

# PALLET DESIGN SYSTEM Version 5.1

## Pallet Specification Sheet

All dimensions in inches

### Customer:

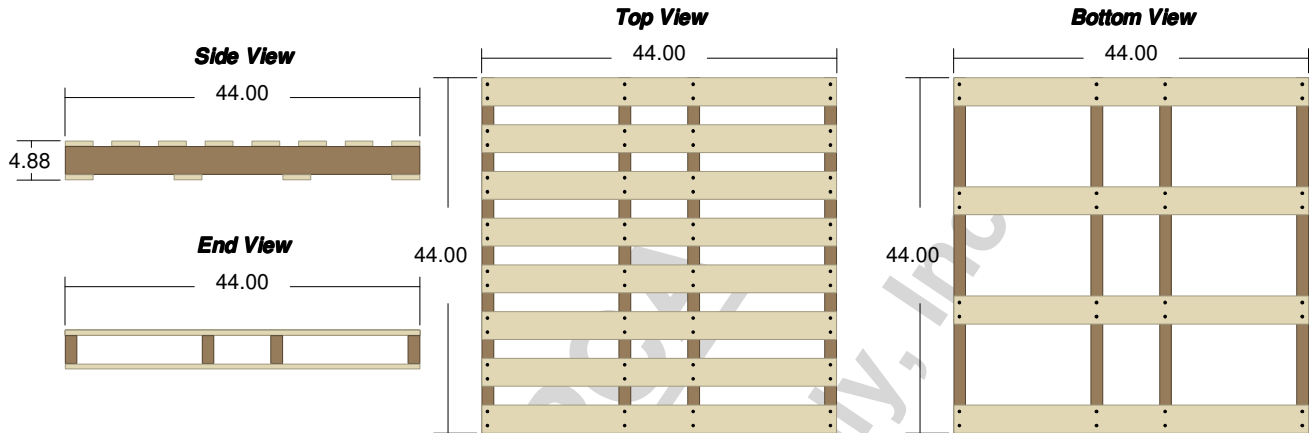
Tom's Widgets  
111 Main Street  
Anywhere, USA

### Prepared by:

Challenger Pallet & Supply, Inc.  
24 North 3210 East  
Idaho Falls, ID 83401  
800-733-0205  
PDS License: 189 Printed: July 24, 2014

**Pallet ID:** 44x44 BOXED WIDGETS

**Classification:** 44.00 x 44.00, Stringer-Class, Double-Face Non-Reversible, 2-Way, Reusable, New Manufacture



### Components

#### Top Deck:

**Style:** Deckboard **Type:** New Lumber

Number	Thickness	Width	Length
8	0.688	3.500	44.00

**Volume:** 5.9 bd ft

#### Bottom Deck:

**Style:** Deckboard **Type:** New Lumber

Number	Thickness	Width	Length
4	0.688	3.500	44.00

**Volume:** 2.9 bd ft

#### Stringers:

**Type:** New Lumber

Number	Width	Height	Length
4	1.500	3.500	44.00

**Volume:** 6.4 bd ft

### Materials

#### Fasteners:

<b>Fastener ID:</b>	2G625
<b>Fastener Type:</b>	Helically Threaded Nail
<b>Fastener Length:</b>	2.25
<b>Thread Length:</b>	1.50
<b>Thread Diameter:</b>	0.128
<b>Wire Diameter:</b>	0.113
<b>Head Diameter:</b>	0.281
<b>Flutes:</b>	5
<b>Helixes:</b>	6.0
<b>Pitch:</b>	0.250
<b>Thread Angle:</b>	72
<b>MIBANT Angle:</b>	37
<b>FWC:</b>	2.32
<b>Total Number:</b>	96

#### New Lumber:

**Lumber ID:**

**Species Class**

SPF

**Grade**

Utility &BTR

**Moisture Content** (at manufacture and assembly): Air Dry - 19%

**Total New Lumber Volume:** 15.2 bd ft

### Spec Sheet Notes:

# PALLET DESIGN SYSTEM Version 5.1

## Pallet Structural Analysis

**Customer:**

Tom's Widgets

**Prepared by:**

Challenger Pallet & Supply, Inc.

**PDS License: 189 Printed: July 24, 2014**

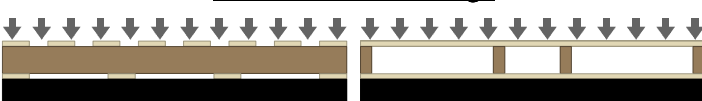
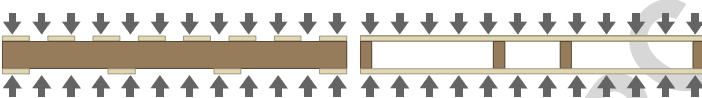
**Pallet ID:** 44x44 BOXED WIDGETS

**Classification:** 44.00 x 44.00, Stringer-Class, Double-Face Non-Reversible, 2-Way, Reusable, New Manufacture

**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> 		10810 lbs.	0.15 in.	0.25 in.	NA	Interior Top Deckboard
<b>Stacked 2 Unit Loads High</b> 		6352 lbs. per pallet	0.17 in.	0.25 in.	NA	Interior Bottom 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.

Pallet Design System - Version 5.1 (C) Copyright 1985-2013  
 National Wooden Pallet and Container Association, 1421 Prince Street, Suite 340, Alexandria, Virginia 22314-2805  
<http://www.palletcentral.com>  
 All Rights Reserved

# PALLET DESIGN SYSTEM Version 5.1

## Pallet Physical Property Analysis

**Customer:**  
Tom's Widgets

**Prepared by:**  
Challenger Pallet & Supply, Inc.  
**PDS License: 189 Printed: July 24, 2014**

**Pallet ID:** 44x44 BOXED WIDGETS

**Classification:** 44.00 x 44.00, Stringer-Class, Double-Face Non-Reversible, 2-Way, Reusable, New Manufacture

<b>Average Pallet Weight</b>	<b>At Manufacture</b>		<b>At 15% MC</b>	<b>At 12% MC</b>
	38 lbs.		36 lbs.	35 lbs.



Component	Original Dimension	Shrinkage from Manufacture to 19% MC	Shrinkage from Manufacture to 15% MC
Top Deckboards	0.688 in. Thickness 3.500 in. Width		0.005 in. (+/- 0.001 in.) 0.025 in. (+/- 0.007 in.)
Stringers	3.500 in. Height 1.500 in. Width		0.025 in. (+/- 0.007 in.) 0.011 in. (+/- 0.003 in.)
Bottom Deckboards	0.688 in. Thickness 3.500 in. Width		0.005 in. (+/- 0.001 in.) 0.025 in. (+/- 0.007 in.)

Property of NWPCA  
Challenger Pallet & Supply, Inc.  
PDS License: 189

# PALLET DESIGN SYSTEM Version 5.1

## Unit Load Specification and Drawings

All dimensions in inches, weights in lbs.

### Customer:

Tom's Widgets  
111 Main Street  
Anywhere, USA

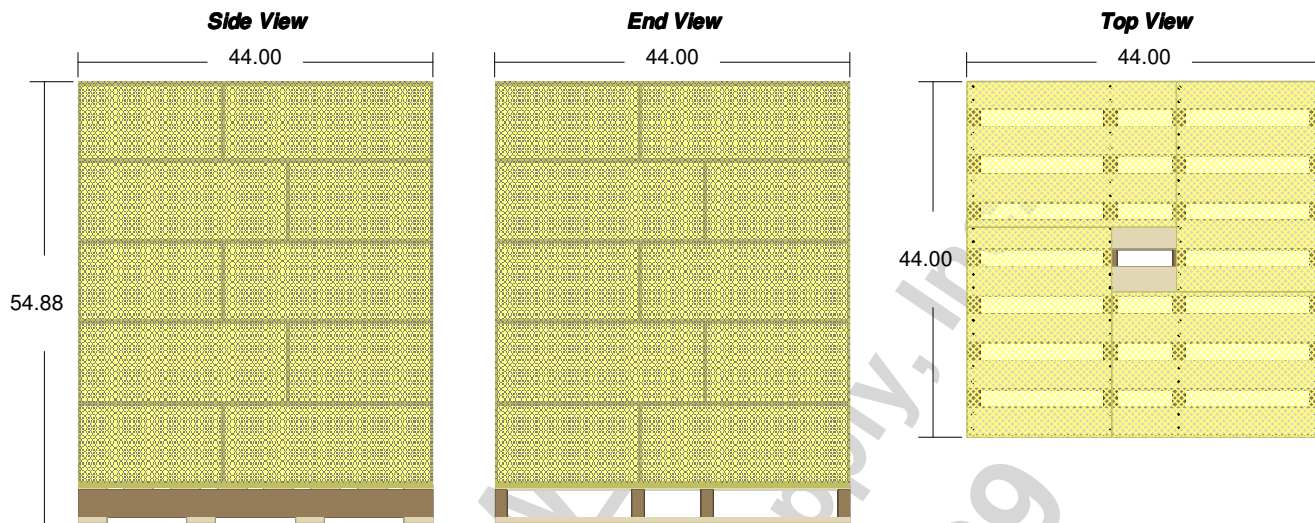
### Prepared by:

Challenger Pallet & Supply, Inc.  
24 North 3210 East  
Idaho Falls, ID 83401  
800-733-0205

PDS License: 189 Printed: July 24, 2014

**Pallet ID:** 44x44 BOXED WIDGETS

**Classification:** 44.00 x 44.00, Stringer-Class, Double-Face Non-Reversible, 2-Way, Reusable, New Manufacture



### Container Type: Corrugated Box

**Box Style:** Regular Slotted Container (RSC) #0201

**Combined Board Type:** Singlewall

**Flute Profile:** C-Flute

**Caliper:** 0.156

**ECT:** 32.000

### Outside Dimensions:

**Length:** 18.000

**Width:** 26.000

**Depth:** 10.000 \*

**Weight per Box:** 20 lbs.

**Number of Boxes per Layer:** 4

**Number of Layers per Unit Load:** 5 **Interlock Stacked**

**Number of Boxes per Unit Load:** 20

**Total Weight of Load:** 400 lbs.

**Total Height of Load:** 50.000 in.

### Load Stabilizers

**Wrap**

**Type:** Stretch Wrap

