

# PALLET DESIGN SYSTEM Version 5.2

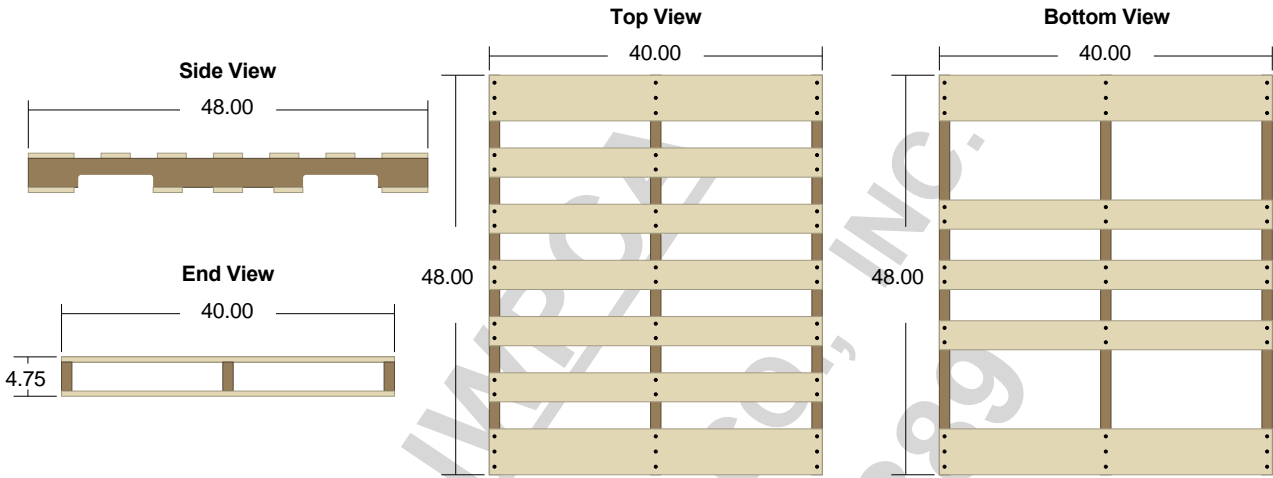
## Pallet Specification Sheet

All dimensions in inches

**Customer:**  
YOUR COMPANY

**Prepared by:**  
D T FOWLER MFG  
P.O. BOX 70  
LAPEER, MI 48446  
(810)245-9336  
(810)664-5403 FAX  
PDS License: 389 Printed: May 11, 2017

**Pallet ID:** 4-Way Flush 48x40 Pallet  
**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

#### Top Deck:

Number	Thickness	Width	Length
5	0.625	3.500	40.00
2	0.625	5.500	40.00

Volume: 4.9 bd ft

#### Bottom Deck:

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

Volume: 3.7 bd ft

#### Stringers:

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

### Materials

#### 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:	84

#### New Lumber:

Lumber ID:	NEW
Species Class	High Density Eastern Hardwoods
Grade	Utility &BTR
Moisture Content (at manufacture and assembly):	Green
Total New Lumber Volume:	13.1 bd ft

### Spec Sheet Notes:

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## Pallet Structural Analysis

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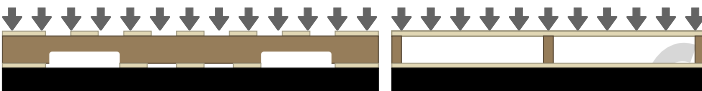
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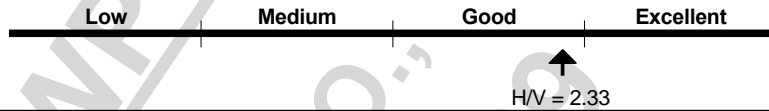
**Pallet Treatments:** ISPM-15 Compliance: Heat Treatment (HT)

**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					
<p style="text-align: center;"><b>Warehouse Storage Stacked 1 Unit Load High</b></p> 		5688 lbs.	0.21 in.	0.25 in.	NA	Interior Top Deckboard



### 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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## 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>	59 lbs.	46 lbs.	44 lbs.	42 lbs.	41 lbs.



Component	Original Dimension	Shrinkage from Manufacture to 19% MC	Shrinkage from Manufacture to 15% MC
Top Deckboards	0.625 in. Thickness	0.015 in. (+/- 0.004 in.)	0.022 in. (+/- 0.006 in.)
	3.500 in. Width	0.087 in. (+/- 0.025 in.)	0.125 in. (+/- 0.036 in.)
	5.500 in. Width	0.136 in. (+/- 0.039 in.)	0.197 in. (+/- 0.056 in.)
Stringers	3.500 in. Height	0.087 in. (+/- 0.025 in.)	0.125 in. (+/- 0.036 in.)
	1.250 in. Width	0.031 in. (+/- 0.009 in.)	0.045 in. (+/- 0.013 in.)
Bottom Deckboards	0.625 in. Thickness	0.015 in. (+/- 0.004 in.)	0.022 in. (+/- 0.006 in.)
	3.500 in. Width	0.087 in. (+/- 0.025 in.)	0.125 in. (+/- 0.036 in.)
	5.500 in. Width	0.136 in. (+/- 0.039 in.)	0.197 in. (+/- 0.056 in.)

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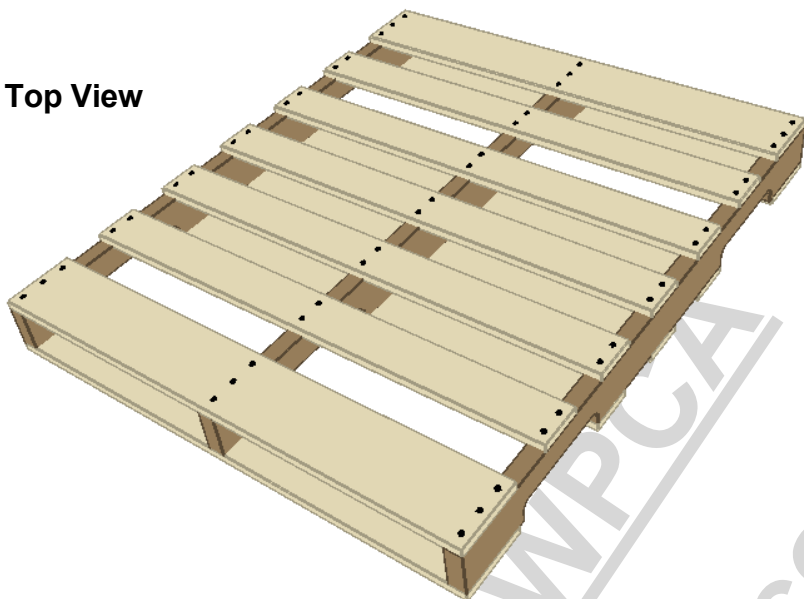
## 3-D Pallet Drawings

**Pallet ID:** 4-Way Flush 48x40 Pallet

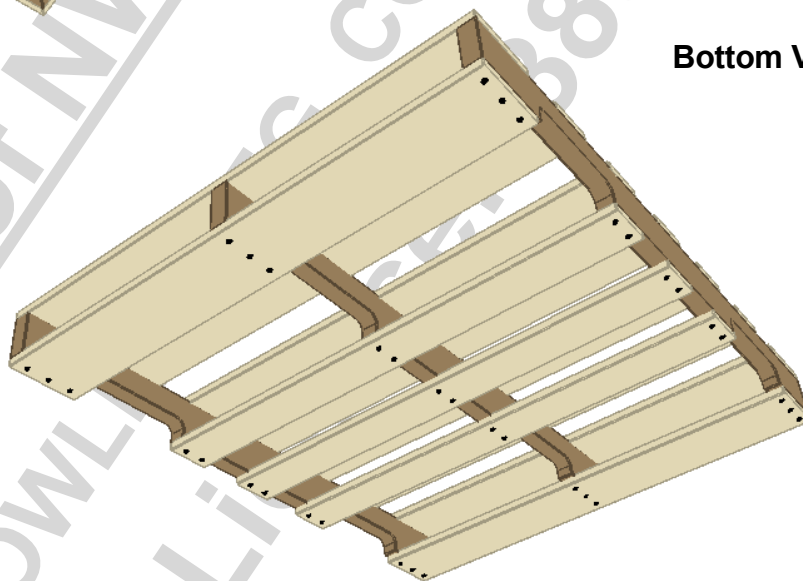
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**Top View**



**Bottom View**



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