

# PALLET DESIGN SYSTEM Version 5.1

## Pallet Specification Sheet

All dimensions in inches

### Customer:

XYZ Manufacturing Inc.  
5050 Industrial Blvd.  
Milwaukee, WI 53222  
Contact: Steve Connors  
(414) 555-1212

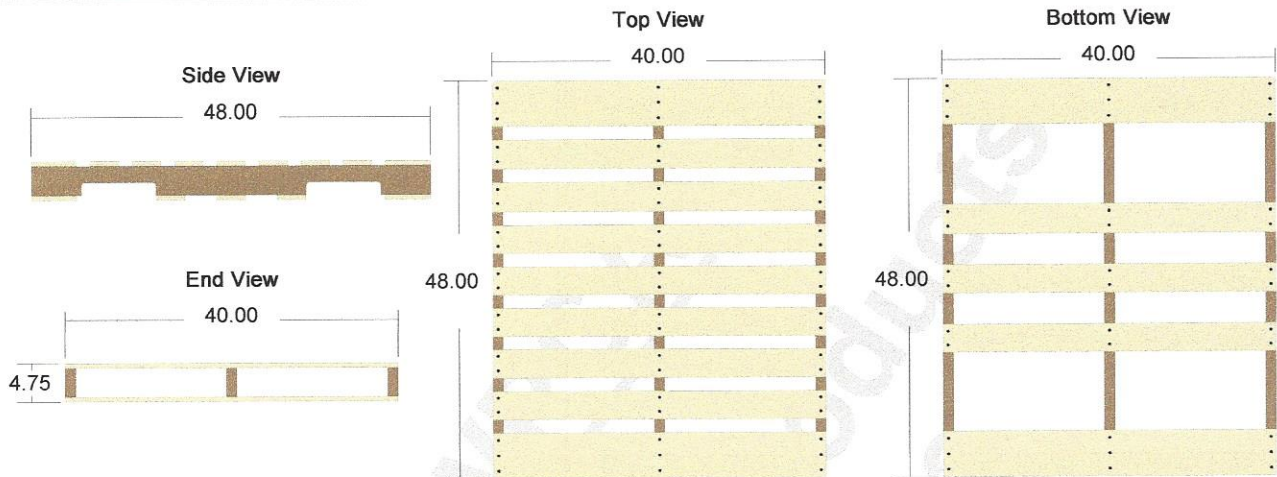
### Prepared by:

Alliance Forest Products  
Joe Kral, President  
Corporate Office: 11801 W. Silver Spring Drive  
Milwaukee, WI 53225  
jkral@allianceforestproducts.com  
PDS License: 593 Printed: June 11, 2015

Pallet ID: 48 x 40 new 4-way flush - Dense Hardwood HT

Classification: 48.00 x 40.00, Stringer-Class, Double-Face Non-Reversible, Partial 4-Way, Reusable, New Manufacture

Pallet Treatments: ISPM-15 Compliance: Heat Treatment (HT)



### Components

### Materials

#### Top Deck:

Style: Deckboard Type: New Lumber

Number	Thickness	Width	Length
7	0.625	3.500	40.00
2	0.625	5.500	40.00

Volume: 6.2 bd ft

#### Bottom Deck:

Style: Deckboard Type: New Lumber

Number	Thickness	Width	Length
3	0.625	3.500	40.00
2	0.625	5.500	40.00

Volume: 3.7 bd ft

#### Stringers:

Type: New Lumber

Number	Width	Height	Length
3	1.250	3.500	48.00

Volume: 4.4 bd ft

Partial 4-way Entry Notch:

Depth: 1.500 Length: 9.00 Location: 6.00 Radius: 0.75

#### Fasteners:

Fastener ID:	2-1/4 x .112 SS
Fastener Type:	Helically Threaded Nail
Fastener Length:	2.25
Thread Length:	1.25
Thread Diameter:	0.128
Wire Diameter:	0.112
Head Diameter:	0.280
Flutes:	4
Helixes:	5.4
Pitch:	0.231
Thread Angle:	66
MIBANT Angle:	36
FWC:	2.52
Total Number:	96

#### New Lumber:

Lumber ID: Dense Hardwood

Species Class	Grade
Medium Density Eastern Hardwoods	Standard &BTR

Moisture Content (at manufacture and assembly): Green

Total New Lumber Volume: 14.3 bd ft

### Spec Sheet Notes:

HEAT TREATED

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## 2-D Pallet Drawings

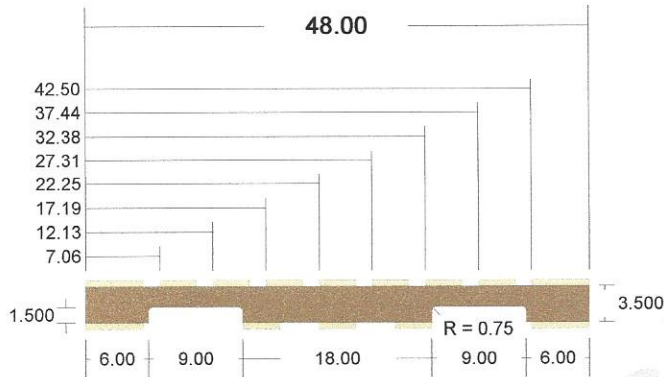
All dimensions in inches

Pallet ID: 48 x 40 new 4-way flush - Dense Hardwood HT

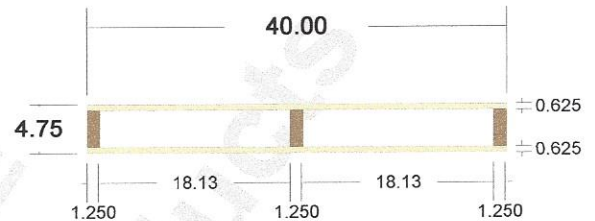
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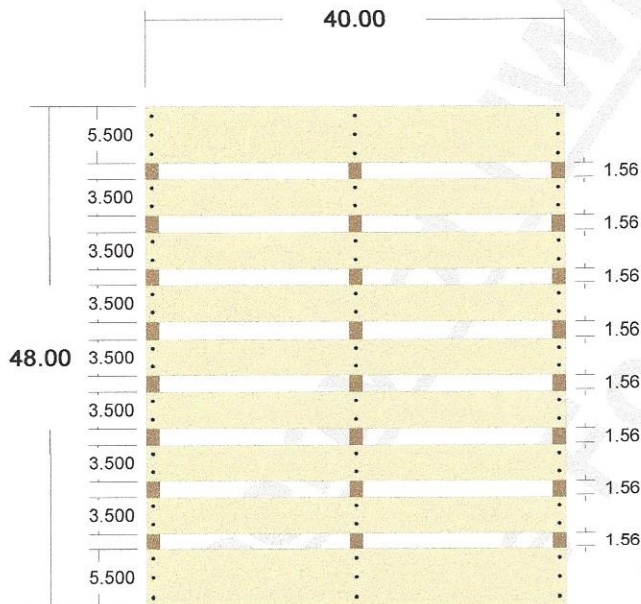
### Side View



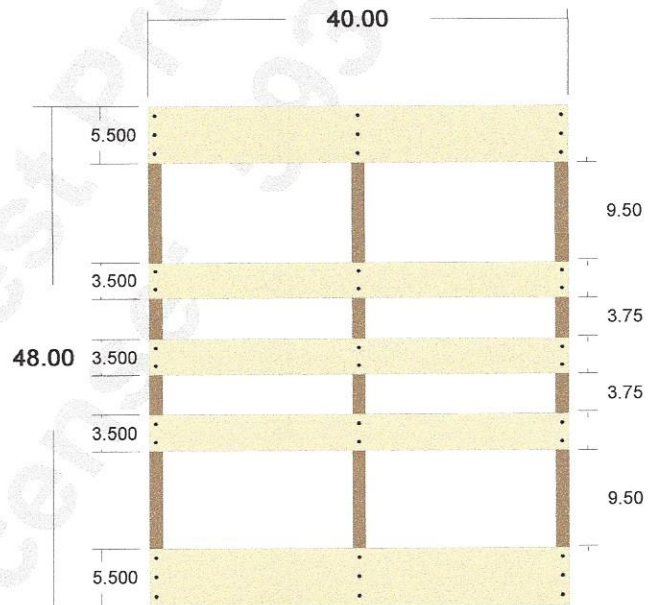
### End View



### Top View



### Bottom View



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## Pallet Structural Analysis

### Customer:

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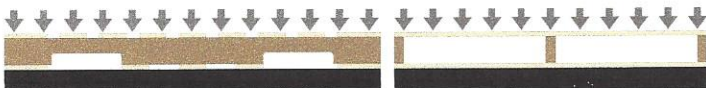
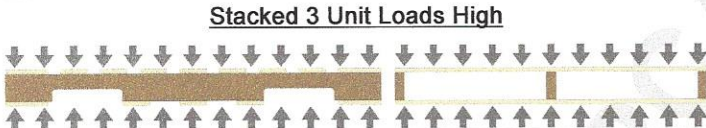

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Pallet Treatments: ISPM-15 Compliance: Heat Treatment (HT)

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
Side View	End View					
<b>Warehouse Storage</b> <b>Stacked 1 Unit Load High</b>		6231 lbs.	0.20 in.	----	----	Interior Top Deckboard
						
<b>Stacked 3 Unit Loads High</b>		2396 lbs. per pallet	0.20 in.	----	----	Interior Bottom Deckbd
						
<b>Lateral Collapse Resistance</b>						
		<div>LowMediumGoodExcellent</div> <div>H/V = 1.73</div>				

### 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 recommendations from PDS are based on the NWPCA's continuing program of laboratory and field research. They represent the best available engineering information compiled to date. However, 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. 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

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