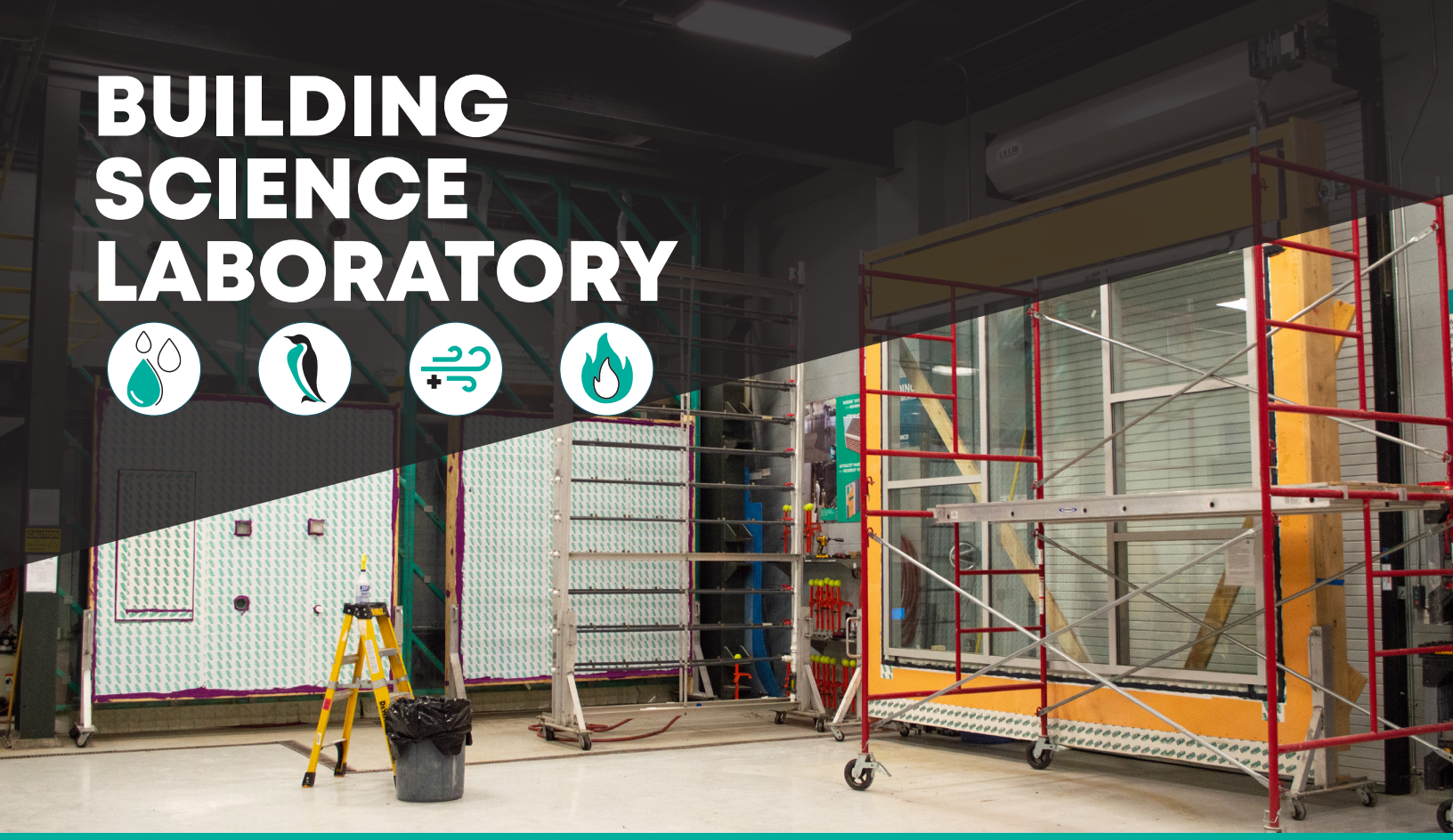
BUILDING SCIENCE LABORATORY



WATER | THERMAL | AIR | FIRE

THE TREMCO TEST FACILITY ADVANTAGE

Most building envelope issues arise from moisture problems, whether due to air leakage or external moisture infiltration. However, fire safety is an equally critical consideration. Project specifications must not only comply with current standards for moisture and air barrier performance but also address fire resistance and testing. Analyzing building envelope or air barrier assembly configurations, along with the fire performance of materials, is essential to ensure optimal safety, durability, and long-term sustainability.

FACILITY TIMELINE

2010 Tremco starts independent systems testing in Ashland, Ohio using a wooden test wall and a single directional blower.

2012 With help from the building science community, Tremco builds a state-of-the-art test wall in Cleveland, Ohio. Capabilities include space to test a 10′ x 12′ assembly, a multi-directional blower, and Labview controller-based software.

2015 Due to increasing testing demand, the facility expands into an adjacent 3,600 ft^2 room with new capabilities including a 20′ x 16′ multi-directional, multi-blower test wall and a water recycling system.

2020 Testing expands again to include a new Thermal Environmental Chamber with 240 data acquisition channels, more BTUs than the harshest thermal radiation on earth, pressure differentials up to 25 PSF, temperature and humidity controls, and rain simulation of 200 g/hr.

2025 State-of-the-art Facade Fire Lab that provides fire testing and critical insights for specifiers was developed with official testing launching early in 2026.

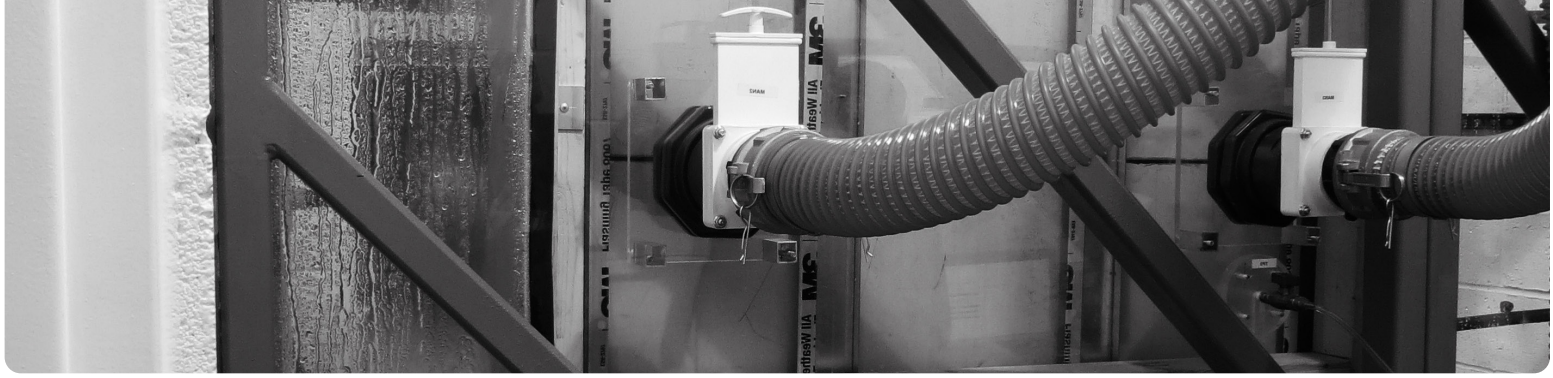
LET'S PUSH THE BUILDING ENVELOPE TOGETHER

The Building Science Laboratory offers a unique educational opportunity. In addition to mitigating risk for clients by testing systems for performance and compatibility, our facility has helped third party labs and consultants understand the limitations of various systems and learn proper application techniques to ensure optimal performance in adverse conditions.

TYPES OF TESTING AVAILABLE AT OUR FACILITY

- **Research & Development** – Evaluation of products and systems to help establish industry standards and best practices.
- **Project-Specific** – Validate feasibility of project- specific design and establish ideal sequence of installation and QA/QC protocol for the job site.
- **Full Wall Assembly** – Wall components from facade to interior sheathing tested together as a complete system for air, water, thermal and fire resistance.
- **Critical Details** – Evaluation of critical connection points between air/vapor building protection systems where failure is common: Facade anchors, Roof-to-wall tie-ins, foundation-to-wall tie-ins, corners, window-to-wall interfaces, penetrations and dynamic joint testing.

TREMCO
Construction Products Group



Have an Application or Design Challenge You Want to See Tested for Performance?

Just reach out to us to begin the testing process detailed below. We'll take it from there!

1

PROBLEM IN THE FIELD

- Research & Development
- Project Specific Testing
- Full Wall Assembly
- Critical Details

2

SUBMIT TEST FORM

- Partner with Tremco Representative
- Provide Details
- Propose Testing

3

DESIGN CONSULTATION

- Review Submitted Drawings
- Determine Testing Protocol
- Develop Timeline

4

LOGISTICAL PLANNING

- Schedule Test/Visit
- Procure Materials
- Construct Assemblies

5

WELCOME TO TREMCO

- Execute Testing Protocol
- Consult/Review Outcomes
- Tremco Facility Tours

6

DEVELOP/COMMUNICATE FINDINGS

- Report Generated
- Sequential Detail Rendering
- Video Documentation

Standards for Testing

The Building Science Laboratory is an accredited 3rd party test facility with additional lab testing available:

ASTM E72*	Strength Tests of Panels for Building Construction (*Modified)
ASTM E283	Air Infiltration
ASTM E330	Uniform Load Deflection/Uniform Load Structural
ASTM E331	Uniform Static Pressure - Resistance to Driving Rain
ASTM E547	Cyclic Static Pressure - Resistance to Driving Rain
ASTM E2357	Air Leakage of Air Barrier Assemblies
AAMA 101 (NAFS)	All Testing Specified for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors
IBC 1403.2	Weather Protection
ASTMC 1363	Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus.
CAN S 716	Standard for Exterior Insulation and Finish Systems (EIFS) – Materials and Systems
CAN S 742	Standard for Air Barrier Assemblies - Specification
AAMA 501.5-07	Test Method for Thermal Cycling of Exterior Walls
ASTM E1423	Standard Practice for Determining Steady State Thermal Transmittance of Fenestration Systems
ASTM E1424	Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure and Temperature Differences Across the Specimen

NEW Fire Tests:	
ASTM E-119/ ULCS-101	Radiant Wall Furnace
NFPA 285/ISMA	Fire Endurance, Wall Assemblies
NFPA 268	Radiant Panel, Wall Assemblies
CAN/ULC-S134	Canadian Wall Assemblies, Fire Endurance
UL790/ ASTM E108	Fire Endurance, Low Slope Roof

[1]Third party certification available upon request

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