensions].

The assembly shall conform to the manufacturing specification [see clause 3.3. Manufacturing requirements].

Loose components, split boards and twisted blocks shall be put back in the original position and fixed.
Protruding nail heads shall be hammered flush to the surface of the board.

The number of fasteners per joint and the positioning shall repeat the original pattern [see attached fastening patterns CP1 to CP9].
If extra fasteners have to be used, they shall be positioned never closer than 15 mm either from the end or from the edge of a component.

Collated nails used in pneumatic tools shall meet the criteria of table 12.

| **Nails** | **Type N1** | **Type N2** | **Type N3** |
|---|---|---|---|
| Shank | Square twisted, spiral rolled or annular ring rolled | Annular ring rolled | Square twisted, spiral rolled or annular ring rolled |
| Wire Ø | Minimum 3,1 mm | Minimum 2,0 mm | Minimum 2,5 mm |
| Length | Minimum 80 mm | Minimum 35 mm | Minimum 60 mm |
| Point | Diamond | Diamond or diamond offset | Diamond |
| Material | Steel | Steel | Steel |
| Tensile strength | Minimum 700 N/mm² | Minimum 800 N/mm² | Minimum 650 N/mm² |

Table 12

### 3.2. Cleaning

Dirt shall be removed. If any doubt exists as to the nature of the contamination, the pallets shall be disposed of properly.

[15] For safety reasons, the respect of the specified repair criteria is critical.

### 3.3. Marking

Reconditioned CP's shall be marked on the outer side of the blocks as shown in figure 3 [see also attached design drawings CP1 to CP 9].

Markings shall be clearly legible. Only following techniques shall be used:
- Natural timber and particle board blocks, by hot strong burning or by ink stamping; paint is not allowed;
- Plastic blocks, by hot strong burning or by hot film stamping in white.

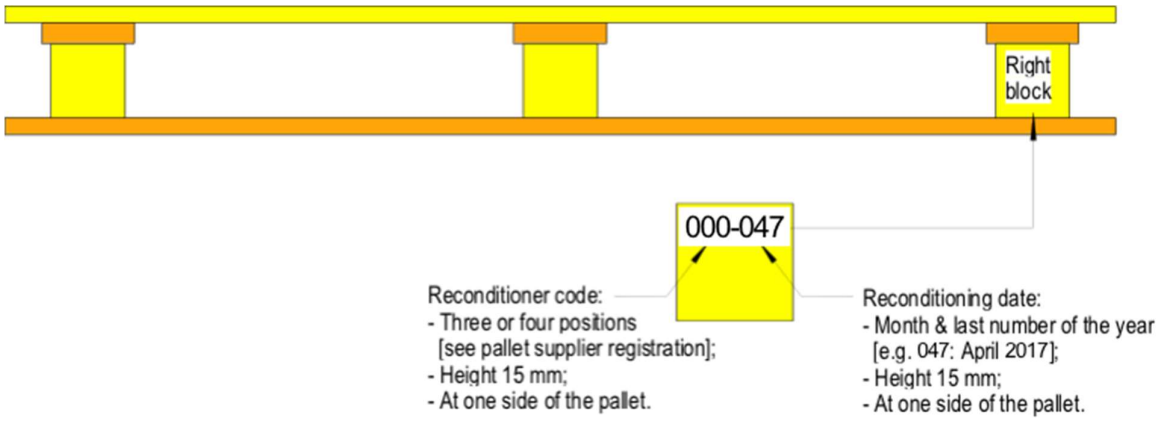



Figure 3

The first reconditioning shall be marked at the top of the block, the second reconditioning below, etc.

## E. Conformity to environmental legislation

Both newly manufactured and reconditioned CP's shall conform to the current European Packaging and Packaging Waste Directive, 94/62/EC at the moment.

## F. Quality assurance

Suppliers of non-conforming quality can be liable in case of damage or accident.

Visual inspection for quality can be done in accordance with the attached inspection reports.

## G. Safe Working Load

Experience has demonstrated that the Safe Working Load of a given pallet is strongly influenced by the type of the applied load.
The effect of different types of load such as, centrally placed loads, interlocked or not-interlocked units, various patterns of sacks, Flexible or Rigid Intermediate Bulk Containers, etc., and the influence of securing or wrapping.
Besides the application of a loaded pallet is important. Pallet racking is considered as the most severe kind of application. The Safe Working Load of racked pallets can be defined by the method[16] described hereafter.
The Safe Working Load defined this way is also valid for less severe kinds of application such as block stacking.

Method to define the Safe Working Load of racked pallets:
- Place 3 CP-replicates with the same applied load on pallet supports, parallel to the direction of the deck boards as shown in figure 4 [this is the weakest direction of all CP-designs];
- Measure the deflection at point A, B and C after 24 hours. In case of packed solids one testing hour is sufficient, as afterwards the deflection will not change significantly.

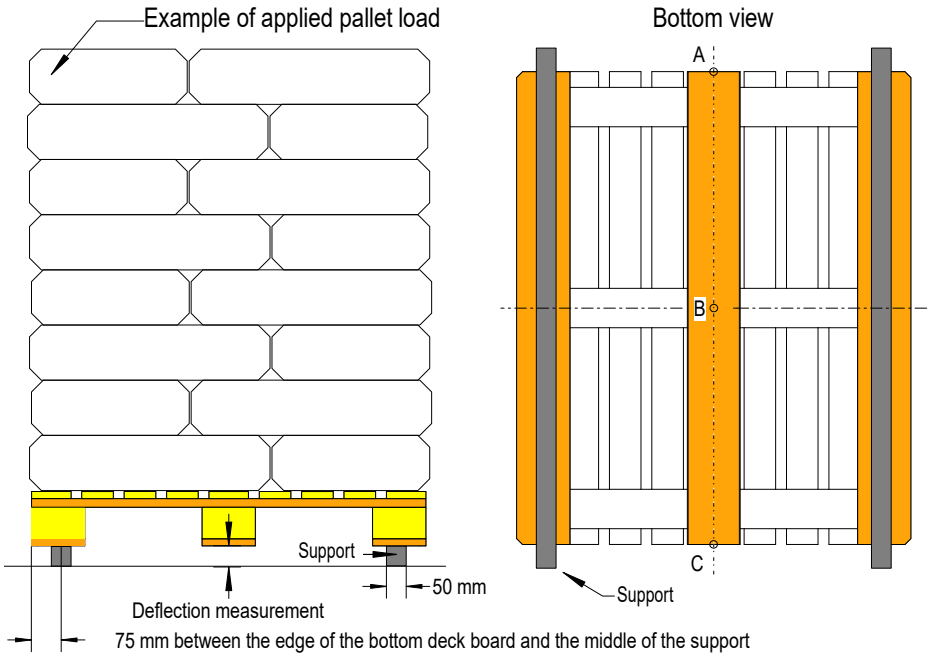



Figure 4

[16] This method is accurate to the best of our knowledge. No liability whatsoever arising from the use of this method can be accepted.

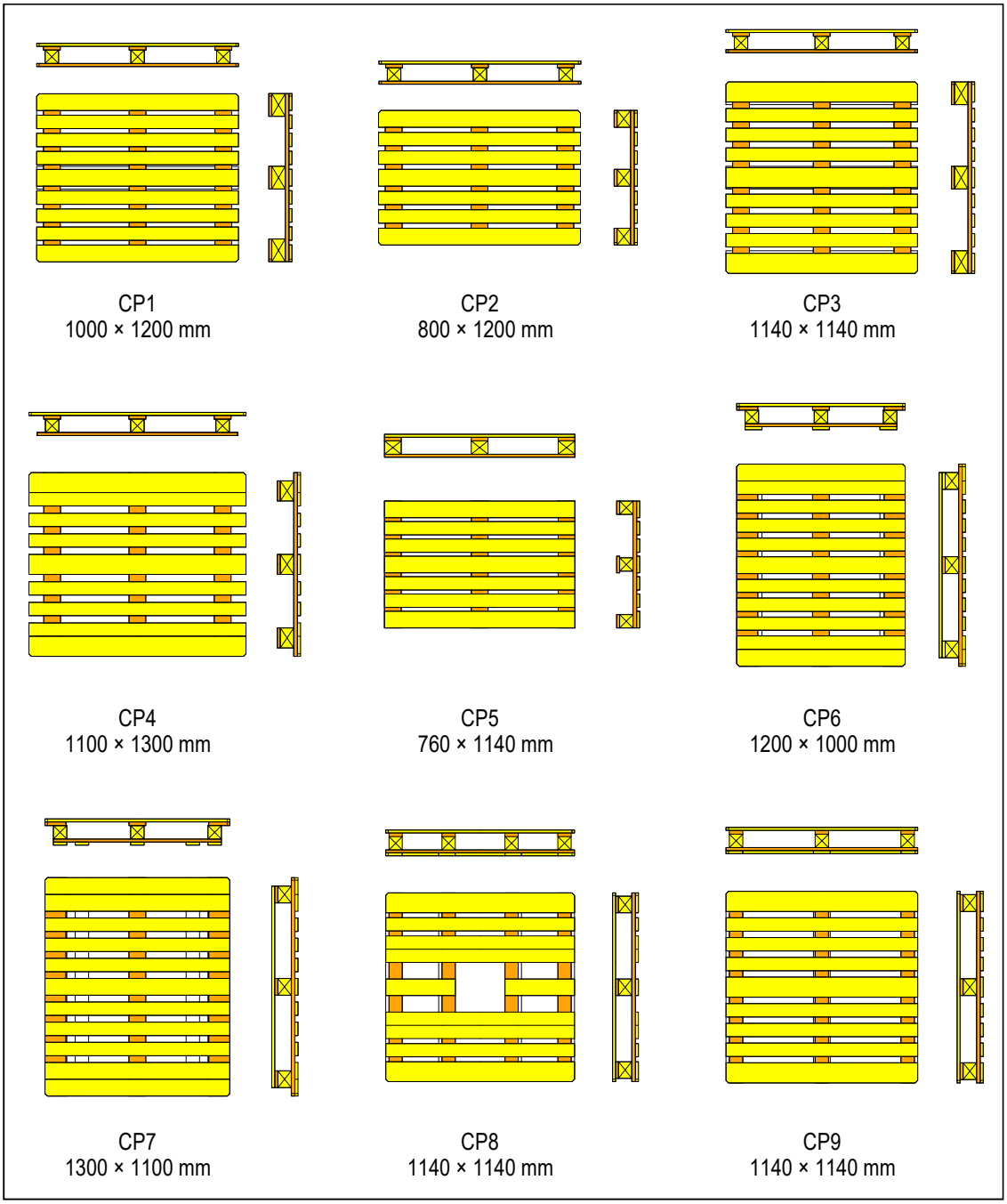
The average deflection at point A, B & C of each pallet shall be lower than the maximum deflection values shown in table 13. If the average deflection exceeds those values, the Safe Working Load of racked pallets has been exceeded. The applied load has to be reduced and the test shall be repeated with less weight until no exceeding of the maximum deflection is measured.

| CP-design | Maximum deflection | Average breaking load |
|---|---|---|
| 1 | 12 mm | 10,2 kN |
| 2 | 12 mm | 14,8 kN |
| 3 | 19 mm | 9,0 kN |
| 4 | 14 mm | 9,8 kN |
| 5 | 12 mm | 13,5 kN |
| 6 | 16 mm | 18,2 kN |
| 7 | 17 mm | 16,3 kN |
| 8 | 18 mm | 19,6 kN |
| 9 | 17 mm | 15,8 kN |

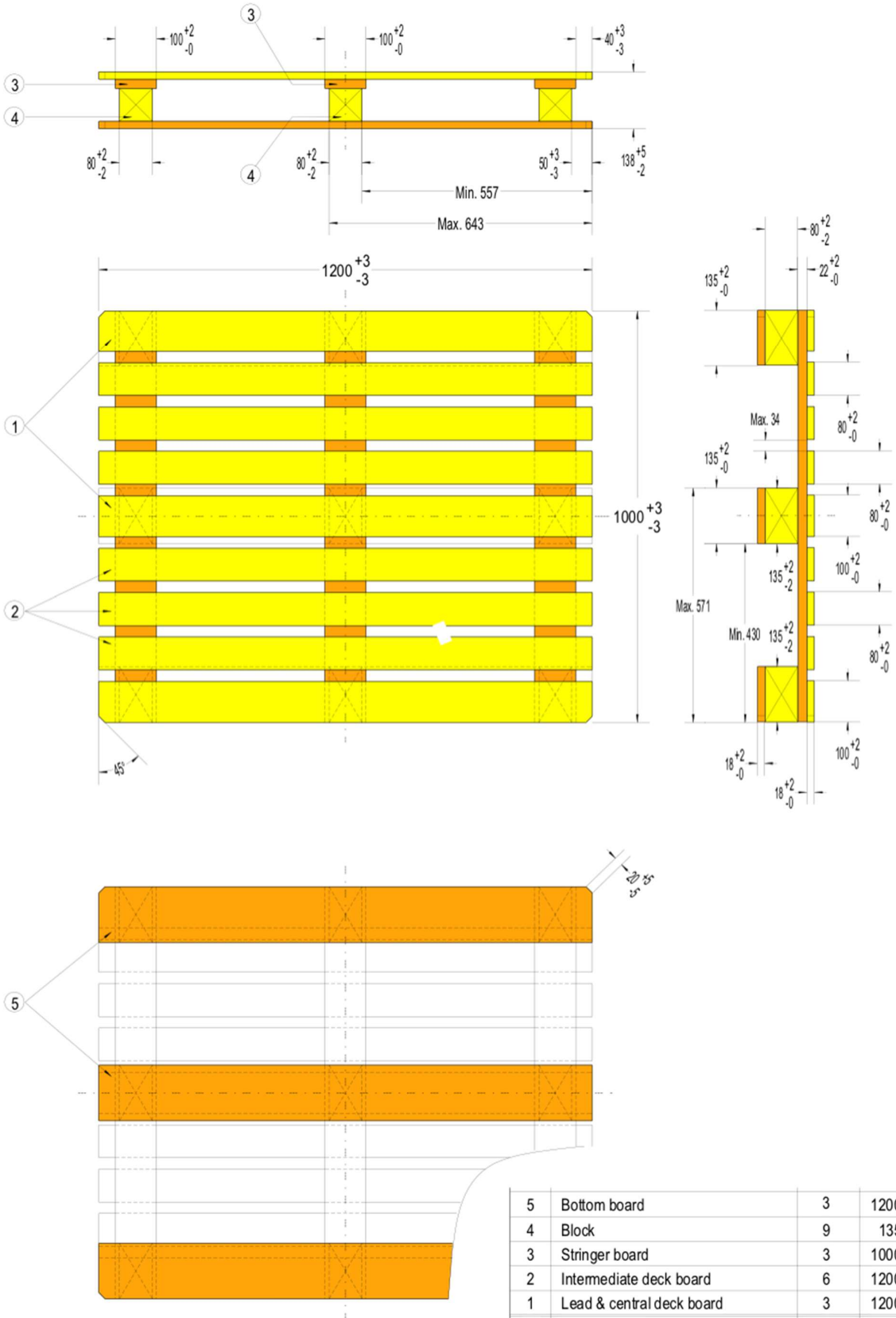
Table 13

The values in table 13 have been defined with the bending test specified in ISO 8611. The maximum deflection corresponds to the value at 50 % of the breaking load, which means the rated load of the pallet with a safety factor of two. The average breaking load has been defined with 5 replicates constructed from a weak wood species but conforming to the specified timber quality with an ultimate strength in static bending of 42 N/mm². The test described here above should be performed with pallets of comparable quality.
Deflection tests are not necessary when the Safe Working Load has already been defined for similar applications.

## H. Overview CP1 to CP9



# Design drawing




| Nr. | Denomination | Number | Nominal dimensions |
|---|---|---|---|
| 5 | Bottom board | 3 | 1200 × 135 × 18 |
| 4 | Block | 9 | 135 × 80 × 80 |
| 3 | Stringer board | 3 | 1000 × 100 × 22 |
| 2 | Intermediate deck board | 6 | 1200 × 80 × 18 |
| 1 | Lead & central deck board | 3 | 1200 × 100 × 18 |

Nominal timber volume: 40,0 dm³

Unit of measurement: mm | Projection

**Wooden pallet 1000 × 1200 mm**

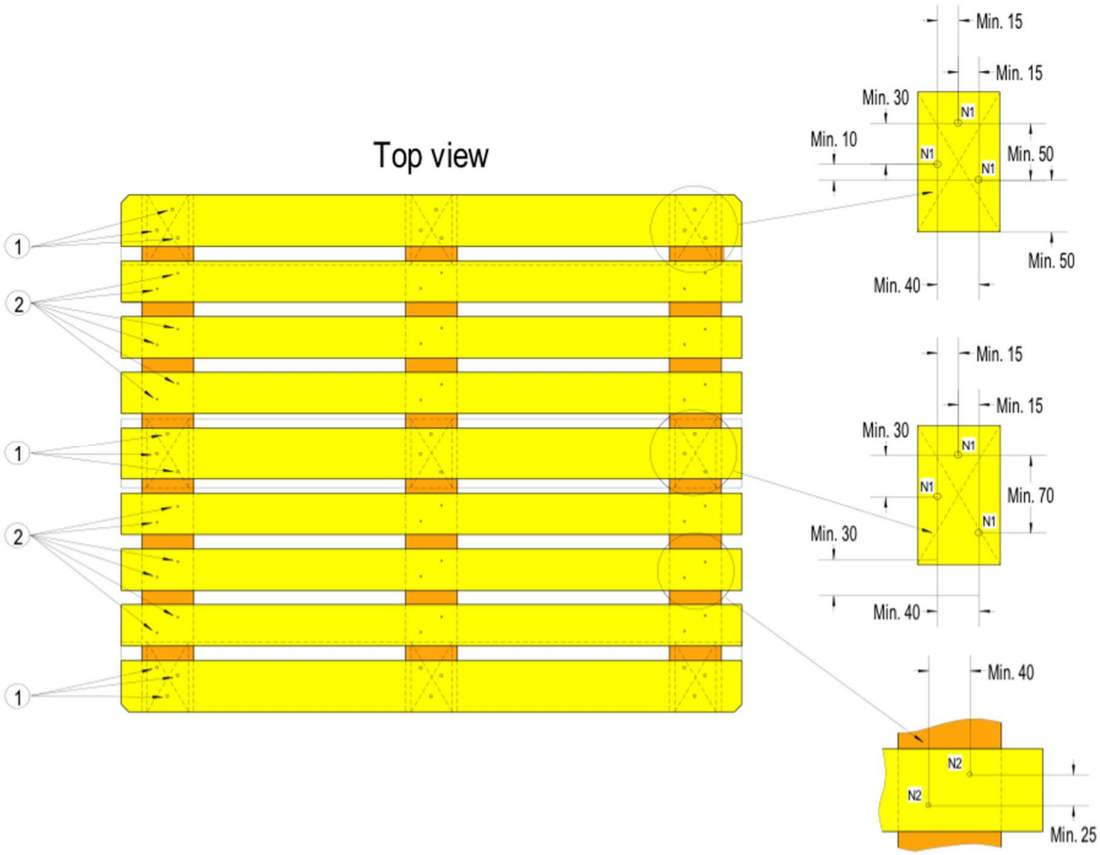
**CP1**

July 2017

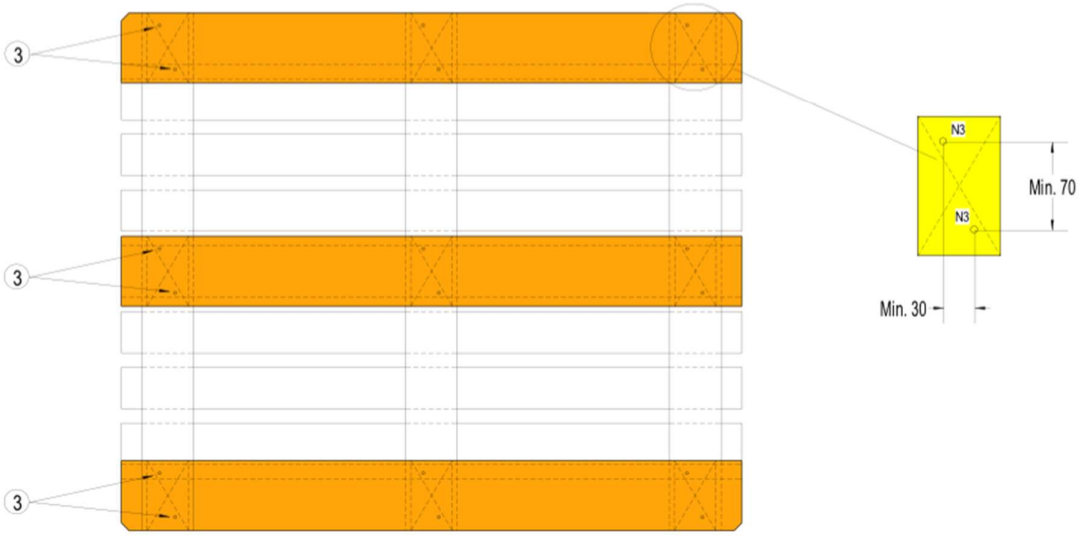
Edition: 7

# Fastening pattern

## Top view




## Bottom view




| | | |
|---|---|---|
| 3 | Bottom board - block | 18 × N3 |
| 2 | Intermediate deck board - stringer board | 36 × N2 |
| 1 | Lead & central deck board - stringer board - block | 27 × N1 |
| Position | Joint | Number |

Unit of measurement: mm

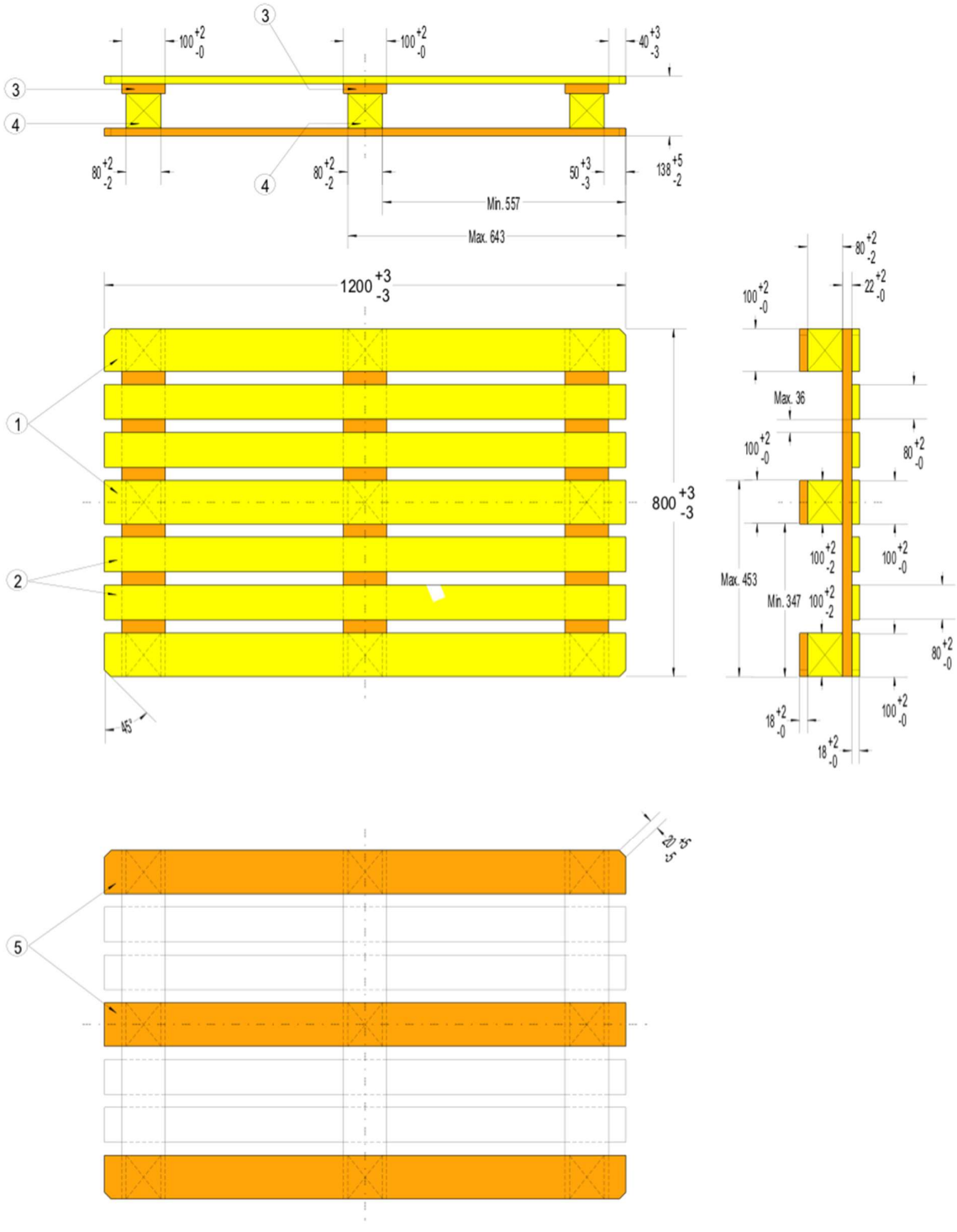
# CP1

Wooden pallet 1000 × 1200 mm

July 2017

Edition: 7

# Design drawing




| Nr. | Denomination | Number | Nominal dimensions |
|---|---|---|---|
| 5 | Bottom board | 3 | 1200 × 100 × 18 |
| 4 | Block | 9 | 100 × 80 × 80 |
| 3 | Stringer board | 3 | 800 × 100 × 22 |
| 2 | Intermediate deck board | 4 | 1200 × 80 × 18 |
| 1 | Lead & central deck board | 3 | 1200 × 100 × 18 |

Nominal timber volume: 30,9 dm³

Unit of measurement: mm | Projection

**Wooden pallet 800 × 1200 mm**

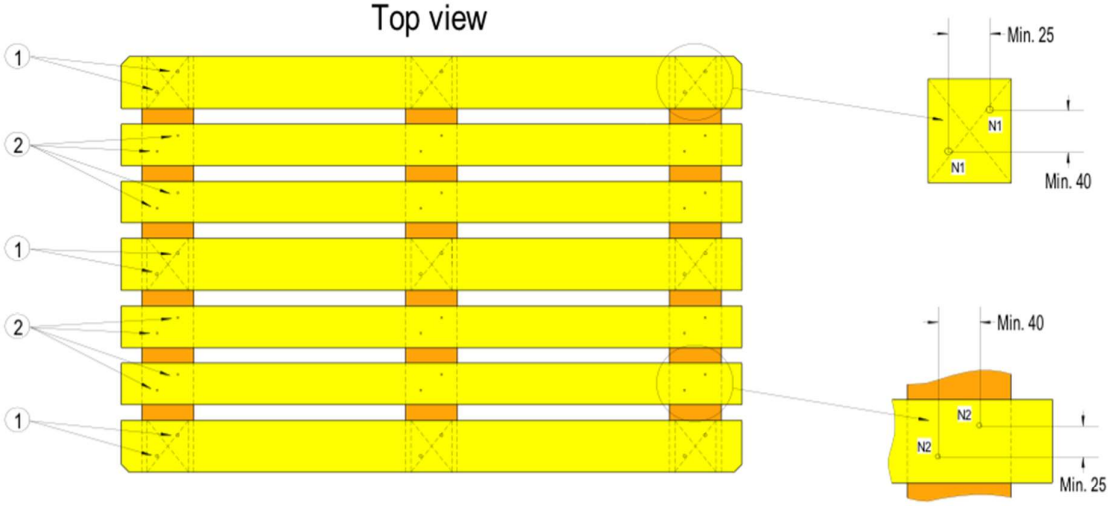
**CP2**

July 2017

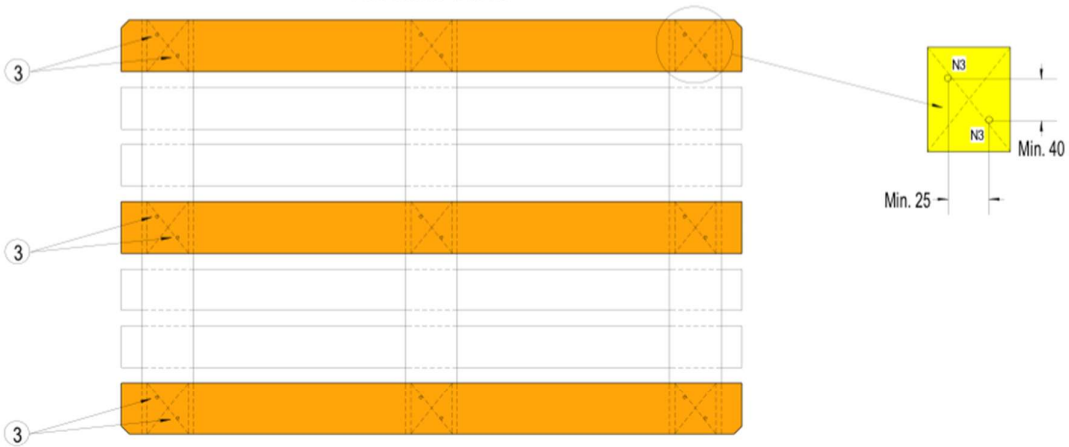
Edition: 7

# Fastening pattern

## Top view




## Bottom view




| Position | Joint | Number |
|---|---|---|
| 3 | Bottom board - block | 18 × N3 |
| 2 | Intermediate deck board - stringer board | 24 × N2 |
| 1 | Lead & central deck board - stringer board - block | 18 × N1 |

Unit of measurement: mm

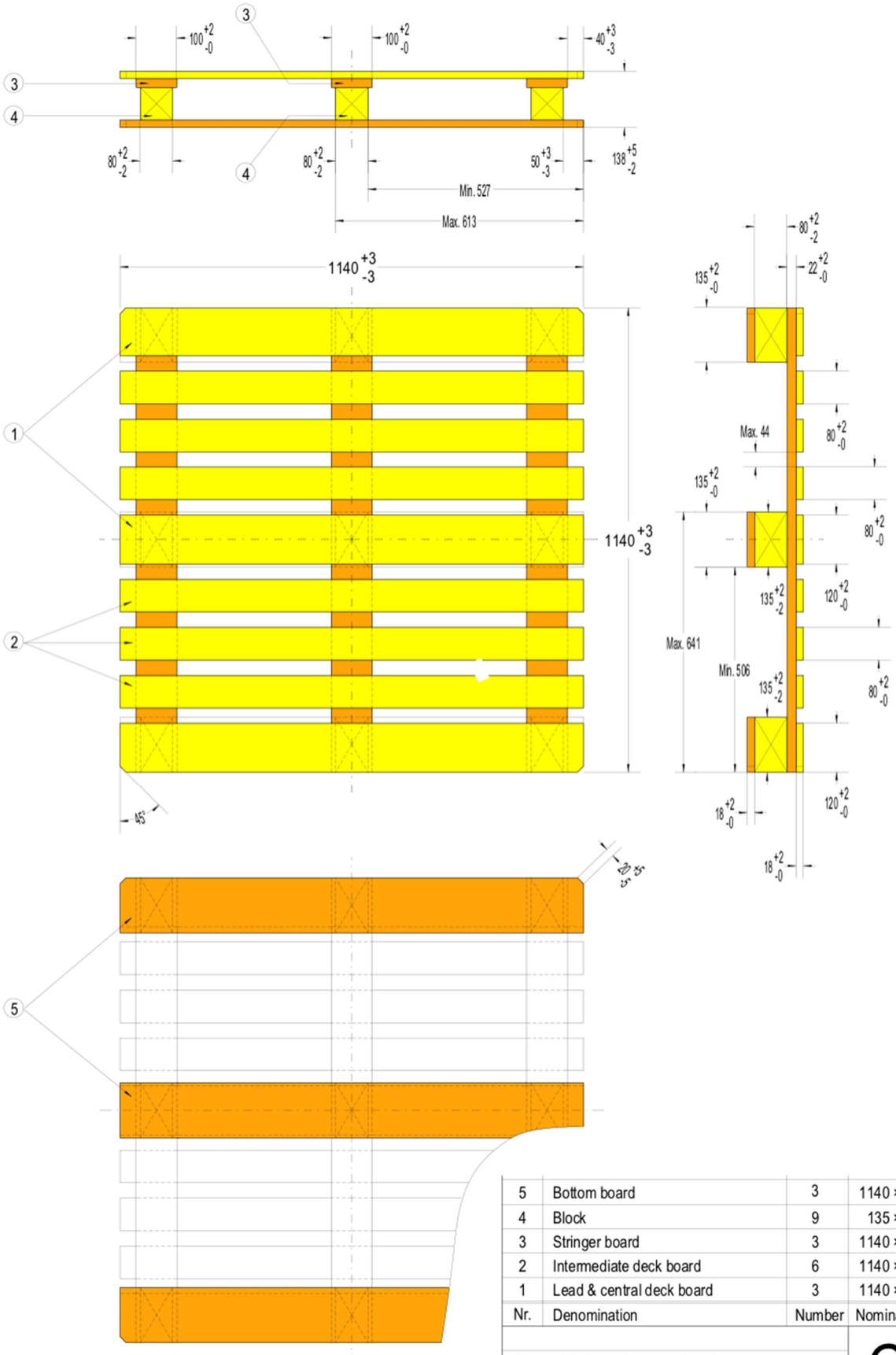
**CP2**

Wooden pallet 800 × 1200 mm

July 2017

Edition: 7

# Design drawing




| Nr. | Denomination | Number | Nominal dimensions |
|---|---|---|---|
| 5 | Bottom board | 3 | 1140 × 135 × 18 |
| 4 | Block | 9 | 135 × 80 × 80 |
| 3 | Stringer board | 3 | 1140 × 100 × 22 |
| 2 | Intermediate deck board | 6 | 1140 × 80 × 18 |
| 1 | Lead & central deck board | 3 | 1140 × 120 × 18 |

Nominal timber volume: 40,8 dm³

Unit of measurement: mm | Projection

**Wooden pallet 1140 × 1140 mm**

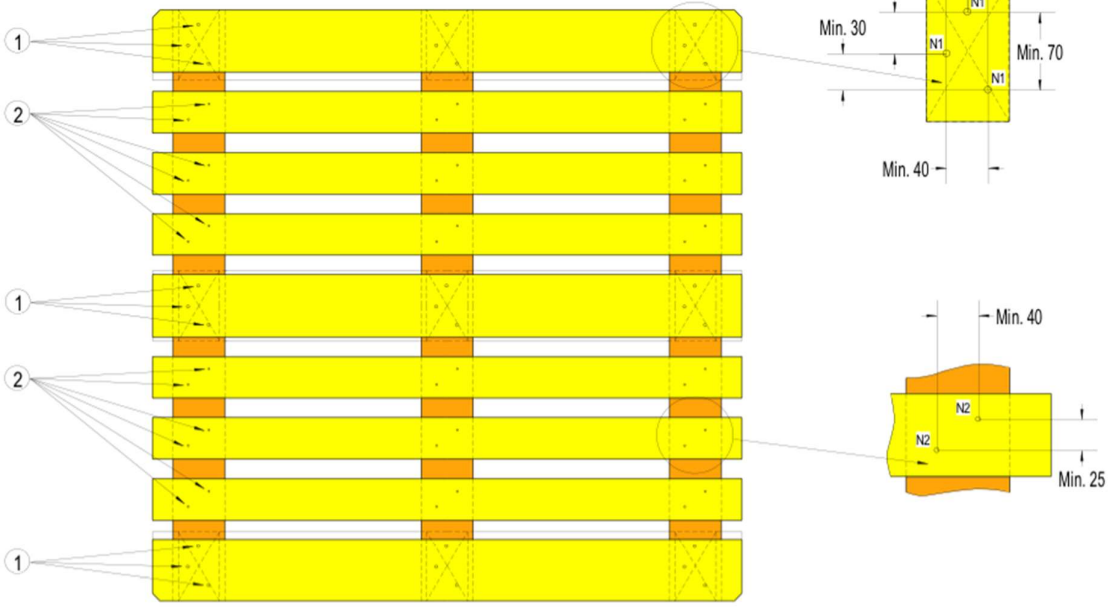
**CP3**

July 2017

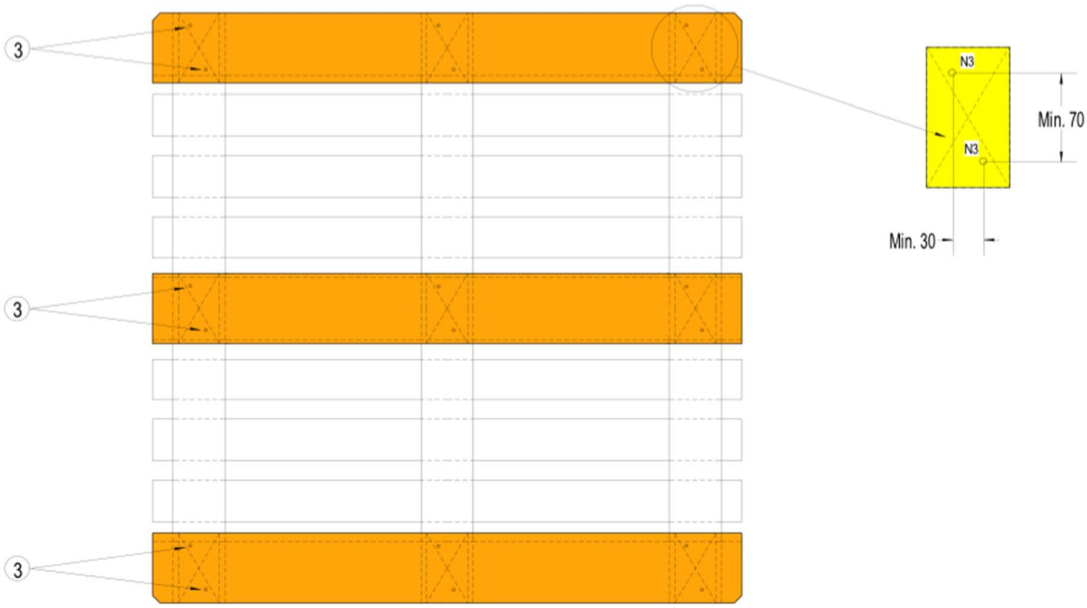
Edition: 7

# Fastening pattern

## Top view




## Bottom view




| Position | Joint | Number |
|---|---|---|
| 3 | Bottom board - block | 18 × N3 |
| 2 | Intermediate deck board - stringer board | 36 × N2 |
| 1 | Lead & central deck board - stringer board - block | 27 × N1 |

Unit of measurement: mm

**CP3**

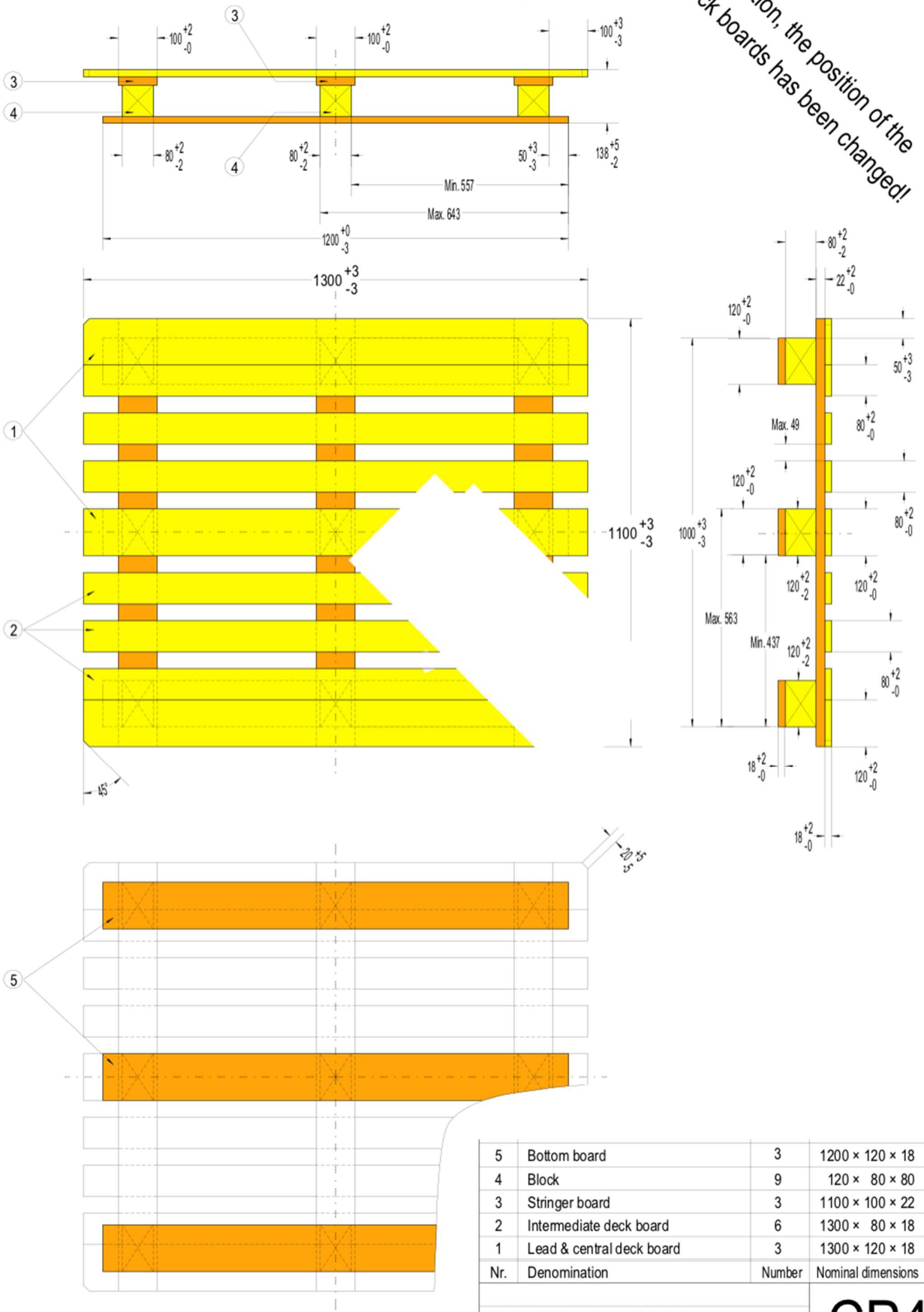
Wooden pallet 1140 × 1140 mm

July 2017

Edition: 7

# Design drawing

Attention, the position of the deck boards has been changed!




| Nr. | Denomination | Number | Nominal dimensions |
|---|---|---|---|
| 5 | Bottom board | 3 | 1200 × 120 × 18 |
| 4 | Block | 9 | 120 × 80 × 80 |
| 3 | Stringer board | 3 | 1100 × 100 × 22 |
| 2 | Intermediate deck board | 6 | 1300 × 80 × 18 |
| 1 | Lead & central deck board | 3 | 1300 × 120 × 18 |

Nominal timber volume: 41,6 dm³

Unit of measurement: mm | Projection

## Wooden pallet 1100 × 1300 mm

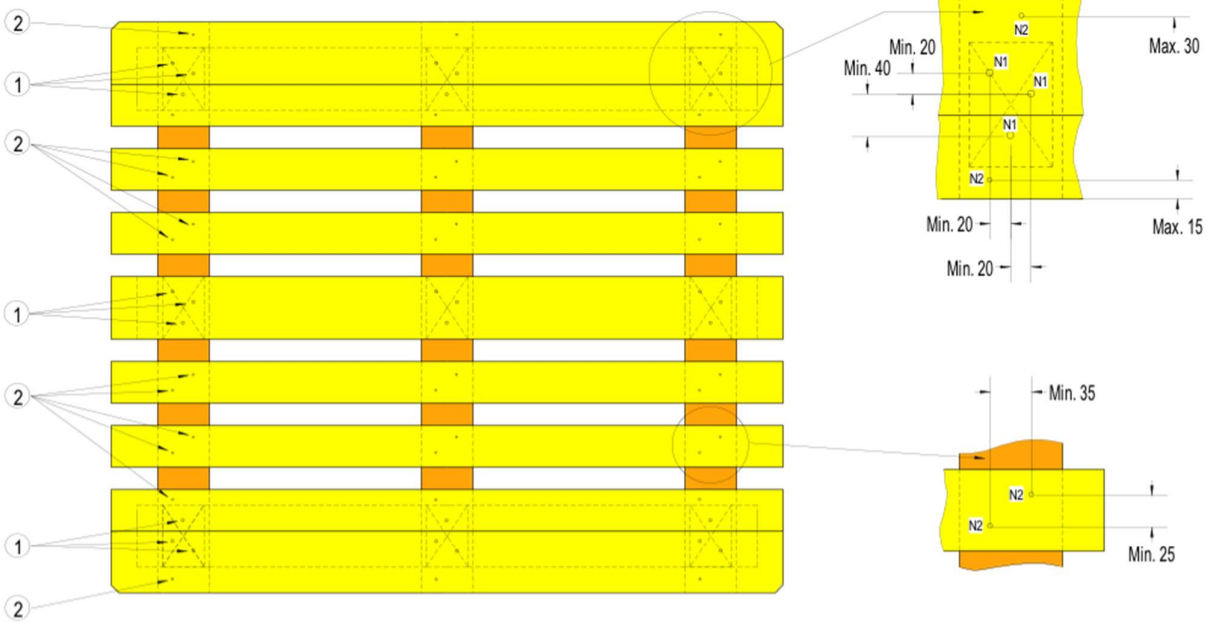
# CP4

July 2017

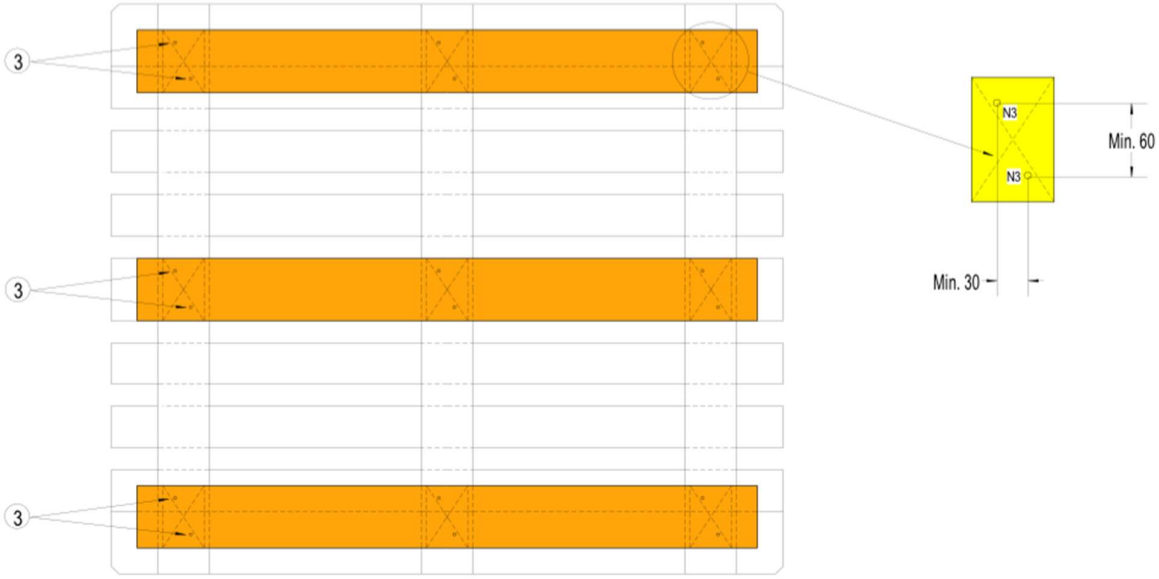
Edition: 7

# Fastening pattern

## Top view




## Bottom view




| Position | Joint | Number |
|---|---|---|
| 3 | Bottom board - block | 18 × N3 |
| 2 | Deck board - stringer board | 42 × N2 |
| 1 | Lead & central deck board - stringer board - block | 27 × N1 |

Unit of measurement: mm

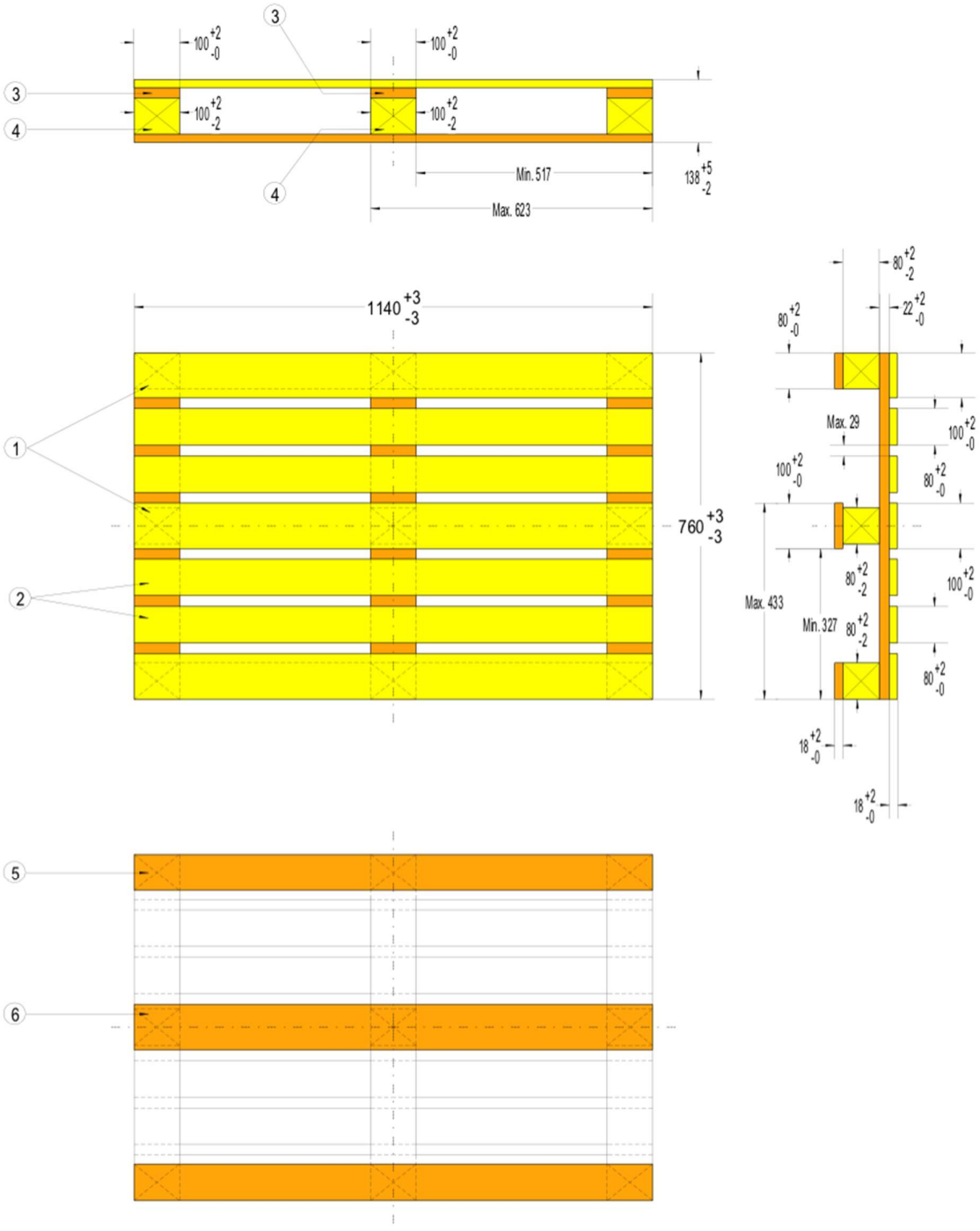
**CP4**

Wooden pallet 1100 × 1300 mm

July 2017

Edition: 7

# Design drawing




| Nr. | Denomination | Number | Nominal dimensions |
|---|---|---|---|
| 6 | Central bottom board | 1 | 1140 × 100 × 18 |
| 5 | Lead bottom board | 2 | 1140 × 80 × 18 |
| 4 | Block | 9 | 100 × 80 × 80 |
| 3 | Stringer board | 3 | 760 × 100 × 22 |
| 2 | Intermediate deck board | 4 | 1140 × 80 × 18 |
| 1 | Lead & central deck board | 3 | 1140 × 100 × 18 |

Nominal timber volume: 28,8 dm³

Unit of measurement: mm | Projection

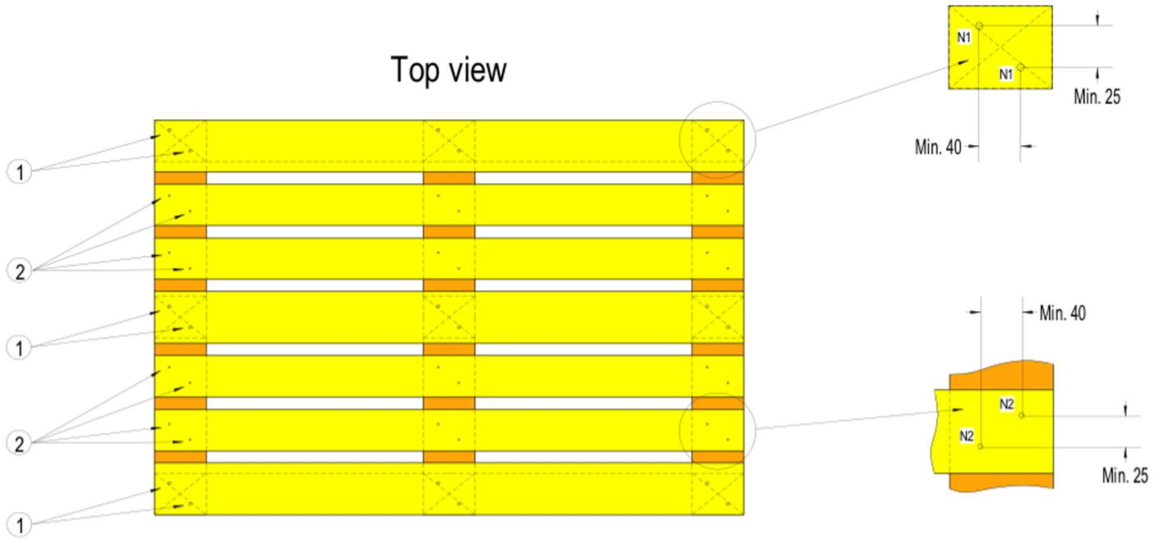
**Wooden pallet 760 × 1140 mm**

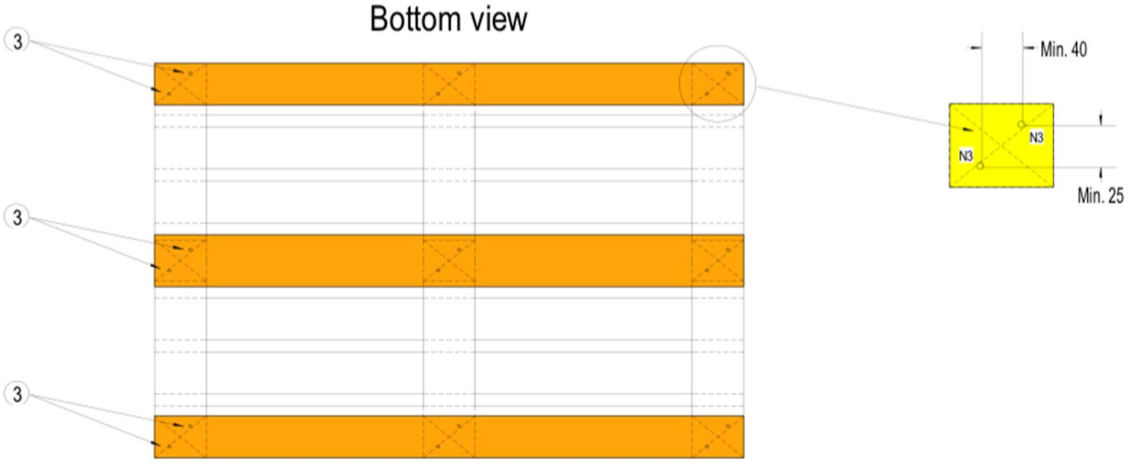
**CP5**

July 2017

Edition: 7

# Fastening pattern




| Position | Joint | Number |
|---|---|---|
| 3 | Lead & central bottom board - block | 18 × N3 |
| 2 | Intermediate deck board - stringer board | 24 × N2 |
| 1 | Lead & central deck board - stringer board - block | 18 × N1 |

Unit of measurement: mm

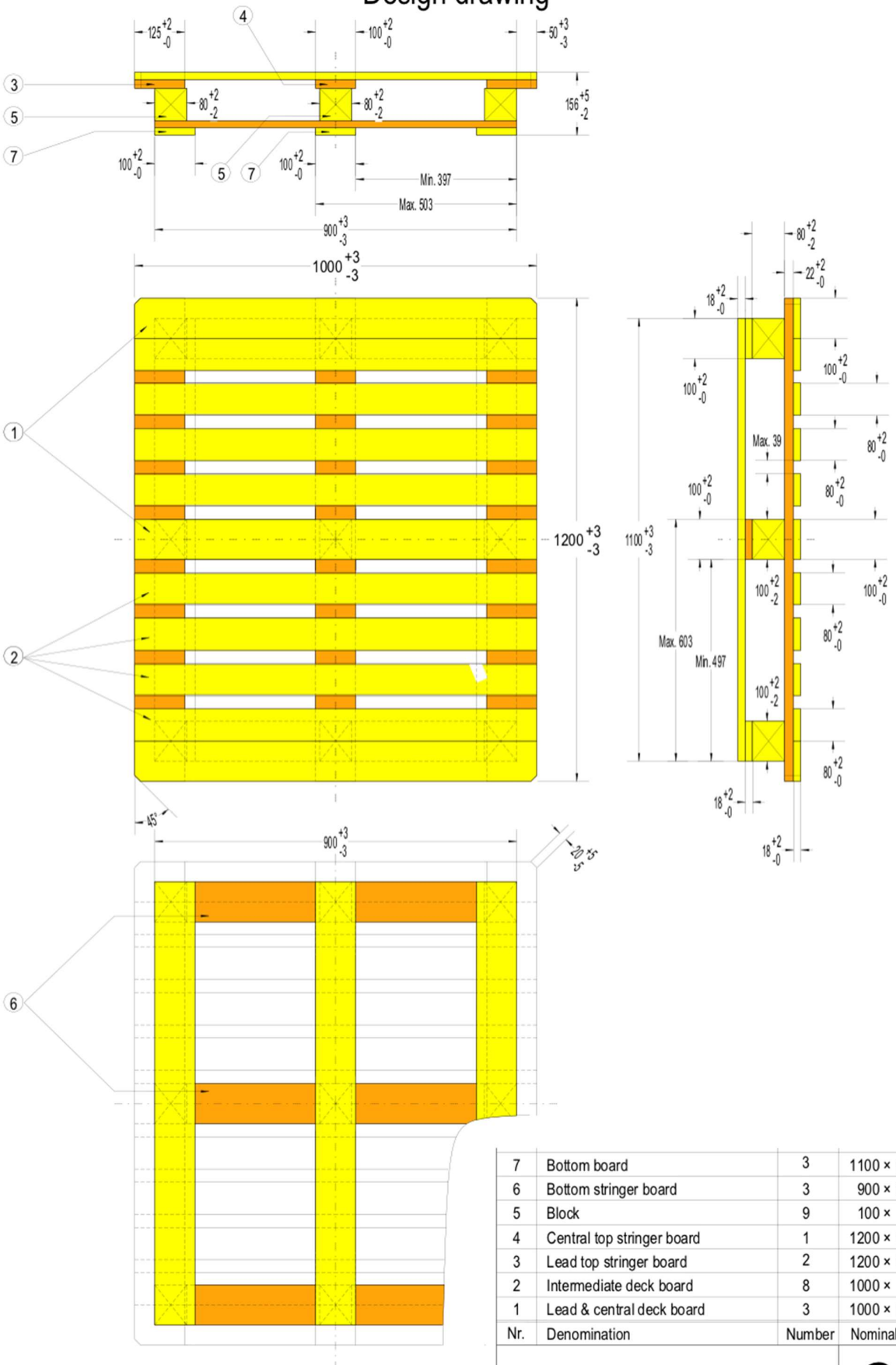
**CP5**

Wooden pallet 760 × 1140 mm

July 2017

Edition: 7

# Design drawing




| Nr. | Denomination | Number | Nominal dimensions |
|---|---|---|---|
| 7 | Bottom board | 3 | 1100 × 100 × 18 |
| 6 | Bottom stringer board | 3 | 900 × 100 × 18 |
| 5 | Block | 9 | 100 × 80 × 80 |
| 4 | Central top stringer board | 1 | 1200 × 100 × 22 |
| 3 | Lead top stringer board | 2 | 1200 × 125 × 22 |
| 2 | Intermediate deck board | 8 | 1000 × 80 × 18 |
| 1 | Lead & central deck board | 3 | 1000 × 100 × 18 |

Nominal timber volume: 42,7 dm³

Unit of measurement: mm | Projection

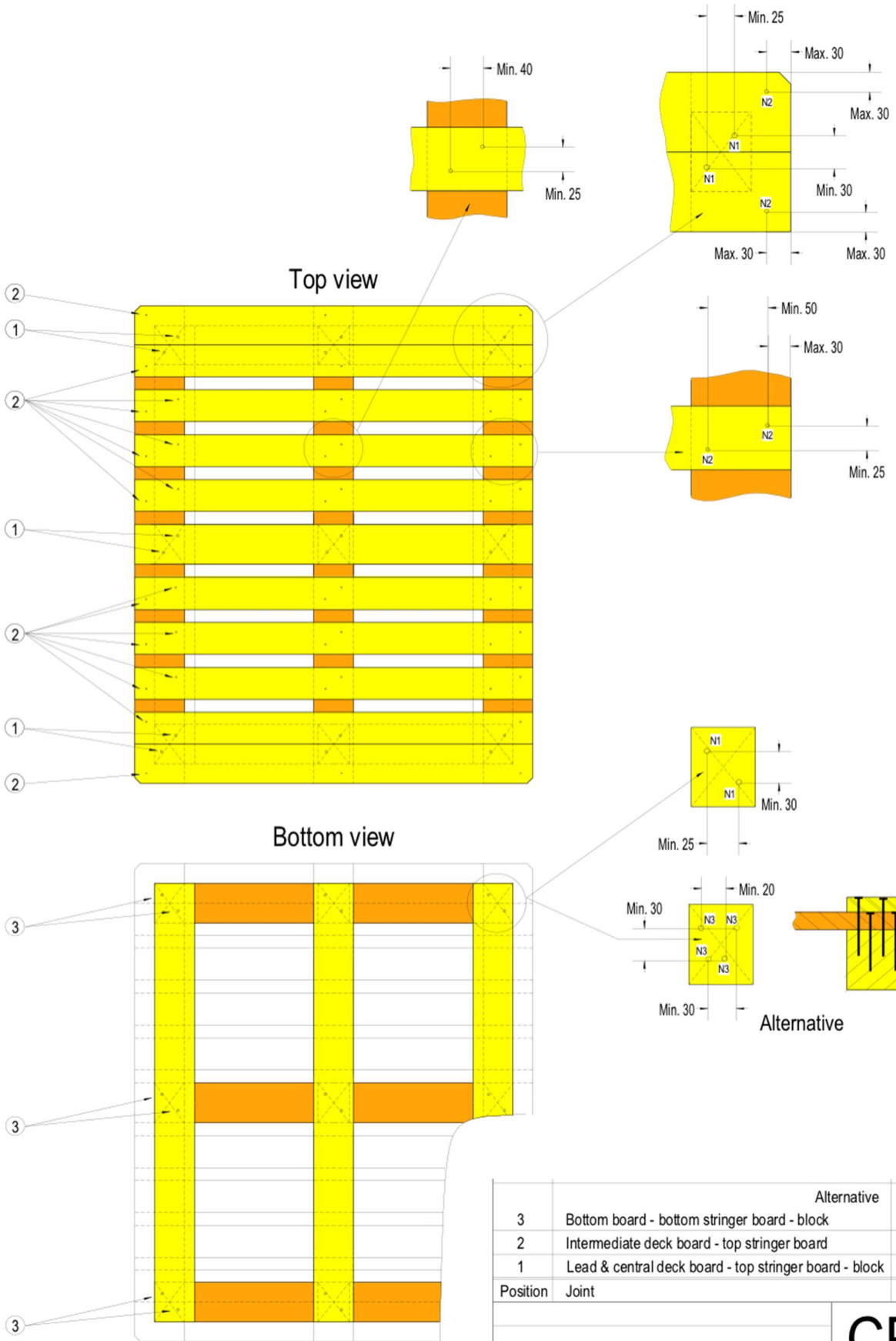
# Wooden pallet 1200 × 1000 mm

# CP6

July 2017

Edition: 7

# Fastening pattern




| Position | Joint | Number |
|---|---|---|
| 1 | Lead & central deck board - top stringer board - block | 18 × N1 |
| 2 | Intermediate deck board - top stringer board | 48 × N2 |
| 3 | Bottom board - bottom stringer board - block | 18 × N1 |
| | Alternative | 36 × N3 |

Unit of measurement: mm

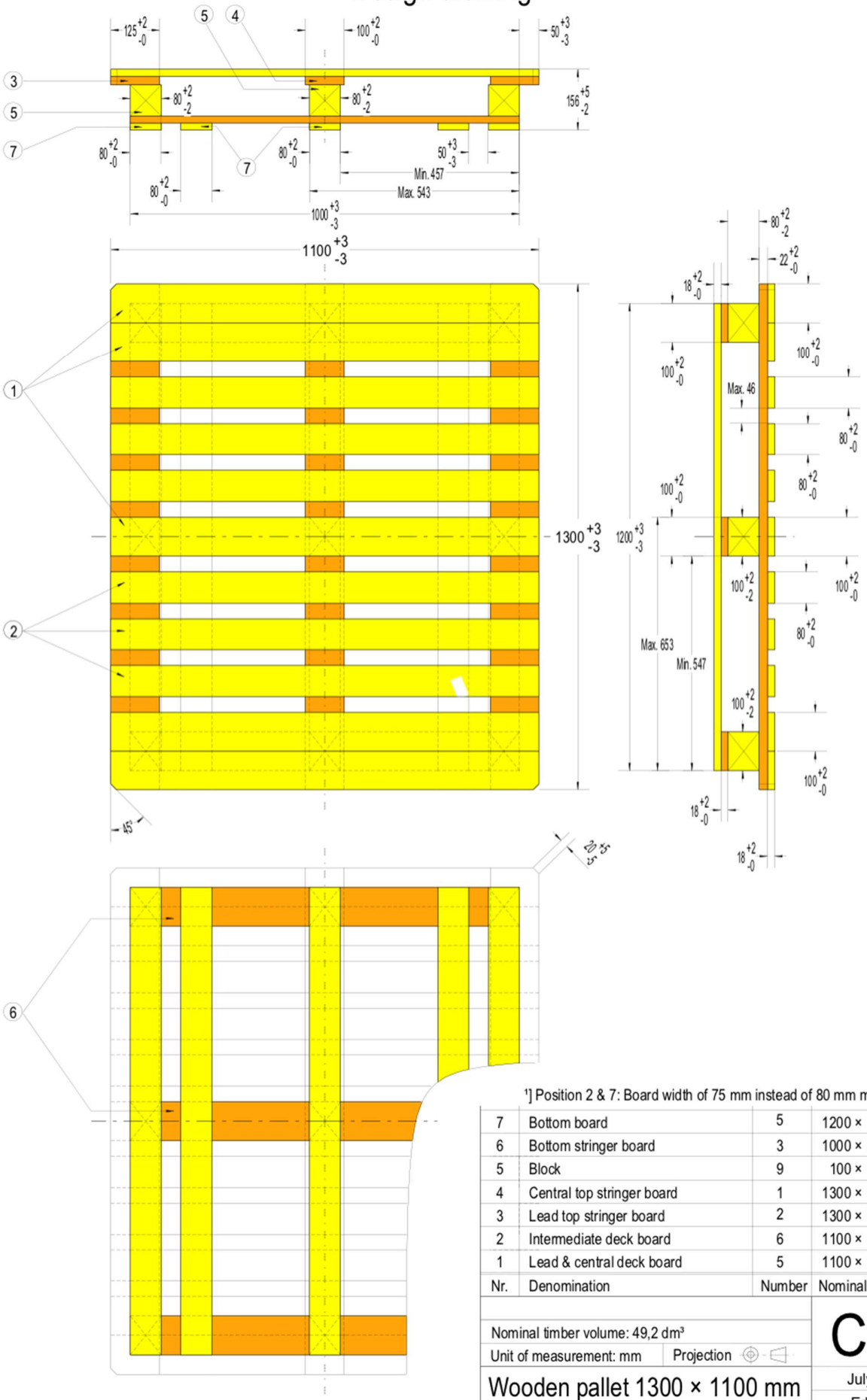
**CP6**

Wooden pallet 1200 × 1000 mm

July 2017

Edition: 7

# Design drawing




¹] Position 2 & 7: Board width of 75 mm instead of 80 mm may be used.

| Nr. | Denomination | Number | Nominal dimensions |
|---|---|---|---|
| 7 | Bottom board | 5 | 1200 × 80 × 18 ¹] |
| 6 | Bottom stringer board | 3 | 1000 × 100 × 18 |
| 5 | Block | 9 | 100 × 80 × 80 |
| 4 | Central top stringer board | 1 | 1300 × 100 × 22 |
| 3 | Lead top stringer board | 2 | 1300 × 125 × 22 |
| 2 | Intermediate deck board | 6 | 1100 × 80 × 18 ¹] |
| 1 | Lead & central deck board | 5 | 1100 × 100 × 18 |

Nominal timber volume: 49,2 dm³

Unit of measurement: mm | Projection

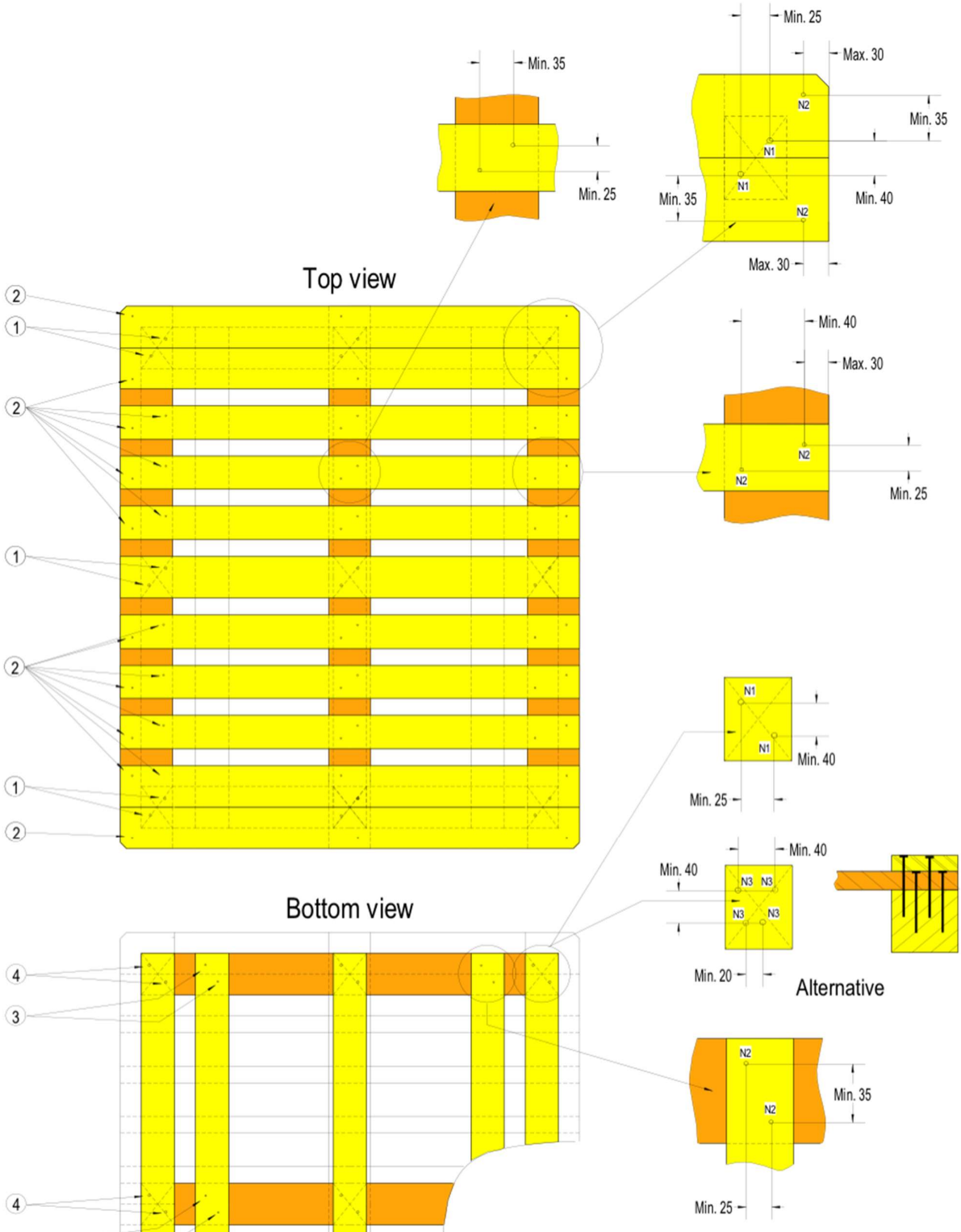
# Wooden pallet 1300 × 1100 mm

# CP7

July 2017

Edition: 7

# Fastening pattern




| | | |
|---|---|---|
| | Alternative | 36 × N3 |
| 4 | Lead & central bottom board - bottom stringer board - block | 18 × N1 |
| 3 | Intermediate bottom board - bottom stringer board | 12 × N2 |
| 2 | Intermediate deck board - top stringer board | 48 × N2 |
| 1 | Lead & central deck board - top stringer board - block | 18 × N1 |
| Position | Joint | Number |

Unit of measurement: mm

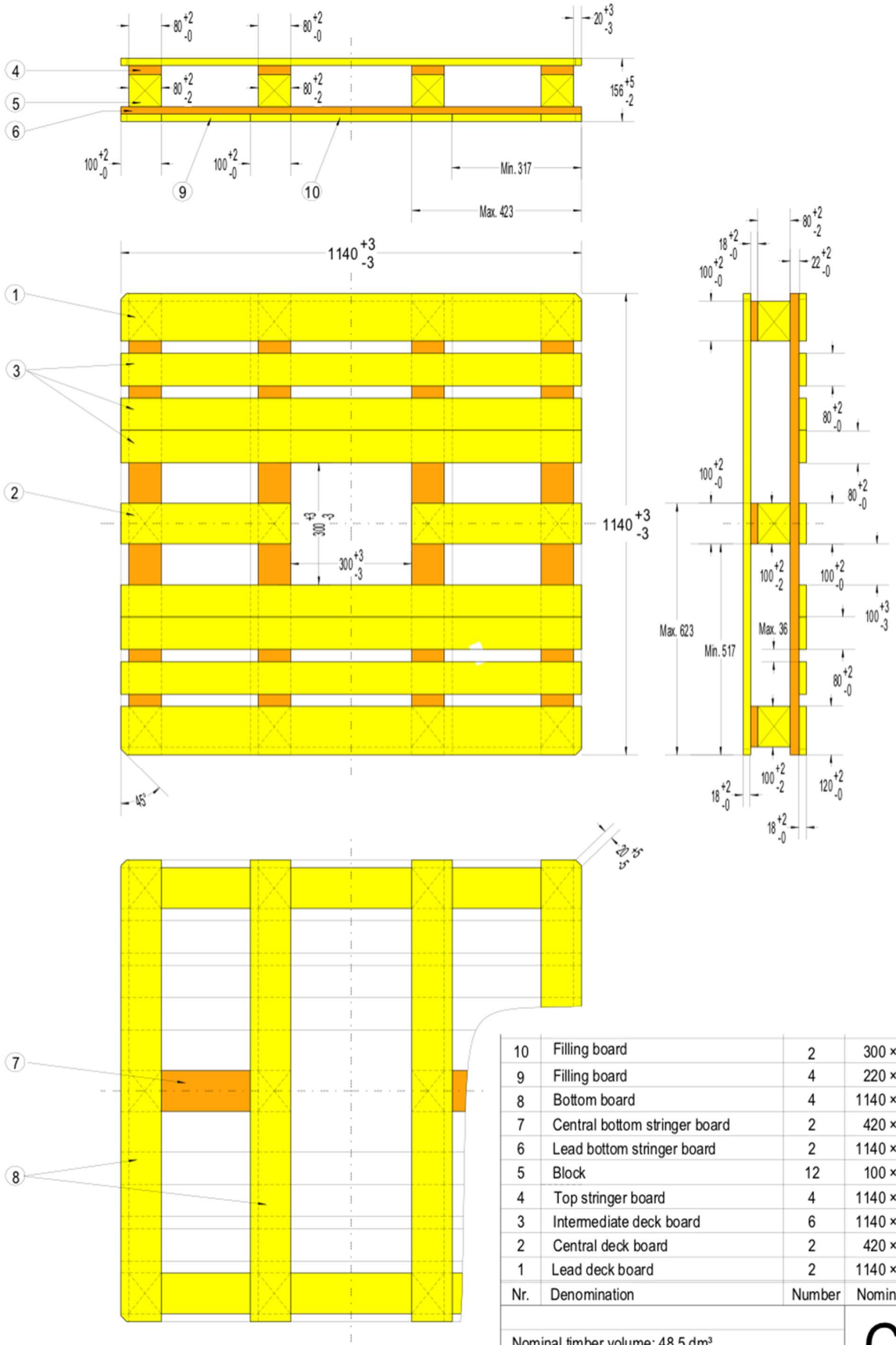
# CP7

Wooden pallet 1300 × 1100 mm

July 2017

Edition: 7

# Design drawing




| Nr. | Denomination | Number | Nominal dimensions |
|---|---|---|---|
| 10 | Filling board | 2 | 300 × 100 × 18 |
| 9 | Filling board | 4 | 220 × 100 × 18 |
| 8 | Bottom board | 4 | 1140 × 100 × 18 |
| 7 | Central bottom stringer board | 2 | 420 × 100 × 18 |
| 6 | Lead bottom stringer board | 2 | 1140 × 100 × 18 |
| 5 | Block | 12 | 100 × 80 × 80 |
| 4 | Top stringer board | 4 | 1140 × 80 × 22 |
| 3 | Intermediate deck board | 6 | 1140 × 80 × 18 |
| 2 | Central deck board | 2 | 420 × 100 × 18 |
| 1 | Lead deck board | 2 | 1140 × 120 × 18 |

Nominal timber volume: 48,5 dm³

Unit of measurement: mm | Projection

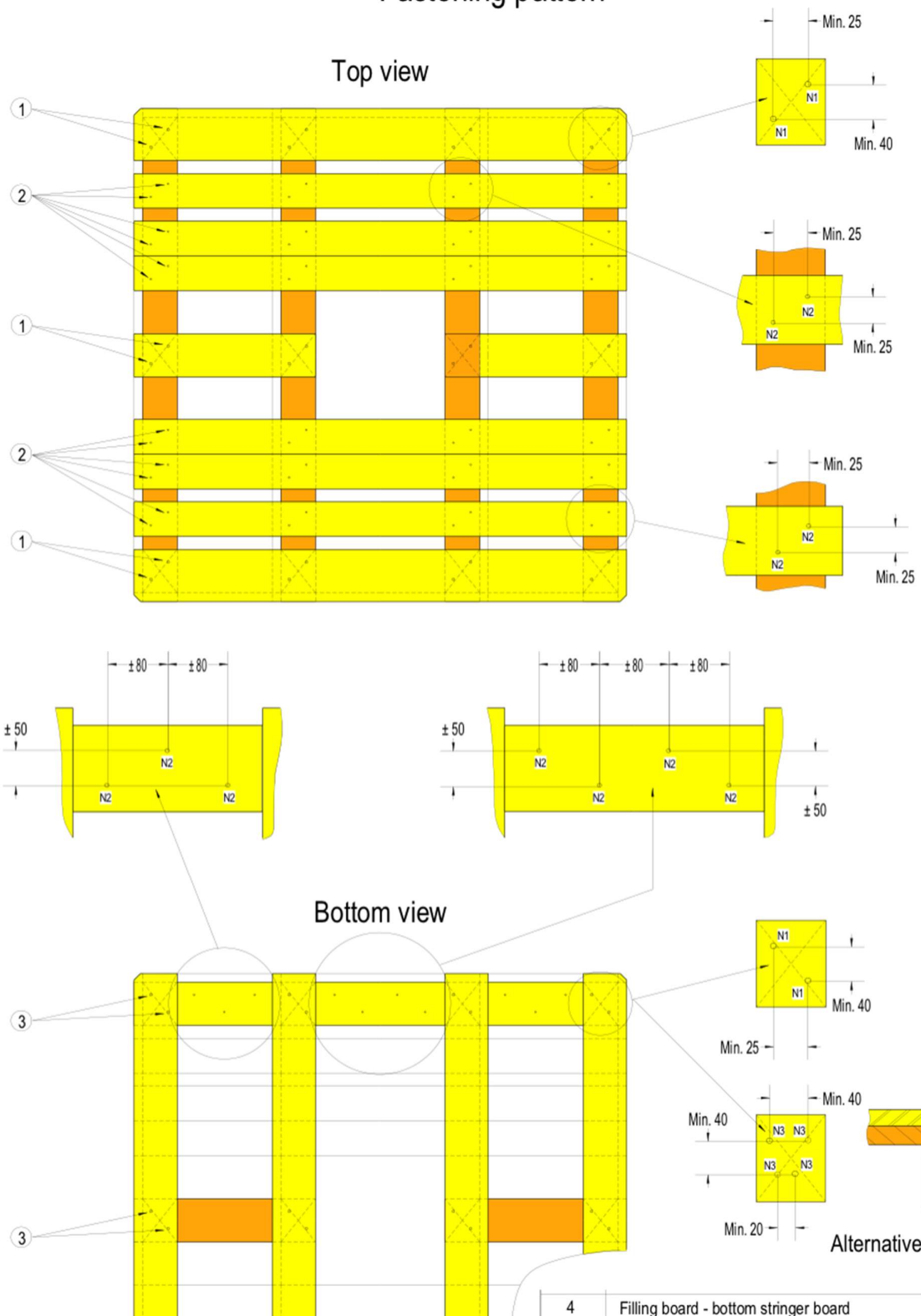
**Wooden pallet 1140 × 1140 mm**

**CP8**

July 2017

Edition: 7

# Fastening pattern




| Position | Joint | Number |
|---|---|---|
| 4 | Filling board - bottom stringer board | 20 × N2 |
| | Alternative | 48 × N3 |
| 3 | Bottom board - bottom stringer board - block | 24 × N1 |
| 2 | Intermediate deck board - top stringer board | 48 × N2 |
| 1 | Lead & central deck board - top stringer board - block | 24 × N1 |

Unit of measurement: mm

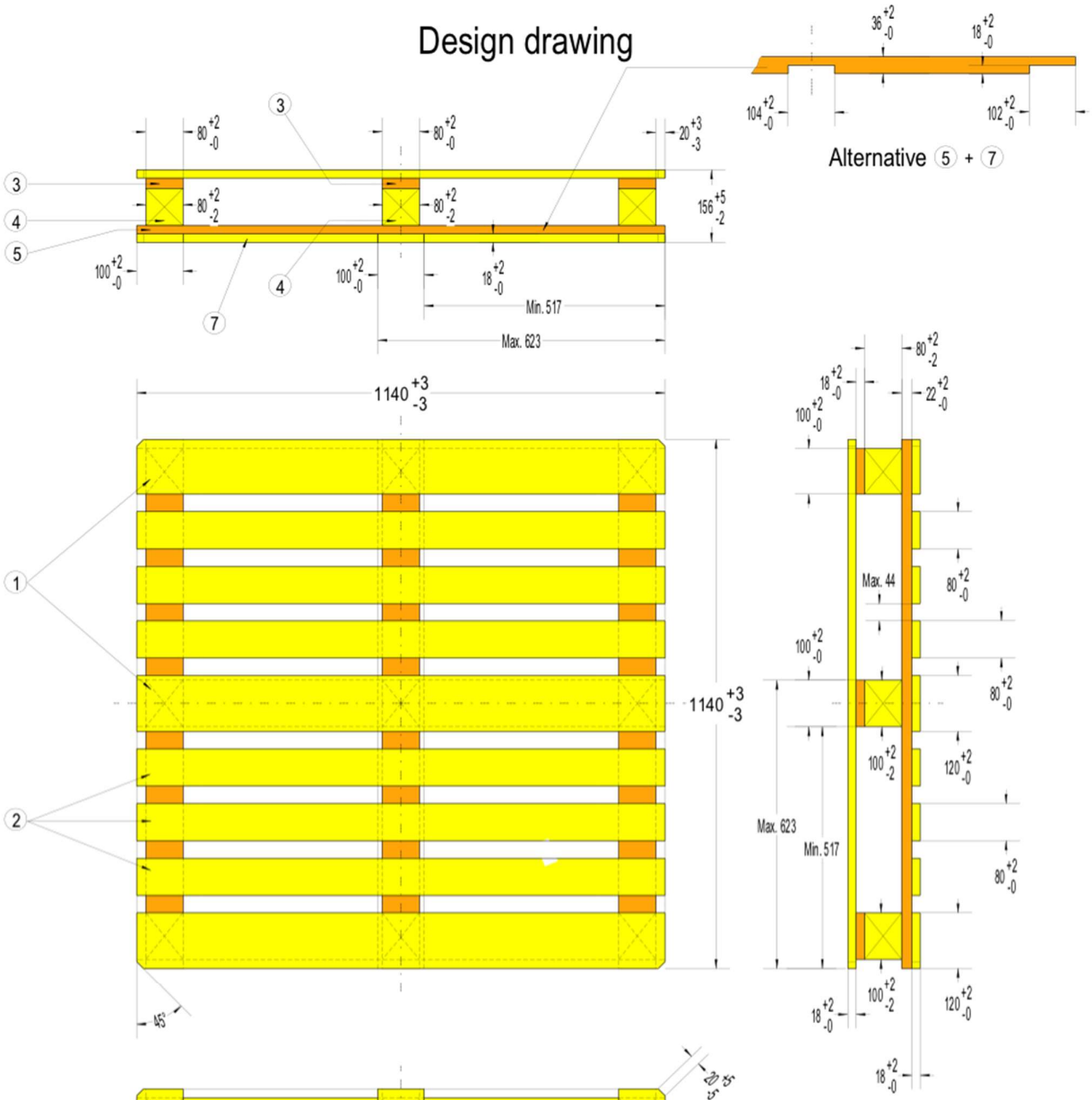
**CP8**

Wooden pallet 1140 × 1140 mm

July 2017

Edition: 7

# Design drawing




| | | | |
|---|---|---|---|
| 5 + 7 | Bottom stringer board | 3 | 1140 × 100 × 36 |
| Alternative | | | |
| 7 | Filling board | 6 | 420 × 100 × 18 |
| 6 | Bottom board | 3 | 1140 × 100 × 18 |
| 5 | Bottom stringer board | 3 | 1140 × 100 × 18 |
| 4 | Block | 9 | 100 × 80 × 80 |
| 3 | Top stringer board | 3 | 1140 × 80 × 22 |
| 2 | Intermediate deck board | 6 | 1140 × 80 × 18 |
| 1 | Lead & central deck board | 3 | 1140 × 120 × 18 |
| Nr. | Denomination | Number | Nominal dimensions |

Nominal timber volume: 45,9 dm³

Unit of measurement: mm | Projection

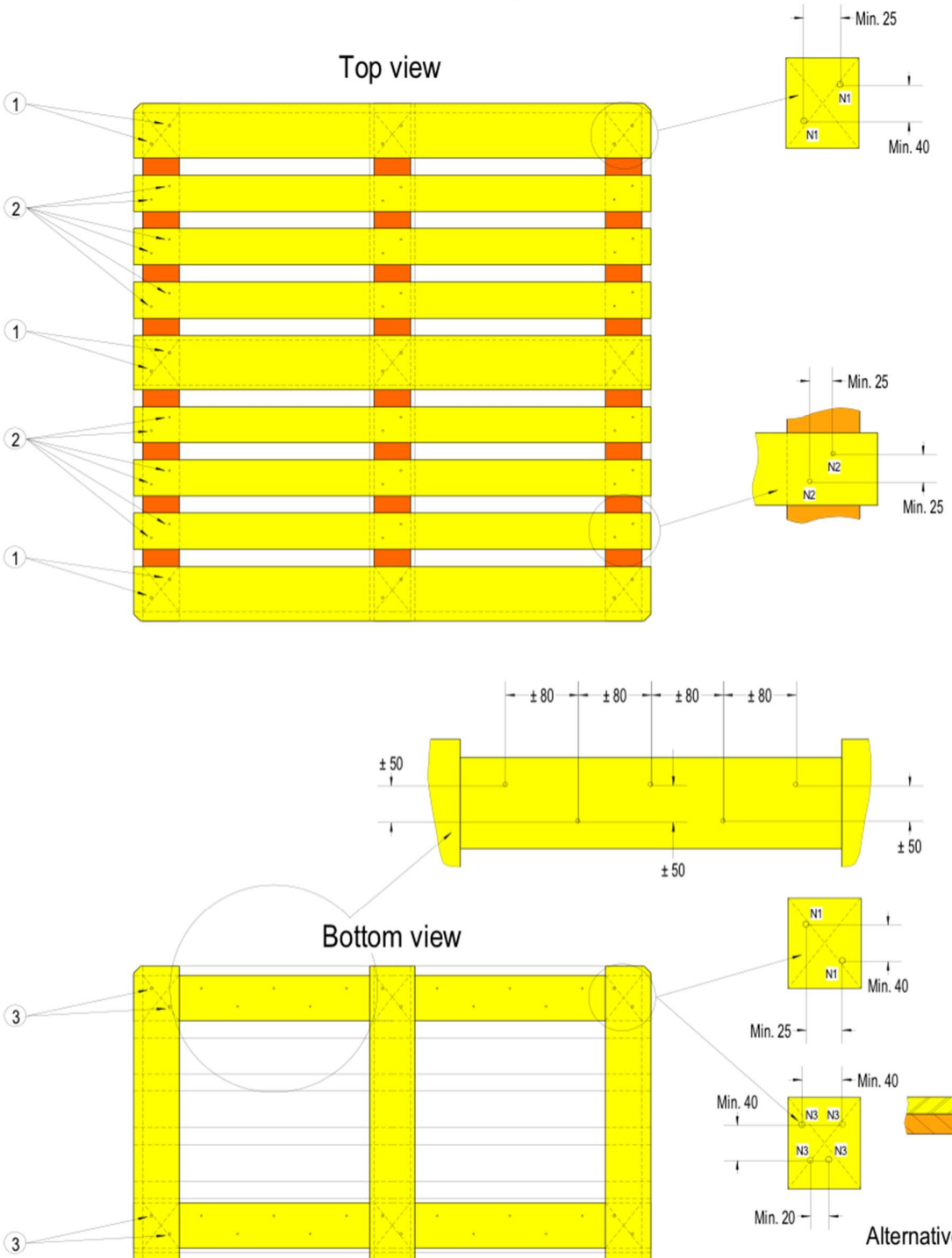
# Wooden pallet 1140 × 1140 mm

CP9

July 2017

Edition: 7

# Fastening pattern




| Position | Joint | Number |
|---|---|---|
| 4 | Filling board - bottom stringer board | 30 × N2 |
| | Alternative | 36 × N3 |
| 3 | Bottom board - bottom stringer board - block | 18 × N1 |
| 2 | Intermediate deck board - top stringer board | 36 × N2 |
| 1 | Lead & central deck board - top stringer board - block | 18 × N1 |

Unit of measurement: mm

# CP9

Wooden pallet 1140 × 1140 mm

July 2017

Edition: 7

# Inspection report

Check two pallets.

Critical safety item

| Timber quality | | Check the conformity | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 6 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wrongly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 38 mm | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In lead & central deck boards | At least 3 × 3 in each deck board | |
| | In intermediate deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each bottom board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer boards | Bent back completely | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

| Pallet finishing & marking | Check the conformity | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Length of corner chamfers | 15 - 25 mm | |
| Marking of natural timber or particleboard blocks | Clearly legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead & central deck boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Stringer boards | Width | 95 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 133 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Bottom boards | Width | 128 mm | | | |
| | Thickness | 17 mm | | | |

| Pallet dimensions | | | Measure & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1203 mm | 1197 mm | | | |
| Width | 1003 mm | 997 mm | | | |
| Height | 143 mm | 129 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| | | |

Reference

Inspector

Date

Acceptable quality

YES NO

# CP1

July 2017

Edition: 7

# Inspection report

Check two pallets.

Critical safety item

| Timber quality | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 6 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wrongly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 41 mm | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In lead & central deck boards | At least 3 × 2 in each deck board | |
| | In intermediate deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each bottom board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer boards | Bent back | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

| Pallet finishing & marking | Check the conformity of both pallets | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Length of corner chamfers | 15 - 25 mm | |
| Marking of natural timber or particleboard blocks | Easily legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead & central deck boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Stringer boards | Width | 95 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 98 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Bottom boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |

| Pallet dimensions | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1203 mm | 1197 mm | | | |
| Width | 803 mm | 797 mm | | | |
| Height | 143 mm | 129 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| | | |

Reference

Inspector

Date

Acceptable quality

YES NO

# CP2

July 2017

Edition: 7

# Inspection report

Check two pallets.

Critical safety item

| Timber quality | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 6 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wrongly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 49 mm | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In lead & central deck boards | At least 3 × 3 in each deck board | |
| | In intermediate deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each bottom board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer boards | Bent back | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

| Pallet finishing & marking | Check the conformity of both pallets | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Length of corner chamfers | 15 - 25 mm | |
| Marking of natural timber or particleboard blocks | Easily legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead & central deck boards | Width | 114 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Stringer boards | Width | 95 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 133 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Bottom boards | Width | 128 mm | | | |
| | Thickness | 17 mm | | | |

| Pallet dimensions | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1143 mm | 1137 mm | | | |
| Width | 1143 mm | 1137 mm | | | |
| Height | 143 mm | 129 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| | | |
| Reference | | |
| Inspector | | |
| Date | | |
| Acceptable quality | | |
| YES NO | | |

# CP3

July 2017

Edition: 7

# Inspection report

Check two pallets.

Critical safety item

| Timber quality | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 6 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wrongly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 56 mm | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In lead & central deck boards | At least 3 × 3 in each deck board | |
| | In intermediate deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each deck board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer boards | Bent back | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

| Pallet finishing & marking | Check the conformity of both pallets | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Length of corner chamfers | 15 - 25 mm | |
| Marking of natural timber or particleboard blocks | Easily legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead & central deck boards | Width | 114 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Stringer boards | Width | 95 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 118 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Bottom boards | Width | 114 mm | | | |
| | Thickness | 17 mm | | | |

| Pallet dimensions | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1303 mm | 1297 mm | | | |
| Width | 1103 mm | 1097 mm | | | |
| Height | 143 mm | 129 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| | | |
| Reference | | |
| Inspector | | |
| Date | | |
| Acceptable quality | | |
| YES NO | | |

CP4

July 2017

Edition: 7

# Inspection report

Check two pallets. Critical safety item

| Timber quality | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 6 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wrongly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 34 mm | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each bottom board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer boards | Bent back | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

| Pallet finishing & marking | Check the conformity of both pallets | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Corner chamfers | Absent | |
| Marking of natural timber or particleboard blocks | Easily legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead & central deck boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Stringer boards | Width | 95 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 98 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Lead bottom boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Central bottom board | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |

| Pallet dimensions | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1143 mm | 1137 mm | | | |
| Width | 763 mm | 757 mm | | | |
| Height | 143 mm | 129 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| | | |

Reference

Inspector

Date

Acceptable quality

YES NO

# CP5

July 2017

Edition: 7

# Inspection report

Check two pallets.

Critical safety item

| Timber quality | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 5 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wrongly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 43 mm | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each bottom board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer board | Bent back | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

| Pallet finishing & marking | Check the conformity of both pallets | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Length of corner chamfers | 15 - 25 mm | |
| Marking of natural timber or particleboard blocks | Easily legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead & central deck boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Lead top stringer boards | Width | 119 mm | | | |
| | Thickness | 21 mm | | | |
| Central top stringer board | Width | 95 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 98 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Bottom stringer boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Bottom boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |

| Pallet dimensions | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1203 mm | 1197 mm | | | |
| Width | 1003 mm | 997 mm | | | |
| Height | 161 mm | 146 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| | | |

Reference

Inspector

Date

Acceptable quality

YES NO

CP6

July 2017

Edition: 7

# Inspection report

Check two pallets. Critical safety item

| Timber quality | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 5 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wrongly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 51 mm*] | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each bottom board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer board | Bent back | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

*] ≤ 54 mm if nominal dimension of 75 mm has been used

| Pallet finishing & marking | Check the conformity of both pallets | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Length of corner chamfers | 15 - 25 mm | |
| Marking of natural timber or particleboard blocks | Easily legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead & central deck boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm*] | | | |
| | Thickness | 17 mm | | | |
| Lead top stringer boards | Width | 119 mm | | | |
| | Thickness | 21 mm | | | |
| Central top stringer board | Width | 95 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 98 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Bottom stringer boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Bottom boards | Width | 76 mm*] | | | |
| | Thickness | 17 mm | | | |

*] 71 mm if nominal dimension of 75 mm has been used

| Pallet dimensions | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1303 mm | 1297 mm | | | |
| Width | 1103 mm | 1097 mm | | | |
| Height | 161 mm | 146 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| Reference | | |
| Inspector | | |
| Date | | |
| Acceptable quality | YES | NO |

CP7

July 2017

Edition: 7

# Inspection report

Check two pallets. Critical safety item

| Timber quality | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 5 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wrongly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 40 mm | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each bottom board | |
| | In filling boards | At least 3 in each short and 4 in each long filling board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer board | Bent back | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

| Pallet finishing & marking | Check the conformity of both pallets | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Length of corner chamfers | 15 - 25 mm | |
| Marking of natural timber or particleboard blocks | Easily legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead deck boards | Width | 114 mm | | | |
| | Thickness | 17 mm | | | |
| Central deck boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Top stringer boards | Width | 76 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 98 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Bottom stringer boards, bottom boards & filling boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |

| Pallet dimensions | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1143 mm | 1137 mm | | | |
| Width | 1143 mm | 1137 mm | | | |
| Height | 161 mm | 146 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| Reference | | |
| Inspector | | |
| Date | | |
| Acceptable quality | YES | NO |

# CP8

July 2017

Edition: 7

# Inspection report

Check two pallets.

Critical safety item

| Timber quality | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Bark & bark pockets | | None | |
| Wane | At the underside of intermediate deck boards | Height < 5 mm | |
| | At other components | None | |
| Knots | Intergrown or dead | < 30 mm | |
| | Loose | < 20 mm | |
| Deterioration | Mould or rot | None | |
| | Active insect infestation | None | |

| Pallet assembly & joints | | Check the conformity of both pallets | ✓ |
|---|---|---|---|
| Position of component parts | | No missing or wronly placed components | |
| Space between deck boards [after shrinkage of the timber] | | ≤ 49 mm | |
| Grain direction of natural timber blocks | | Parallel to the longitudinal measure of the blocks | |
| Missing wood on boards | | < ¼ of the board width | |
| | | No fastener shank visible | |
| Warped boards | | < ½ of the board thickness | |
| Missing wood on blocks | | No fastener shank visible | |
| Number of fasteners | In deck boards | At least 3 × 2 in each deck board | |
| | In bottom boards | At least 3 × 2 in each bottom board | |
| | In filling boards [if applicable] | At least 5 in each filling board | |
| Placement of fasteners | Positioning | Not in the same fibre and spaced | |
| | Nail heads [after shrinkage of the timber] | Below or flush to the board surface | |
| | Points protruding below the stringer board | Bent back | |
| | Splits on boards without repair | None | |
| | Fasteners piercing the sides of blocks | None | |
| | Splits on blocks | None | |

| Pallet finishing & marking | Check the conformity of both pallets | ✓ |
|---|---|---|
| General aspect | Clean and free of contaminants | |
| Timber sawing | Square edged | |
| | Clean cut | |
| Length of corner chamfers | 15 - 25 mm | |
| Marking of natural timber or particleboard blocks | Easily legible | |
| | CP-design number burned into the middle block on both sides of the pallet | |
| | Manufacturer code & date burned into the middle block at least on one side | |
| | Repairer code & date stamped on a block on the right side [if applicable] | |

| Timber dimensions [after shrinkage] | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Component | Measure | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Lead & central deck boards | Width | 114 mm | | | |
| | Thickness | 17 mm | | | |
| Intermediate deck boards | Width | 76 mm | | | |
| | Thickness | 17 mm | | | |
| Top stringer boards | Width | 95 mm | | | |
| | Thickness | 21 mm | | | |
| Blocks | Length | 98 mm | | | |
| | Width | 74 mm | | | |
| | Height | 74 mm | | | |
| Bottom stringer boards, filling boards & bottom boards | Width | 95 mm | | | |
| | Thickness | 17 mm | | | |
| Alternative bottom stringer boards [if applicable] | Width | 95 mm | | | |
| | Thickness | 34 mm | | | |

| Pallet dimensions | | | Measure both pallets & check the conformity | | |
|---|---|---|---|---|---|
| Measure | Maximum | Minimum | Pallet 1 | Pallet 2 | ✓ |
| Length | 1143 mm | 1137 mm | | | |
| Width | 1143 mm | 1137 mm | | | |
| Height | 161 mm | 146 mm | | | |
| Difference between diagonals | < 10 mm | | | | |

| | | |
|---|---|---|
| Manufacturer code | | |
| Reconditioned pallets | Y | N |
| | | |

Reference

Inspector

Date

Acceptable quality

YES NO

# CP9

July 2017

Edition: 7