



Water and Air Leakage Field Testing Services

**Verifying Performance. Diagnosing Failures.
Protecting Building Investments.**

SK&A[®]



Water & Air Leakage Field Testing Services

Water and air leakage are among the most common—and most costly—building enclosure failures. Left unaddressed, these issues can lead to material deterioration, corrosion, mold growth, occupant discomfort, and long-term durability concerns.

SK&A provides standardized water and air leak field testing to evaluate the functional performance of exterior wall, window, curtain wall, storefront, and door assemblies. Our testing services are used to confirm contractual performance requirements on new construction and to diagnose and isolate leaks in existing buildings as part of forensic investigations.

Standardized Testing Services

SK&A performs industry-recognized testing protocols developed by ASTM International and American Architectural Manufacturers Association (AAMA), ensuring defensible, repeatable, and contract-compliant results.



Water Penetration Testing

- **ASTM E1105:** Field testing of fenestration and wall assemblies using calibrated spray racks and applied air pressure differentials to simulate wind-driven rain.
- **AAMA 501.2:** Diagnostic hose testing used to isolate leakage pathways and assess detailing, transitions, and installation quality.



Air Leakage Testing

- **ASTM E783:** Field measurement of air leakage rates through installed fenestration systems under controlled pressure conditions.
- **ASTM E1186:** Field identification of localized air leakage through techniques like smoke tracing, infrared thermography, and localized pressurization ("bubble gun").



Chamber and Pressure-Based Testing

- **AAMA 502/503:** Chamber testing of windows, curtain walls, storefronts, and doors to evaluate system performance, installation integrity, and resistance to air and water infiltration.

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Why These Tests Matter

- **Contractual Compliance** - Most construction documents require ASTM and AAMA testing under Division 8 as part of field quality control requirements and as a condition of substantial completion or owner acceptance.
- **Performance Verification** - Confirms that installed systems perform as intended under simulated in-service conditions.
- **Risk Management** - Early mock-up testing for identification of deficiencies reduces rework, delays, and post-occupancy disputes.
- **Forensic Reliability** - Standardized methods provide defensible data for investigations, expert opinions, and corrective repair design.

New Construction Applications

SK&A works collaboratively with project teams to:

- Verify fenestration performance prior to project close-out.
- Identify installation deficiencies before finishes conceal defects.
- Support QA/QC programs and commissioning efforts.
- Assist contractors and manufacturers with targeted remediation strategies.

Testing is typically coordinated during pre-construction or during construction to minimize disruption while maximizing corrective opportunities.



Existing Buildings and Forensic Investigations

For existing or aging buildings, SK&A uses field testing to:

- Isolate active leakage paths and concealed failure mechanisms.
- Differentiate between enclosure defects and interior issues (i.e., condensation, etc.).
- Support targeted, cost-effective repair scopes.
- Validate the effectiveness of completed repairs.

Our diagnostic approach minimizes unnecessary demolition and helps owners prioritize repairs based on verified performance deficiencies.



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Why SK&A?

SK&A's testing services are led by engineers and building enclosure specialists with deep experience in facades, roofing, waterproofing, and structural systems. Unlike testing-only providers, we interpret results through a holistic enclosure lens – understanding how materials, details, sequencing, and environmental forces interact in the field.

**Collaborative Expertise.
Proven Performance.
Lasting Confidence.**

Our integrated approach delivers:

- Clear, actionable findings – not just test results.
- Practical repair recommendations informed by observations during testing.
- Coordination with designers, contractors, and manufacturers.
- Confidence that building enclosure systems will perform as intended.

Our integrated approach delivers:

- Field testing documentation and observations.
- Identification of leakage locations and probable causes.
- Photograph documentation and test procedure descriptions.
- Written findings suitable for acceptance, project records, or forensic use.



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