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Test Façade Field Water Penetration at Critical Interfaces

Test façade field water penetration at critical interface locations using an interactive checklist that is commentable and can export as PDF/Excel for QA.

Project:	
Date:	
Filled by:	

Pre-Test Administration	
1	Confirm test method aligns with project specifications; prepare a location-specific method statement and risk assessment; obtain approvals before mobilization.
2	Review drawings and shop details to select critical interfaces (e.g., window-to-wall, slab edge); produce a marked-up plan with unique location IDs.
3	Notify contractor, consultant, and owner at least 48 hours prior; confirm water, power, and access are available; log communications and permits.
4	Verify weather conditions: wind ≤ 3 m/s, ambient 5–35 °C, no precipitation; record site readings with timestamps before testing.
5	Conduct JSA/toolbox talk; establish exclusion zone with barricade tape and signage; ensure PPE (boots, gloves, eye protection) is worn.
6	Assign a QR-coded test tag to each location; place the tag on the interior side and capture a photo for traceability.

Equipment Setup and Calibration	
7	Calibrate spray rack nozzles to the specified water rate; verify total flow within ±10% using a flowmeter; save the calibration sheet.
8	Set nozzle standoff distance to 330 ± 10 mm from the façade; ensure coverage extends 300 mm beyond the interface in all directions.
9	Zero the manometer; confirm the fan/blower system can hold target differential pressure (e.g., 75 Pa) within ±5 Pa; record pre-test readings.
10	Check water supply pressure and temperature (10–30 °C); install an inline filter to prevent debris; photograph gauges and filter placement.
11	Synchronize cameras, timers, and data loggers to UTC; verify lighting and communications; capture a synchronization screenshot.

Test Location Preparation	
12	Protect interior finishes with plastic sheeting and trays; isolate adjacent, non-tested joints using temporary tape per specifications; photograph protections.
13	Inspect the interface for cracks, gaps, or missing sealant; measure joint width to the nearest 1 mm; attach close-up photos with scale.
14	Confirm drainage paths and weep holes are clear; remove obstructions; document before/after conditions and retain debris in a labeled bag.
15	Take baseline interior moisture readings within 500 mm of the interface using a pinless meter; log values and photo the display.

Execution of Water Spray and Pressure	
16	Establish target differential pressure and stabilize for 5 minutes pre-spray; maintain within ±5 Pa throughout; record minute-by-minute values.
17	Before water, use a smoke pencil along the perimeter to detect unintended air leaks; seal only outside the test boundary; annotate photos.
18	Begin uniform water spray covering the interface and 300 mm beyond; maintain specified rate for a minimum of 15 minutes; capture continuous video.
19	Record cumulative and interval flow rates every 5 minutes; adjust valves to keep within ±10% of target; initial and timestamp the log.
20	Continuously observe the interior; at first sign of wetting, log time, x/y location from datum, and observed path; take blotter photos.

Leak Observation and Documentation	
21	Use a borescope or infrared camera to trace concealed paths without demolition; mark suspected origin on the exterior; save thermal/scope images.
22	If uncontrolled ingress occurs, stop the test, protect finishes, and classify as failure; record duration to failure and affected area.
23	After spray ends, hold pressure for 5 additional minutes to check delayed ingress; record none/any and locations; photo evidence required.

Post-Test Restoration and Sign-off	
24	Depressurize, stop water, remove protections, and dry the area; compile a report with photos, readings, and calibrations; obtain tester/witness e-signatures.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Test façade field water penetration at critical interface locations to verify the building envelope resists leakage where systems meet. This checklist focuses on field water spray testing and curtain wall water penetration testing at transitions such as window-to-wall, slab edge, and expansion joints. By concentrating on interface leak investigation rather than whole-elevation testing, teams can validate the most failure-prone details without scope creep. You will prepare equipment, stabilize differential pressure, deliver a uniform spray pattern, and document any ingress with times, positions, and evidence. The workflow reduces rework, protects interiors, and provides traceable, defensible results per approved project specifications and authority requirements. Use this guide to align contractors, consultants, and owner representatives, ensuring acceptance criteria are clear: stable pressure, uniform water rate, and no water beyond the interior plane of protection. Start in interactive mode to tick steps, add comments, and export as PDF/Excel with a QR-secured record.	1. Preparation: Gather spray rack, calibrated flowmeter, fan/blower, manometer, smoke pencil, cameras, moisture meter, protection materials, and PPE. Confirm access, utilities, weather window, and agreed acceptance criteria per approved project specifications and authority requirements. 2. Create a test plan: Select critical interfaces on drawings, assign unique IDs, and generate QR tags. Preload locations, durations, pressure targets, and required evidence prompts in the checklist. 3. Using the Interactive Checklist: Start interactive mode, scan the QR at the location, tick steps as completed, and add time-stamped comments with photos or videos for each evidence prompt. 4. Execute testing: Calibrate flow, stabilize pressure, run the spray for the specified duration, and log readings at defined intervals. Record observations and any leaks with coordinates and times. 5. Export: Generate the report and export as PDF/Excel including photos, logs, and signatures. Share with stakeholders and attach to the daily QA record. 6. Sign-Off: Capture digital signatures from the tester and witness. Archive the QR-linked dataset for traceability and future retests.