

Blown Away: Diving into the Wind Performance of Asphalt Shingles



Day 1: October 12, 2022

9:00 – 9:10am: **Welcome & Safety**

9:10 – 9:30am: **Classroom Session 1**

Asphalt Shingles 101

Learning objectives:

- a. What are asphalt shingles, how many different varieties are there?
- b. How are they made? – Parts (asphalt, granules and what they do)
- c. What are they tested for? How? How are they labelled?
 - i. Standardized Wind Test – ASTM 3161
 - ii. Standardized Hail Test – UL2218
 - iii. Fire Resistance Elements – E108 Firebrand

9:30 – 9:50am: **Classroom Session 2**

Wind Performance in the Real World

Learning objectives:

- a. Hurricane performance issues in sub-design winds. Case Study: Hurricane Laura
- b. Severe Convective Storm Performance: Case Study: 2020 Midwest Derecho
- c. Fasteners & Installation: 2 decades of solving for the wrong problem

9:50 – 10:00am: Break



10:00am – 12:00pm: **Laboratory Session 1 – Exploring Asphalt Shingles & their Standardized Testing**

Group A:

10:00 – 11:00am: Build your own test panel (Carpentry Shop)

11:00 – 12:00pm: Review of Industry Test Standards (COMET, Hail Lab, Chamber)

Group B:

10:00 – 11:00am: Review of Industry Test Standards (COMET, Hail Lab, Chamber)

11:00 – 12:00pm: Build your own test panel (Carpentry Shop)

12:00 – 1:00pm: Lunch

1:00 – 1:40pm: **Classroom Session 3**

Why are Shingles Still Failing?

Learning objectives

Sealants, Aging, and Weathering effects on shingles

iv. Dixon study, IBHS work, Aging Farm

v. Sealant repair and performance

vi. What is happening in the aging process?

1:40 – 2:00pm: Break

2:00 – 4:00pm: **Laboratory Session 2: Aging, Weathering, and Sealants Oh My!**

Group A:

2:00 – 2:30pm: Aging Farm

2:30 - 3:15pm: Exploration of Sealants: The cycles they experience (Building C)

3:15 – 4:00pm: Life on a Hot Asphalt Roof: Repair v. Replace (Large Test Chamber)

Group B:

2:00-2:30pm: Aging Farm

2:30 – 3:15pm: Life on a Hot Asphalt Roof: Repair v. Replace (Large Test Chamber)

3:15 – 4:00pm: Exploration of Sealants: The cycles they experience (Building C)

4:00 – 4:30pm: Day 1 Wrap-Up – Q & A with IBHS Experts





Day 2: October 13, 2022

8:00 – 9:00am: **Breakfast**

9:00 – 9:30am: **Classroom Session 4**

Learning objectives:

Mitigating Damage: What Can We Do?

- a. Sealed Roof Deck – It's the Back-up Plan
- b. Role of Underlayments

Development of new test standards

- c. Full-scale shingle testing – Bringing science to bare
- d. Aging effects: How do We Simulate This Process in the Lab?

9:30 – 9:40am: Break

9:40 – 11:00am: **Laboratory Session 3**

Group A:

9:40 – 10:20am: Sealed Roof Deck (Observation Room)

10:20 – 11:00am: Research into New Testing Protocols (Building C)

Group B:

9:40 – 10:20am: Research into New Testing Protocols (Building C)

10:20 – 11:00am: Sealed Roof Deck (Observation Room)



11:00am – 11:20am: **Classroom Session 5**

COMET Panel Test Results

Testing Recap – Test Footage & Takeaways

- a. Groups A & B discuss their panels and IBHS staff discuss results

Continue Learning

11:20 – 11:40: **IBHS Resources & Online Learning**

11:40am – 12:00pm: **Disaster Dynamics Academy Recap**

Lessons Learned

- i. Recap shingle application and performance, sealants
- ii. Manufacturers' past response
- iii. Waiting for the next shingle to drop...

Present recap materials for attendees to access for future education and outreach within their own companies

12:00pm: Disaster Dynamics Academy Adjourns

