



May 17<sup>th</sup>, 2018

*Shipper/Manufacturer Information:* Syntha Lee  
Quick Crate North America  
2200 Poinsett Hwy  
Greenville, SC 29609

*Lab Technician:* Tanner Fogle

*Test Performed:*

- Compression Test
  - Compress until Failure

*Product Description:*

- Wood Crates
- Wood Crate Base

*Package Degradation Allowance Criteria:*

- Criteria to Determine Failure
  - Significant deflection was noticed
  - Significant loss in compression load

*Test Plan:*

- English units were used in this test

*Test Results:*

- Quick Crate representatives were present for testing

*Test Laboratory Comments:*

- Conditions in the lab during test were 77°F and 54% RH
- 3 samples were tested as assembled crates
- 2 samples were tested for bottom plywood strength
  - Metal fixture was used to load plywood at weakest points



*Crate Compression Test:*



Figure 1: Crate on Interlaken Compression Tester

- Test Setup:
  - Interlaken Compression Tester was used for this test; Figure 1
  - Test parameters were as follows:
    - Preload – 250 lbs.
    - Fixed Upper Platen
    - Load Rate – 0.25 in./min
    - Test Type – Compress until Failure



*Test Results:*

<b>Product ID</b>	<b>Maximum Force (lbs.)</b>	<b>Deflection (in.)</b>	<b>Figure No.</b>
<b>Crate 1</b>	44,333	0.485	2
<b>Crate 2</b>	48,664	0.511	3
<b>Crate 3</b>	49,318	0.63	4

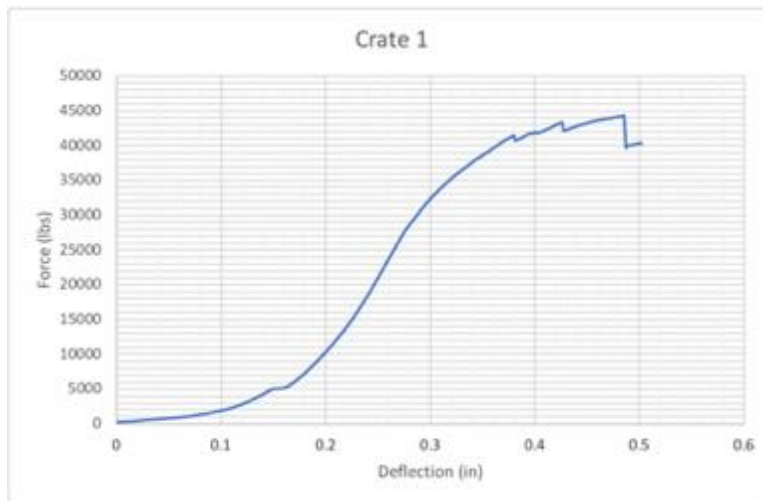


Figure 2: Compression Results for Crate 1

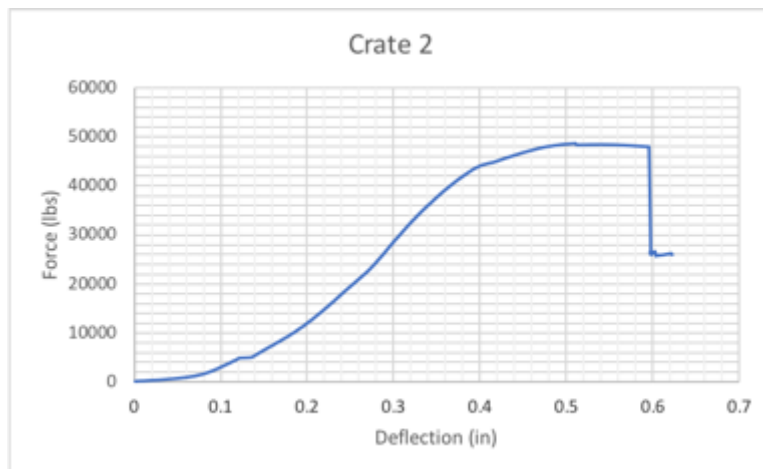


Figure 3: Compression Results for Crate 2

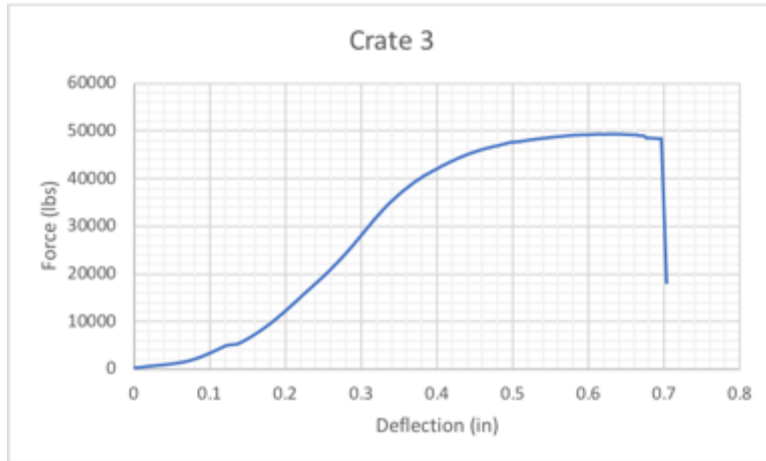


Figure 4: Compression Results for Crate 3



*Crate Base Compression Test:*



Figure 5: Crate Base with Metal Fixture on Interlaken Compression Tester

- Test Setup:
  - Interlaken Compression Tester was used for this test; Figure 1
  - Test parameters were as follows:
    - Preload – 250 lbs.
    - Fixed Upper Platen
    - Load Rate – 0.25 in./min
    - Test Type – Compress until Failure



Test Results:

Product ID	Maximum Force (lbs.)	Deflection (in.)	Figure No.
Pallet Base 0.75" Ply	7,323	0.766	6
Pallet Base 1.5" Ply	27,401	1.076	7

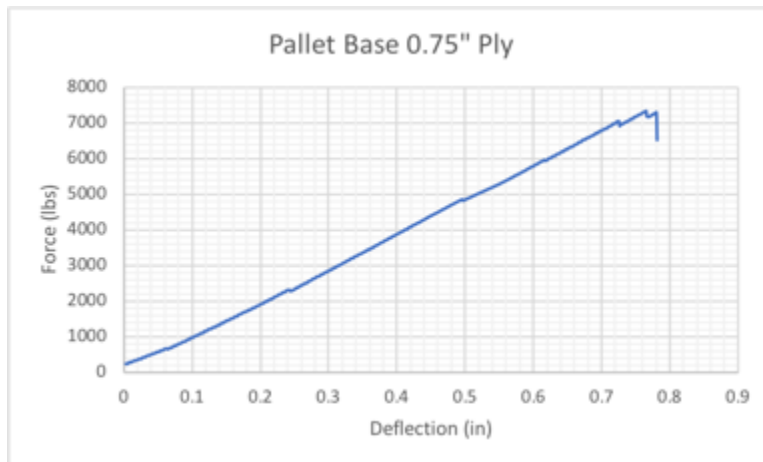


Figure 6: Compression Results for Pallet Base 0.75" Ply

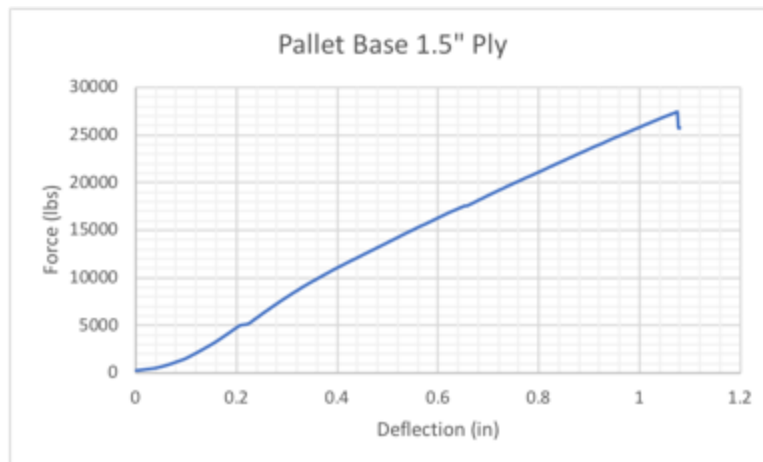


Figure 7: Compression Results for Pallet Base 1.5" Ply



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