

PALLET DESIGN SYSTEM Version 6.1

Pallet Specification Sheet

All dimensions in millimeters

Customer:

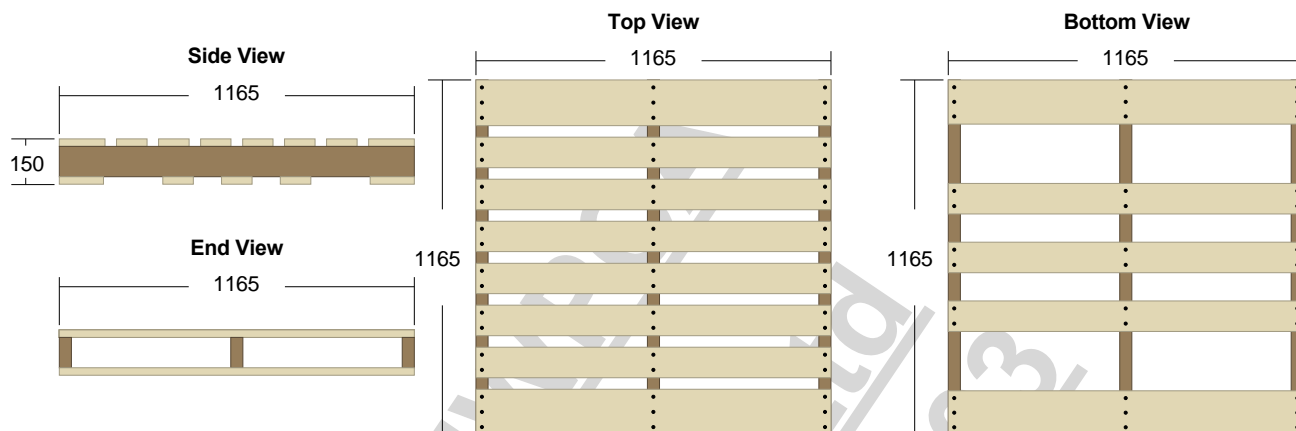
PALLETCO SA

Prepared by:

PALLETCO) SA
62-64 MILLERS ROAD
WINGFIELD, SA, 5013
PDS License: 503 Printed: September 14, 2020

Pallet ID: PREMIUMHD

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
6	25	100	1165
2	25	150	1165

Volume: 0.0262 cubic meters

Bottom Deck:

Style: Deckboard Type: New Lumber

Number	Thickness	Width	Length
3	25	100	1165
2	25	145	1165

Volume: 0.0172 cubic meters

Stringers:

Type: New Lumber

Number	Width	Height	Length
3	40	100	1165

Volume: 0.0140 cubic meters

Fasteners:

Fastener ID:	63MM X 11GA
Fastener Type:	Annularly Threaded Nail
Fastener Length:	63
Thread Length:	46
Thread Diameter:	3.9
Wire Diameter:	3.5
Head Diameter:	10.4
Rings:	36
Pitch:	1.3
MIBANT Angle:	33
FWC:	5.52
Total Number:	90

New Lumber:

Lumber ID: Green Case Grade Pinus

Species Class	Grade
Pinus Caribaea	Premium

Moisture Content (at manufacture and assembly): Green

Total New Lumber Volume: 0.0574 cubic meters

Spec Sheet Notes:

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Pallet Structural Analysis

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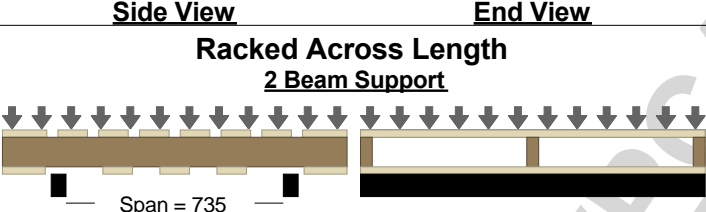
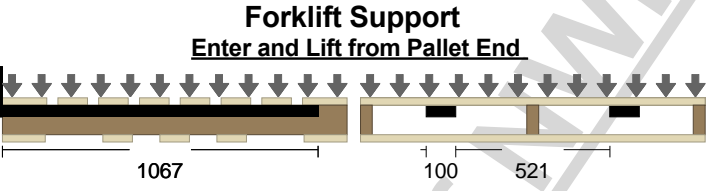
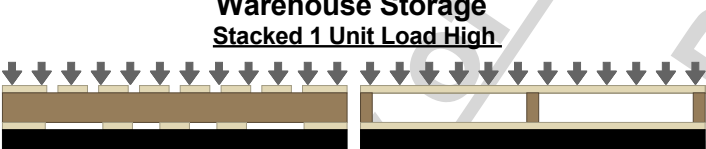
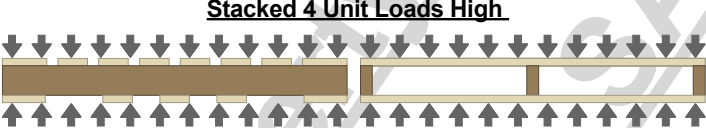
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General Load Type: Uniformly Distributed - Full Pallet Coverage

Load Weight Variability: High

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

Support Condition	Safe Average Load	Deflection at Average Load	User Specified Deflection Limit	Average Load for Deflection Limit	Critical Member or Connection
<p>Racked Across Length <u>2 Beam Support</u></p>  <p>Span = 735</p>	2488 kg	4 mm	----	----	Center Stringer
<p>Forklift Support <u>Enter and Lift from Pallet End</u></p>  <p>1067 100 521</p>	1734 kg	8 mm	----	----	Interior Top Deckboard
<p>Warehouse Storage <u>Stacked 1 Unit Load High</u></p> 	4328 kg	5 mm	----	----	Interior Top Deckboard
<p><u>Stacked 4 Unit Loads High</u></p> 	1351 kg per pallet	4 mm	----	----	Interior Bottom Deckboard

Lateral Collapse Resistance



Low Medium Good Excellent

LCR Indicator = 4.07

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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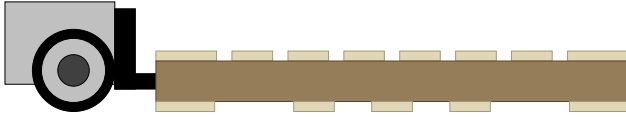
Pallet Durability Analysis

Customer:
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Pallet Damage Rate Analysis

The **Pallet Damage Rate Analysis** simulates a series of forces and impacts applied to the pallet during each handling cycle. The frequency and severity of these impacts are estimates based on laboratory measurements, warehouse observations, and the Virginia Tech FasTrack Handling Cycle. The resistance to damage and the damage level requiring component repair or replacement are based on laboratory testing and the NWPCA Uniform Standard for Wood Pallets.

Service Environment Conditions:

Average Handling and Treatment, Medium-Duty Loads, Dry Environment (EMC <= 19%)

Results from Handling Cycle Simulation		
Pallet Components		
	Cycles Until Damage Level to Components Warrants Repair or Replacement	Cycles Until Damage Level to Connections Warrants Repair
Top Leadboards (2)	>> 50	2.2
Top InteriorBoards (6)	>> 50	
Bottom Leadboards (2)	14.4	2.2
Bottom InteriorBoards (3)	49.1	12.0
Exterior Stringers (2)	7.4	
Interior Stringers (1)	33.2	

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Pallet Physical Property Analysis

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	At Manufacture	At 25% MC	At 19% MC	At 15% MC	At 12% MC
Average Pallet Weight	36.2 kg	30.2 kg	28.8 kg	27.8 kg	27.1 kg



Component	Original Dimension	Shrinkage from Manufacture to 19% MC	Shrinkage from Manufacture to 15% MC
Top Deckboards	25 mm Thickness	0.4 mm (+/- 0.1 mm)	0.6 mm (+/- 0.2 mm)
	100 mm Width	1.8 mm (+/- 0.5 mm)	2.6 mm (+/- 0.7 mm)
	150 mm Width	2.7 mm (+/- 0.7 mm)	3.8 mm (+/- 1.0 mm)
Stringers	100 mm Height	1.8 mm (+/- 0.5 mm)	2.6 mm (+/- 0.7 mm)
	40 mm Width	0.7 mm (+/- 0.2 mm)	1.0 mm (+/- 0.3 mm)
Bottom Deckboards	25 mm Thickness	0.4 mm (+/- 0.1 mm)	0.6 mm (+/- 0.2 mm)
	100 mm Width	1.8 mm (+/- 0.5 mm)	2.6 mm (+/- 0.7 mm)
	145 mm Width	2.6 mm (+/- 0.7 mm)	3.7 mm (+/- 1.0 mm)

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