

# PALLET DESIGN SYSTEM Version 5.6

## Pallet Specification Sheet (1 of 2)

All dimensions in millimeters

**Customer:**

**Prepared by:**

Express Pallets & Crates

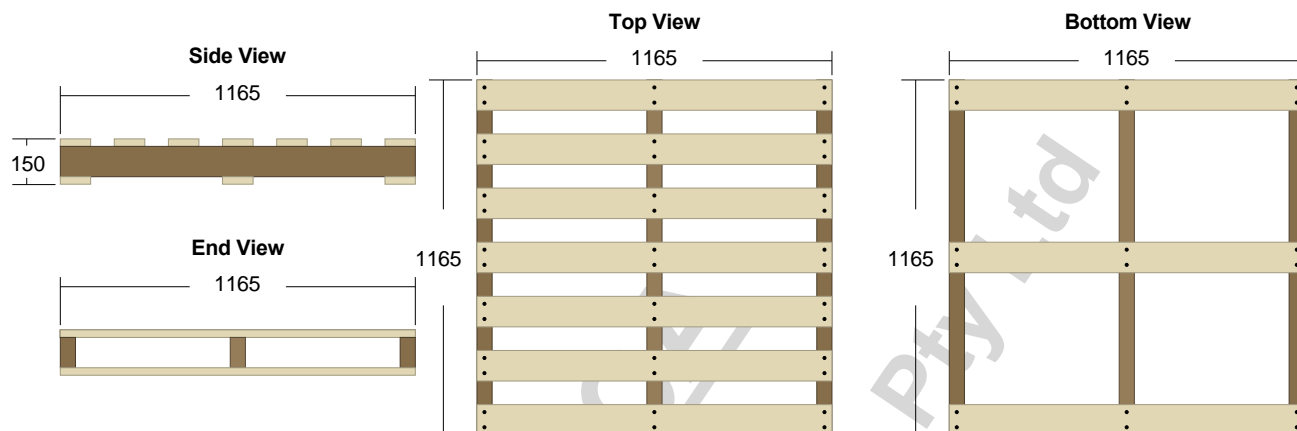
65-71 Boundary Road

Narangba Qld 4504

PDS License: 790 Printed: March 24, 2021

**Pallet ID:**

**Classification:** 1165 x 1165, Stringer-Class, Double-Face Non-Reversible, 2-Way, Reusable, New Manufacture



### Components

### Materials

**Top Deck:**

Style: Deckboard Type: New Lumber

Number	Thickness	Width	Length
7	25	100	1165

Volume: 0.0204 cubic meters

**Bottom Deck:**

Style: Deckboard Type: New Lumber

Number	Thickness	Width	Length
3	25	100	1165

Volume: 0.0087 cubic meters

**Stringers:**

Type: New Lumber

Number	Width	Height	Length
3	50	100	1165

Volume: 0.0175 cubic meters

Select Edge Stringers

**Fasteners:**

Fastener ID:	57x3.06
Fastener Type:	Helically Threaded Nail
Fastener Length:	57
Thread Length:	38
Thread Diameter:	3.4
Wire Diameter:	3.1
Head Diameter:	7.2
Flutes:	2
Helixes:	4.1
Pitch:	9.3
Thread Angle:	60
MIBANT Angle:	35
FWC:	1.71
Total Number:	60

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### Materials (continued)

**New Lumber:**

#### Edge Stringers

**Lumber ID:** HOOP PINE GREEN

**Species Class**

Radiata Pine (Australia)

**Grade**

Premium

**Moisture Content**(at manufacture and assembly): Green

#### Deckboards

**Lumber ID:** Hardwood

**Species Class**

High Density Eastern Hardwoods

**Grade**

Standard

**Moisture Content**(at manufacture and assembly): Green

#### Interior Stringers

**Lumber ID:** HOOP PINE GREEN

**Species Class**

Radiata Pine (Australia)

**Grade**

Premium

**Moisture Content**(at manufacture and assembly): Green

**Total New Lumber Volume:** 0.0466 cubic meters

**Spec Sheet Notes:**

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## Pallet Structural Analysis

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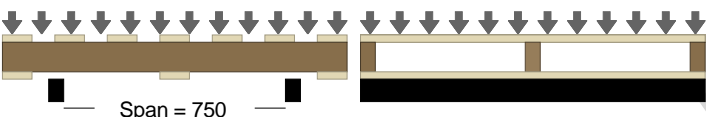
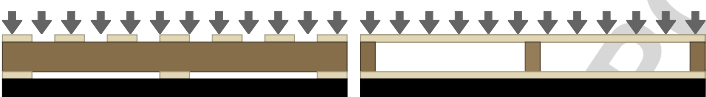
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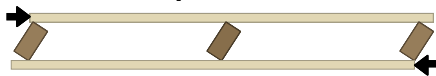
**General Load Type:** Uniformly Distributed - Full Pallet Coverage

**Load Weight Variability:** Medium

**Service Environment:** Dry Environment (EMC <= 19%)

Support Condition		Safe Maximum Load	Deflection at Maximum Load	User Specified Deflection Limit	Maximum Load for Deflection Limit	Critical Member or Connection
Side View	End View					
<b>Racked Across Length</b> <b>2 Beam Support</b>  <p>Span = 750</p>		4198 kg	6 mm	----	----	Interior Top Deckboard
<b>Warehouse Storage</b> <b>Stacked 1 Unit Load High</b> 		4919 kg	6 mm	6 mm	NA	12

### Lateral Collapse Resistance



Low Medium Good Excellent

LCR Indicator = 0.88

### Pallet Design System (PDS)

Developed and owned by:

**National Wooden Pallet and Container Association (NWPCA)**

Research and development for early versions of PDS were conducted in cooperation with:  
 Center for Unit Load Design, Virginia Tech Department of Wood Science and Forest Products;  
 U.S.D.A. Forest Service and Forest Products Laboratory; APA - The Engineered Wood Association;  
 Software Technologies Laboratory, Virginia Tech Department of Industrial and Systems Engineering

The results from PDS are based on the NWPCA's continuing program of laboratory and field research. While the engineering outcomes reflected in the results are based on sound science, the quality of workmanship, the input data, and the conditions in which pallets are used may vary widely. Therefore, the Association cannot accept responsibility for pallet performance or design as actually constructed, and specifically disclaims any responsibility for such. Notwithstanding the history of the PDS system, users of the PDS system are strongly encouraged to undertake individual, unique analysis of the results as they then pertain to specific applications and the production process. Wood pallets manufactured to this PDS design are for the sole purpose of storing and/or transporting material. Under no circumstance should any person stand, step, or lean upon them or otherwise use them for support.

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National Wooden Pallet and Container Association, 1421 Prince Street, Suite 340, Alexandria, Virginia 22314-2805, United States

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# PALLET DESIGN SYSTEM Version 5.6

## Pallet Physical Property Analysis

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	At Manufacture	At 25% MC	At 19% MC	At 15% MC	At 12% MC
<b>Average Pallet Weight</b>	38 kg	30 kg	28 kg	27 kg	27 kg



Component	Original Dimension	Shrinkage from Manufacture to 19% MC	Shrinkage from Manufacture to 15% MC
Top Deckboards	25 mm Thickness 100 mm Width	0.6 mm (+/- 0.2 mm) 2.5 mm (+/- 0.7 mm)	0.9 mm (+/- 0.3 mm) 3.6 mm (+/- 1.0 mm)
Stringers	100 mm Exterior Stringer Height 100 mm Interior Stringer Height 50 mm Exterior Stringer Width 50 mm Interior Stringer Width	1.4 mm (+/- -0.3 mm) 1.4 mm (+/- -0.3 mm) 0.7 mm (+/- -0.1 mm) 0.7 mm (+/- -0.1 mm)	2.0 mm (+/- -0.4 mm) 2.0 mm (+/- -0.4 mm) 1.0 mm (+/- -0.2 mm) 1.0 mm (+/- -0.2 mm)
Bottom Deckboards	25 mm Thickness 100 mm Width	0.6 mm (+/- 0.2 mm) 2.5 mm (+/- 0.7 mm)	0.9 mm (+/- 0.3 mm) 3.6 mm (+/- 1.0 mm)

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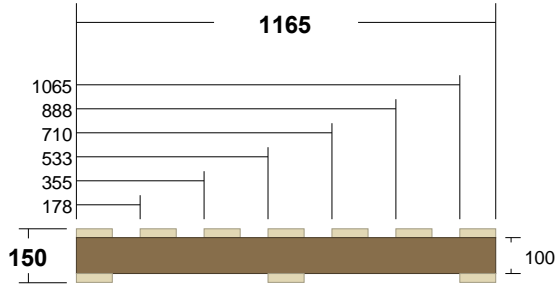
## 2-D Pallet Drawings

All dimensions in millimeters

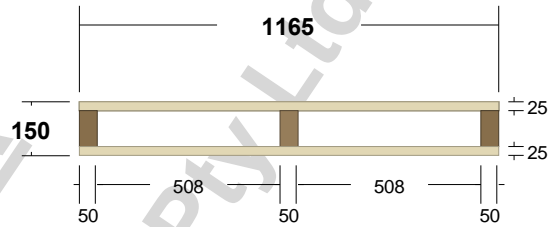
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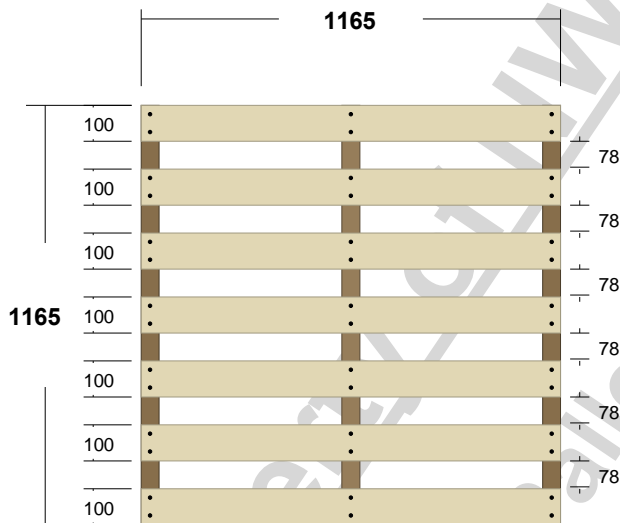
### Side View



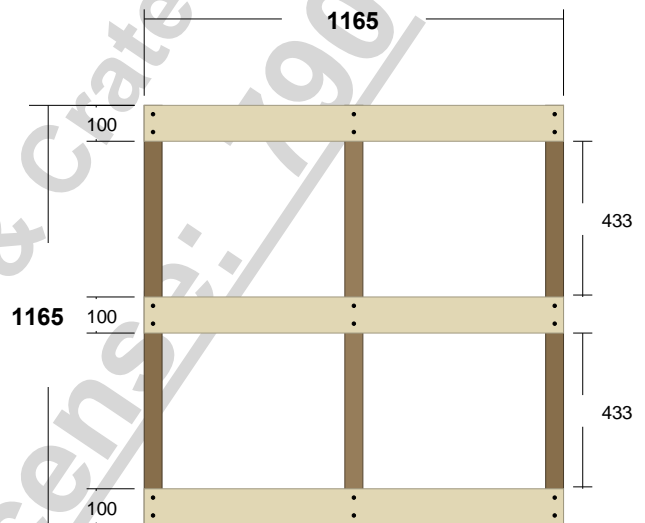
### End View



### Top View



### Bottom View



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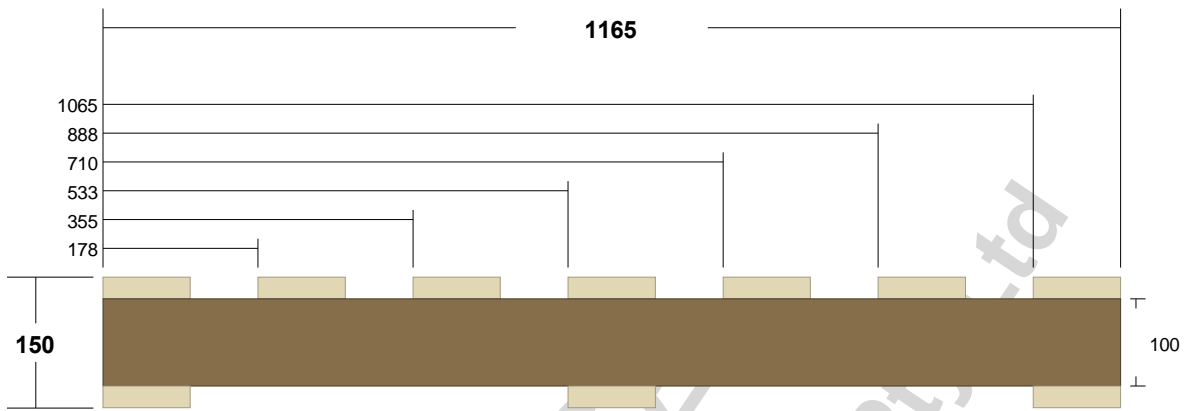
## Pallet Drawing - Side and End View

All dimensions in millimeters

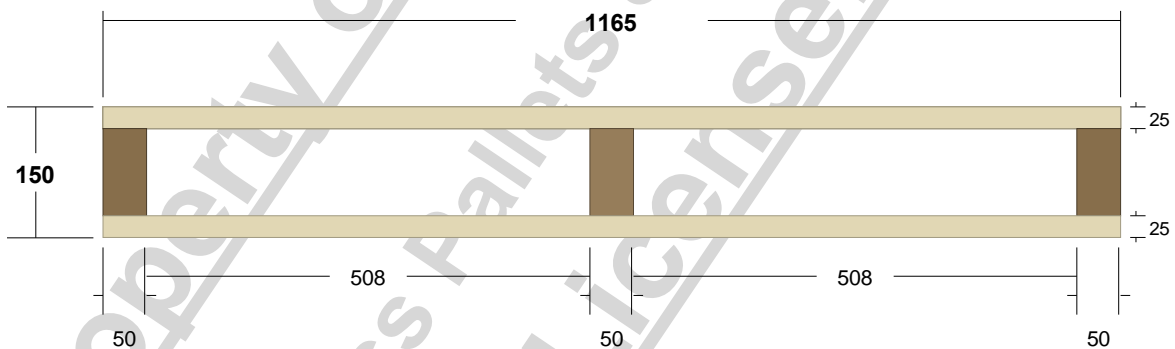
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### Side View



### End View



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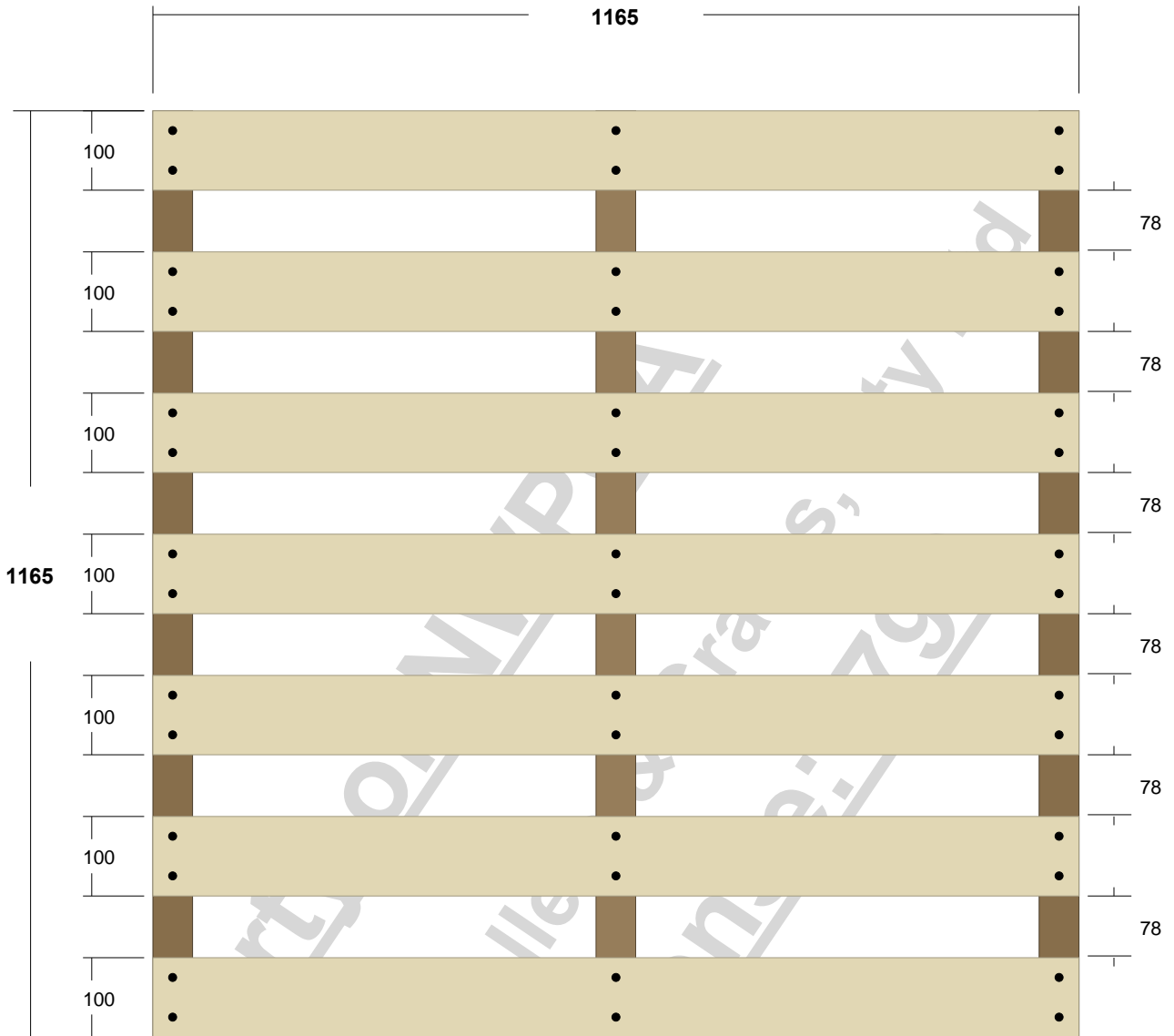
## Pallet Drawing - Top View

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### Top View



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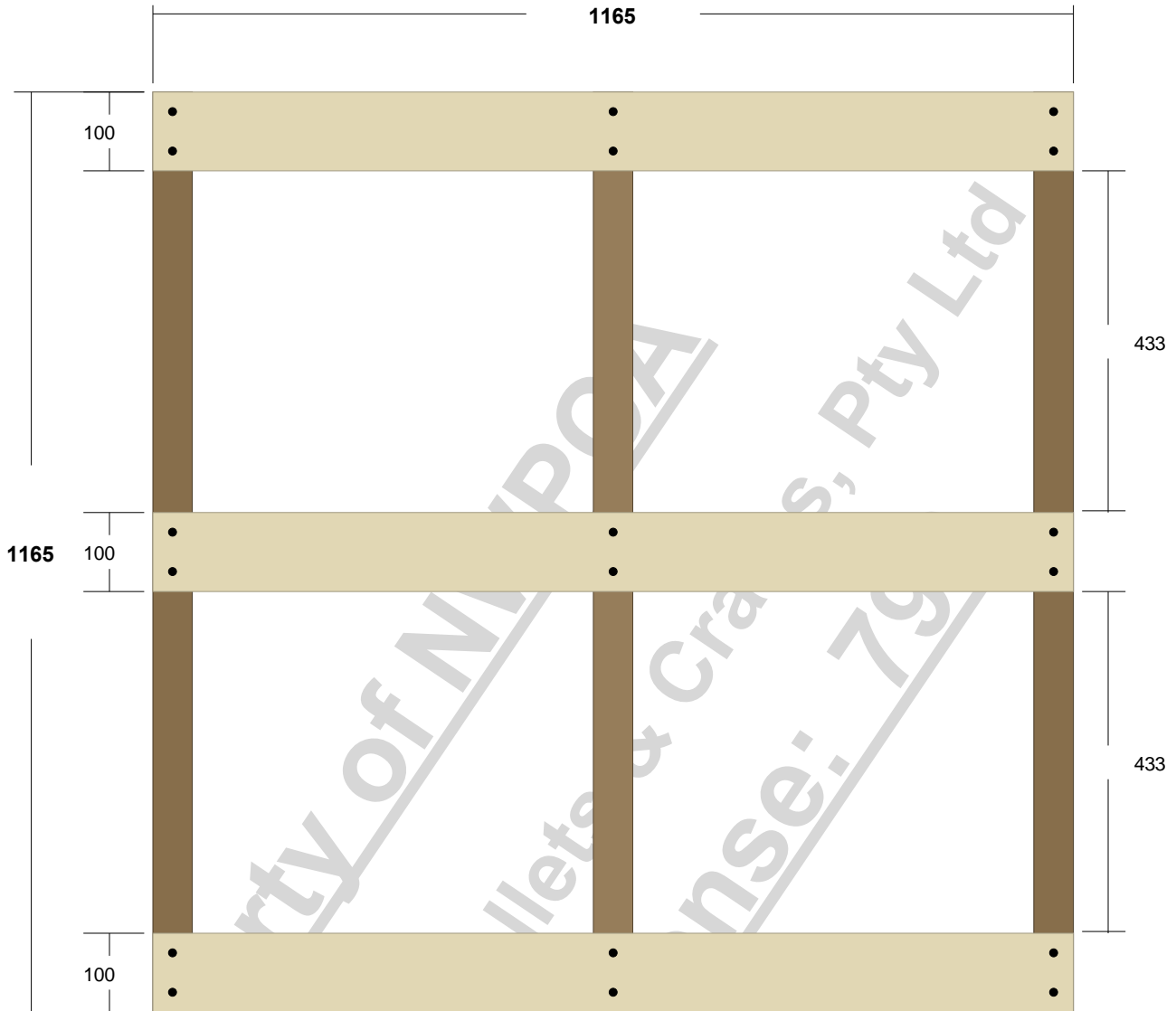
## Pallet Drawing - Bottom View

All dimensions in millimeters

Pallet ID:

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### Bottom View



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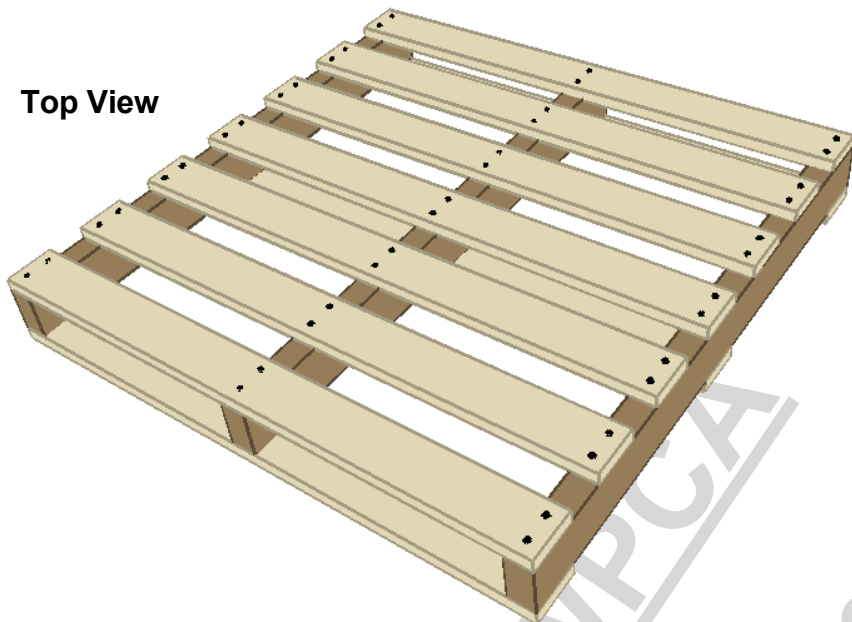
## 3-D Pallet Drawings

All dimensions in millimeters

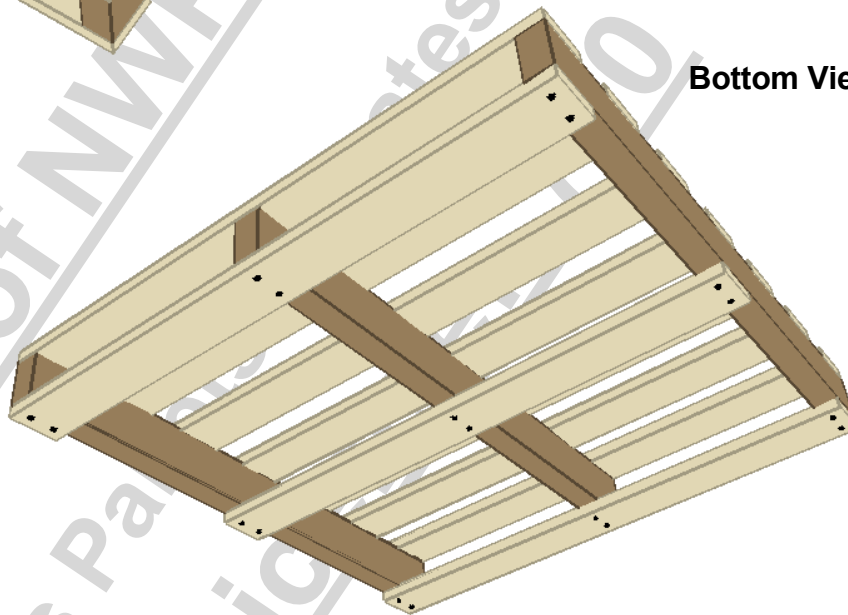
Pallet ID:

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Top View



Bottom View



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