

# PALLET DESIGN SYSTEM Version 6.7

## Pallet Specification Sheet

All dimensions in millimeters

### Customer:

Civic Pallets Queensland

### Prepared by:

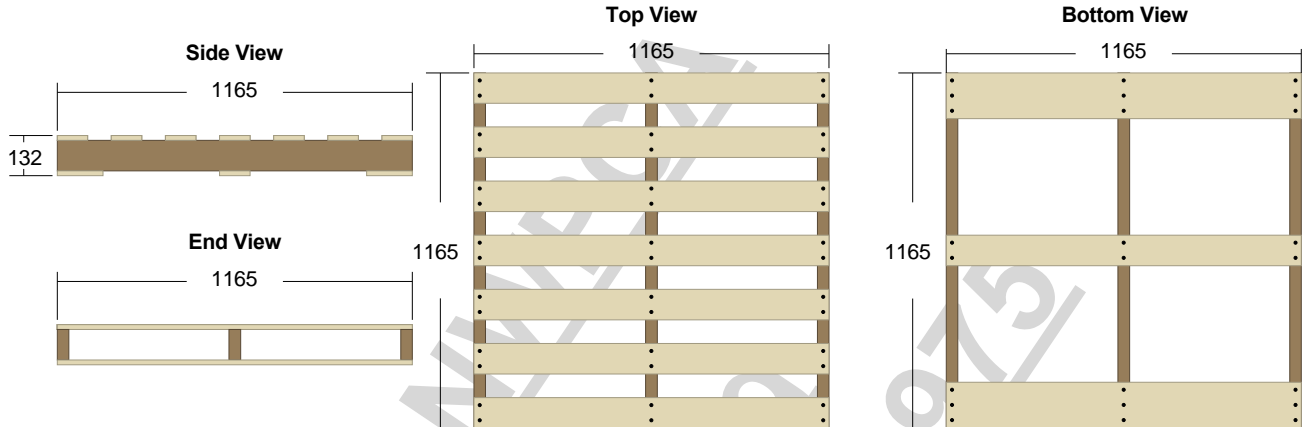
Civic Pallets Queensland

8 Forge Close Sumner

PDS License: 975 Printed: April 10, 2024

**Pallet ID:** MDRACK

**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	16	100	1165

Volume: 0.0130 cubic meters

#### Bottom Deck:

Style: Deckboard Type: New Lumber

Number	Thickness	Width	Length
1	16	100	1165
2	16	150	1165

Volume: 0.0075 cubic meters

#### Stringers:

Type: New Lumber

Number	Width	Height	Length
3	38	100	1165

Volume: 0.0133 cubic meters

#### Fasteners:

<b>Fastener ID:</b>	
<b>Fastener Type:</b>	Helically Threaded Nail
<b>Fastener Length:</b>	57
<b>Thread Length:</b>	40
<b>Thread Diameter:</b>	2.9
<b>Wire Diameter:</b>	2.6
<b>Head Diameter:</b>	6.0
<b>Flutes:</b>	8
<b>Helixes:</b>	8.5
<b>Pitch:</b>	4.7
<b>Thread Angle:</b>	76
<b>Yield Strength:</b>	1000 MPa
<b>FWC:</b>	2.40
<b>Total Number:</b>	66

#### New Lumber:

<b>Lumber ID:</b>	
<b>Species Class</b>	<b>Grade</b>
Radiata Pine (Australia)	Standard
<b>Moisture Content</b> (at manufacture and assembly): Green	
<b>Total New Lumber Volume:</b> 0.0338 cubic meters	

### Spec Sheet Notes:

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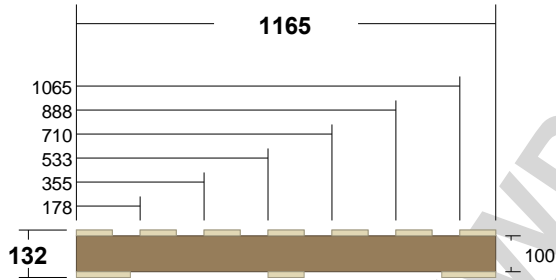
## 2-D Pallet Drawings

All dimensions in millimeters

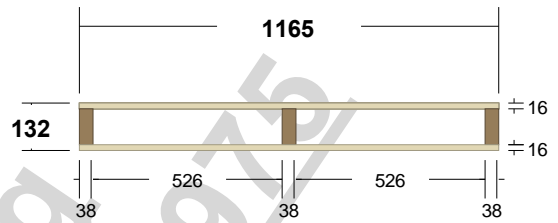
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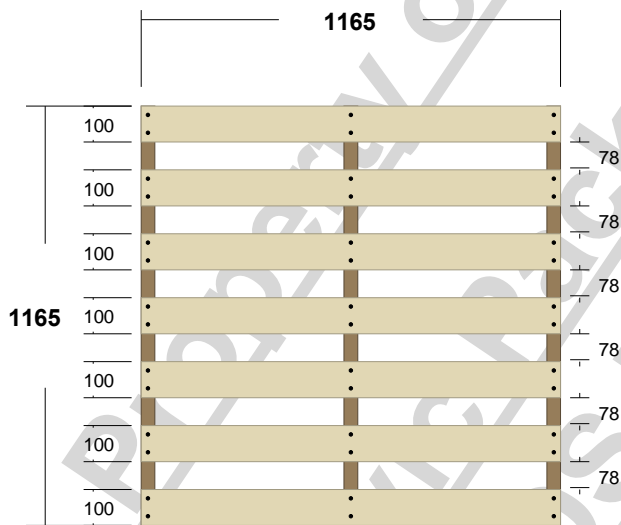
### Side View



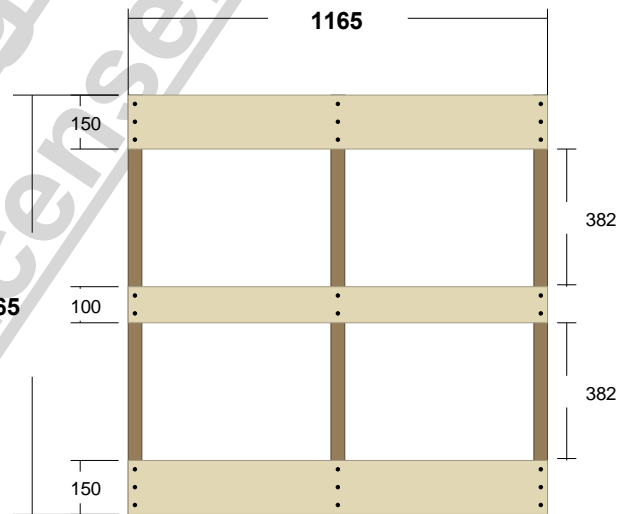
### End View



### Top View



### Bottom View



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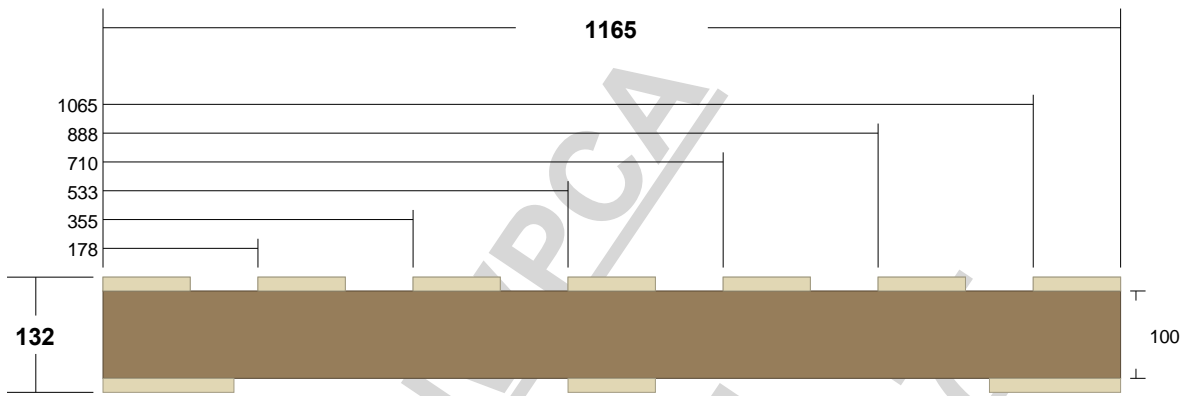
## Pallet Drawing - Side and End View

All dimensions in millimeters

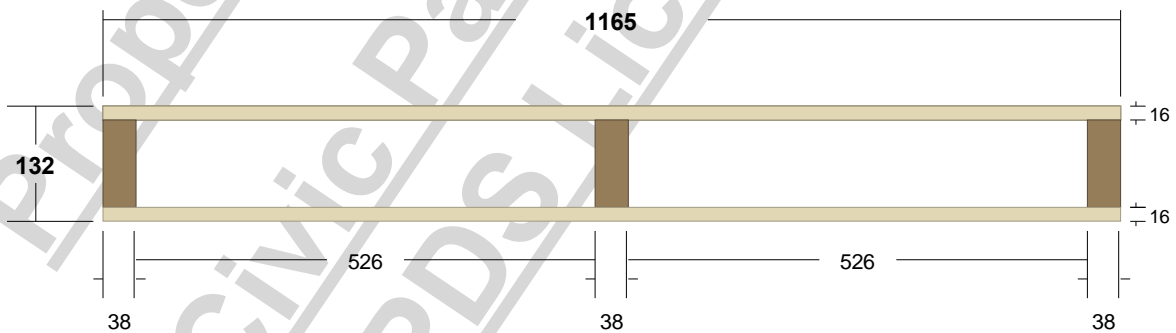
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### Side View



### End View



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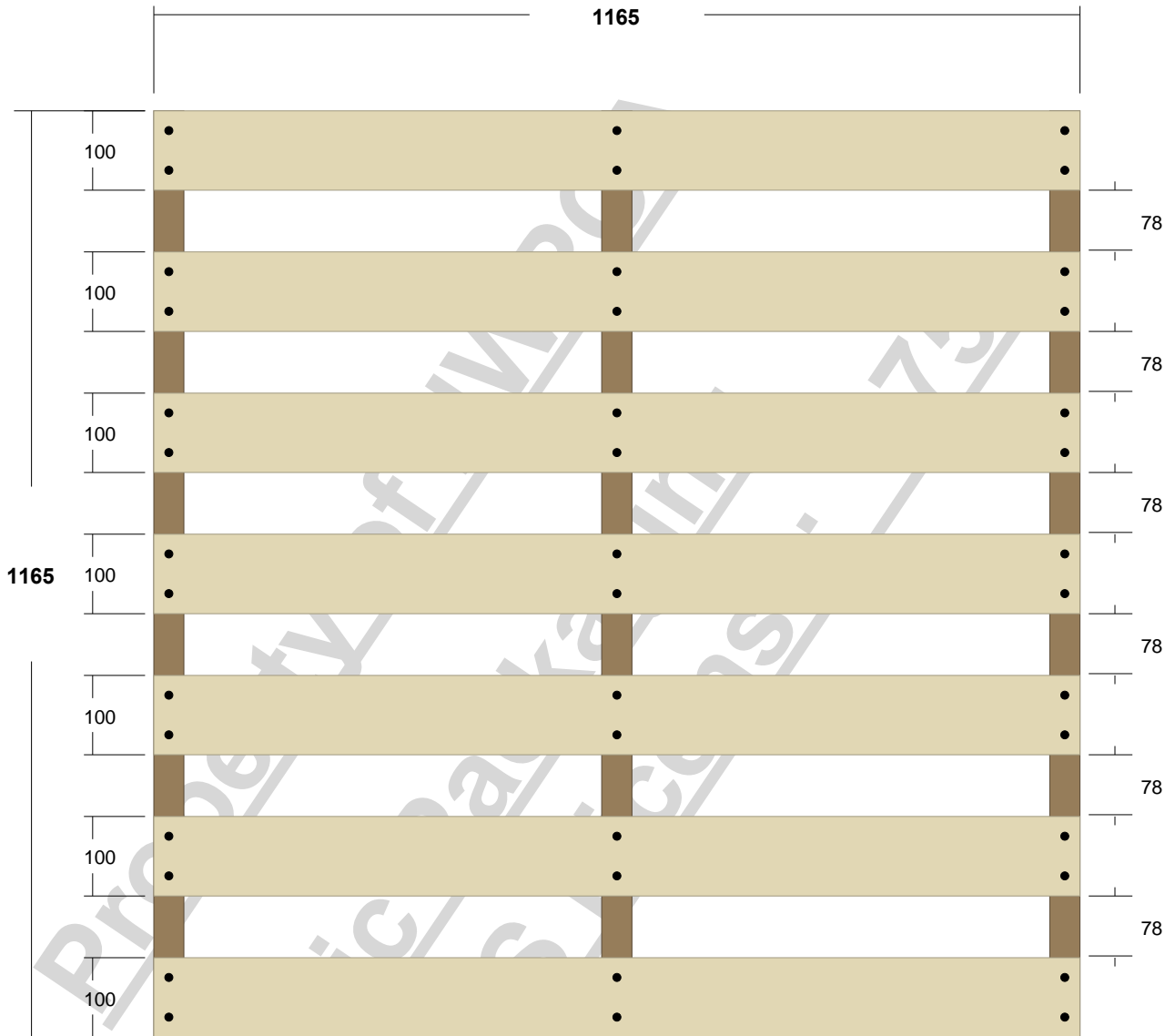
## Pallet Drawing - Top View

All dimensions in millimeters

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### Top View



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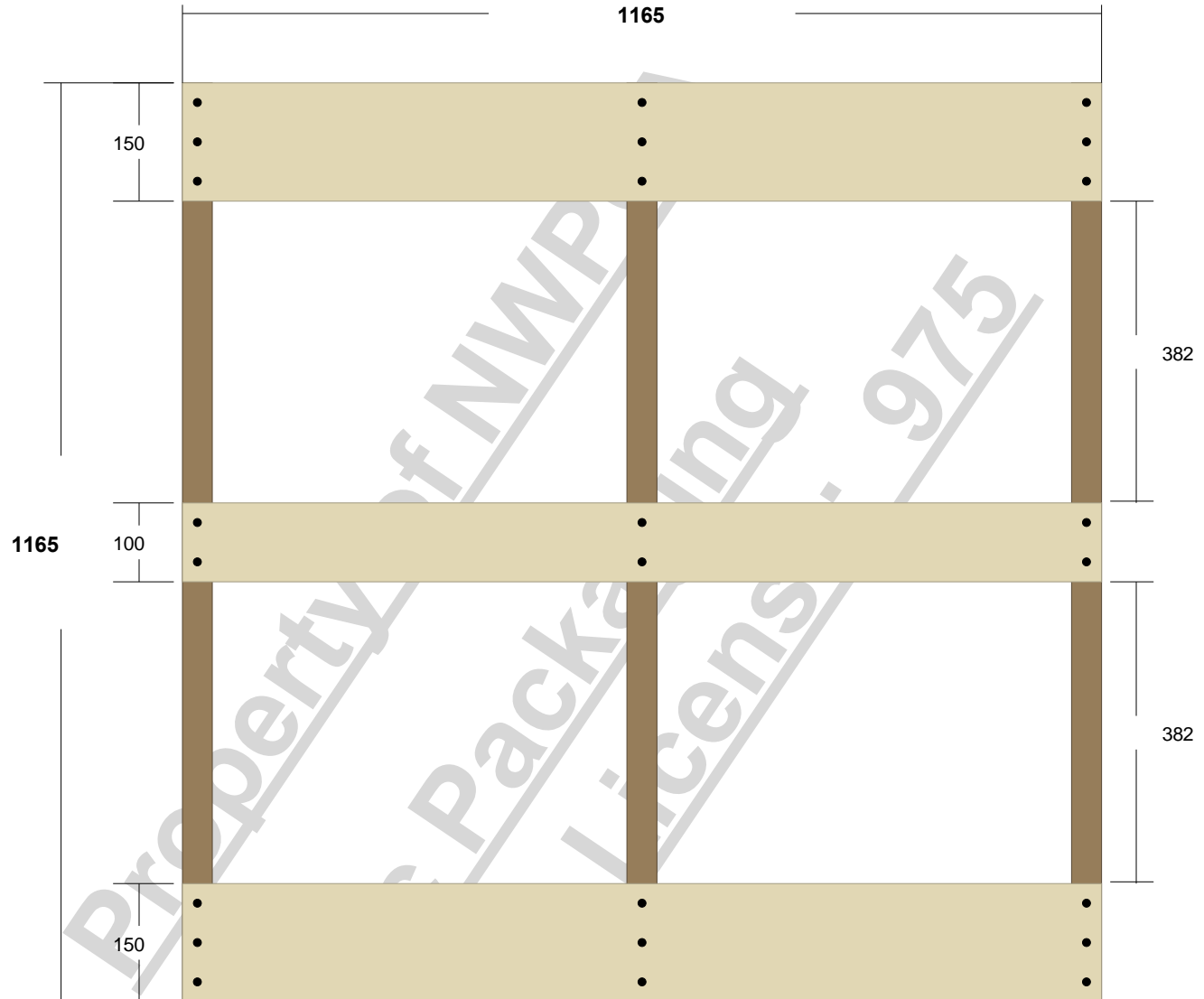
## Pallet Drawing - Bottom View

All dimensions in millimeters

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### Bottom View



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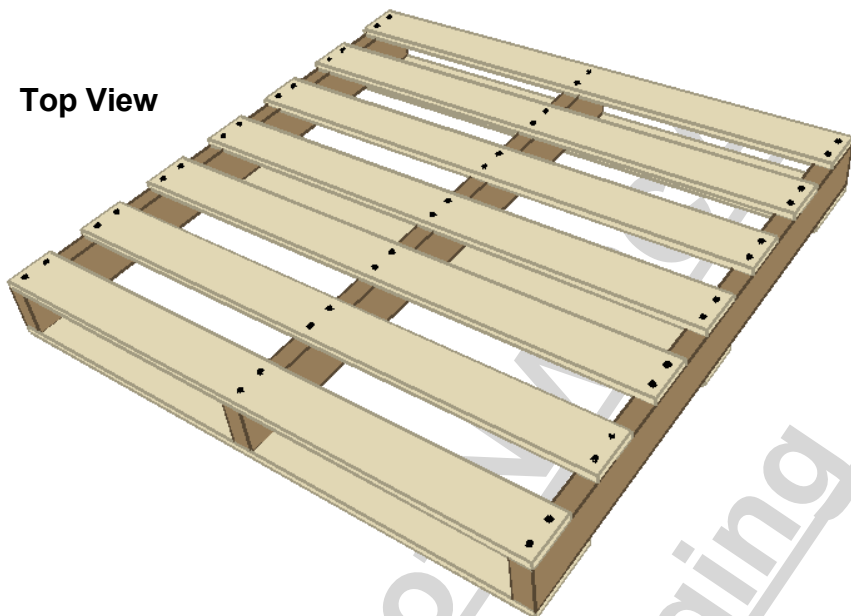
## 3-D Pallet Drawings

All dimensions in millimeters

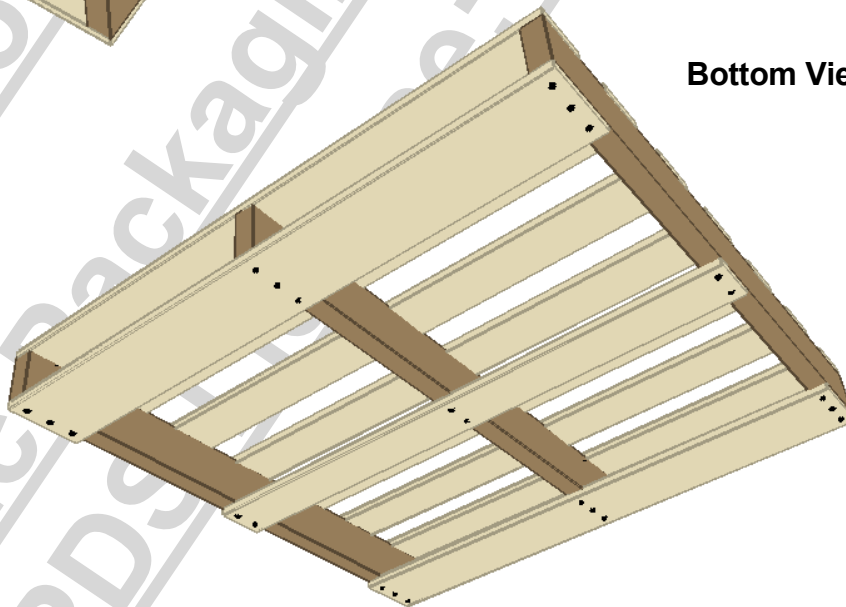
Pallet ID: MDRACK

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Top View



Bottom View



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## Carbon Impact Declaration



### Qualifications

The impacts presented in this report are developed directly from life-cycle assessment data(1) and the associated Environment Product Declaration on Wooden Pallets that were verified by UL in accordance with ISO 14025, 14040, and 14044.

### Applicability

The results represent an industry average 48x40 footprint and are tabulated on a per pallet basis and assuming one repair. Actual impacts may vary based on wood species, pallet design, actual number of repairs, and manufacturer business practices.

## Carbon Footprint

Basis	1 Pallet	550 Pallets
	(kg of CO2)	(kg of CO2)
<b>Carbon Impact(2)</b>	<b>4.88</b>	<b>2,684</b>
<b>Carbon Impact(3) with Potential Offsets</b>	<b>-0.51</b>	<b>-280</b>
<b>Stored Carbon(4)</b>	<b>-37.26</b>	<b>-20,493</b>
<b>Impacts Breakdown:</b>	(kg of CO2)	(kg of CO2)
<b>Carbon Impact for a New Pallet(5):</b>	4.51	2,481
<b>Carbon Impact from Pallet Repair(6):</b>	0.37	204
<b>Benefits Breakdown:</b>	(kg of CO2)	(kg of CO2)
<b>Coproduct Thermal Recovery (Boiler):</b>	-1.28	-704
<b>End-of-Life Thermal Recovery (Boiler):</b>	-3.33	-1,832
<b>Boards Reused for Remanufactured Pallets:</b>	-0.76	-418
<b>Steel Fastener Recycled:</b>	-0.02	-11
<b>Equivalencies(7):</b>	(gallons of gas)	(cars per year)
<b>Carbon Impact:</b>	0.60	0.60
<b>Carbon Impact with Potential Offsets:</b>	-0.03	-0.03
<b>Stored Carbon</b>	-4.20	-4.40

### References

- (1) Alanya-Rosenbaum, Sevda; Bergman, Richard D. 2020. Cradle-to-grave life-cycle assessment of wooden pallet production in the United States. Res. Pap. FPL-RP-707. Madison, WI: U.S. Department of Agriculture, Forest Service, Forest Products Laboratory. 82 p. <https://www.fs.usda.gov/treearch/pubs/61866>
- (2) Sum of carbon impact of a new pallet, including repair and transportation distance as specified (single repair)
- (3) Sum of carbon impact and offsets determined from GWP in Table 11 in Module D of the Wooden Pallet EPD
- (4) Determined from Biogenic Removal from Product (BCRP) in Table 9 of the Wooden Pallet EPD.
- (5) Determined by summing GW impacts from Product Stage (A) in Table 6 of the Wooden Pallet EPD.
- (6) Determined from GW impacts from Use Stage (B) in Table 6 of the Wooden Pallet EPD.
- (7) One gallon of gasoline is equal to 8.887 kg of CO2, estimated fuel economy of 22 miles per gallon, and 11,500 miles driven per year. Environmental Protection Agency (EPA) document EPA-420-F-18-008.

All determinations are made by converting the functional unit of 100,000 lbs. of pallet load to a per pallet basis. The reported values in the EPD are divided by industry average number of pallets required to transport 100,000 lbs. of product, as reported in Table 4.