

Agenda for Advanced Wood Pallet Design & Performance Short Course

Cupoli Response

Online preparation prior to the class – open from October 1st, 2024

Pallet designs and classifications (13 min.)

Stringer class pallet design with Best Pallet (22 min.)

Block class pallet design with Best Pallet (17 min.)

Day 1 – October 22, 2024 (Tuesday)

1:00pm– 1:30pm

Introductions

1:30pm– 2:30pm

Introduction to wood species (HW and SW) used for pallet manufacturing

- Basics of HW and SW
- Intro to common pallet wood identification (SYP, SPF, Pine, Oak)

Pallet support and loading conditions

2:30pm– 3:00pm

Pallet fasteners

- Fastener types
- Important fastener characteristics
- Common nail failure modes
- Effect of nail quality and nailing pattern on durability

3:00 pm– 3:15pm

Coffee Break

3:15 pm– 5:00pm

Pallet design using Best Pallet (Design Activity) (MS White)

Day 2 – October 23, 2024 (Wednesday)

8:00pm – 8:45pm

Pallet repair

- Pallet repair process
- NWPCA pallet repair classification
- Acceptable failure modes
- Pallet repair methods

8:45am – 10:15am

Effect of wood on pallet performance

- Wood structure, mechanical properties, moisture, iron stain, corrosion, ISPM15, mold, insects

10:15am - 10:30am

Coffee Break

1:30am-11:15pm

Effect of pallet parameters that affect pallet durability (Green v dry, storage, temp swings)

11:15am-12:00pm

Pallet optimization for durability exercise using Best Pallet (MS White)

12:00pm - 1:30pm

Lunch

1:30p.m. – 2:30p.m.

Interaction between pallets and material handling and storage equipment (freezers, forklifts, pallet jacks, rack system, sensors)

2:30pm – 3:30pm

Pallet laboratory testing

- Benefit of certification (testing or software)
- Testing standards (ASTM D1185, ISO 8611)
- Laboratory testing procedure
- How to calculate the load capacity of pallets
- Pallet safety factors (software and standard)

3:30pm – 3:45pm

Coffee Break

3:45pm – 5:00pm

Demonstrations in the William Sardo Jr. Pallet Lab

Day 3 – October 24, 2024 (Thursday)

8:00a.m. – 9:00a.m.

Principles of systems-based unit load design
Unit load interactions

- Pressure distribution (pail vs. pallet)
- Pallet effect of corrugated box strength

9:00a.m. – 10:00a.m.

Unit load design exercise with Best Load (corrugated box optimization) (MS White)

10:00am - 10:15am

- Coffee Break

10:15am – 11:15am

Unit load design exercise with Best Load (pallet optimization for pails) (MS White)

11:15-12:00pm

PalletOne Examples

Real-world case studies of PalletOne using pallet design to improve business. (V Dashevsky)

12:00pm Course adjourned