



Test façade mock-up for water penetration, dynamic pressure

Test façade mock-up for water penetration under dynamic pressure with an interactive checklist. Fully commentable and export as PDF/Excel, capturing calibrated data and sign-offs.

Project:

Date:

Filled by:

Pre-Test Setup

1	Confirm mock-up geometry and components match approved shop drawings; measure key spans and joint widths with a steel tape; acceptance: dimensions within ± 5 mm; capture labeled photos of measurements and component IDs; supervisor initials required.
2	Verify sealants, gaskets, and membranes installed per manufacturer instructions; record batch/lot numbers and minimum cure time per TDS; acceptance: documented cure complete; attach TDS and timestamped photos; QA sign-off captured.
3	Confirm drainage paths are unobstructed; mask unintended openings while keeping designed weeps functional; inspect with flashlight/borescope; acceptance: no unintended gaps > 2 mm; photo evidence and checklist note.
4	Install interior drip protection and labeled collection trays beneath critical joints; acceptance: capacity ≥ 10 L per zone; photograph setup and labels; log responsible person.
5	Establish façade grid references at 500 mm increments; post laminated elevation with coordinates; acceptance: grid visible in all evidence photos; affix QR to drawing for quick access.

Instrumentation & Calibration

6	Calibrate differential pressure transducers (0–1000 Pa) using a handheld calibrator; acceptance: zero within ± 5 Pa, span within $\pm 1\%$ FS; upload calibration certificates and screenshots.
7	Verify spray rack nozzle discharge by 1-minute collections at nine points; acceptance: 3.4–5.0 L/(m ² ·min) with uniformity within $\pm 10\%$; attach photos of graduated cylinders and readings.
8	Check wind generator/anemometer output at the façade plane; record 60 s mean and standard deviation; acceptance: target mean per test plan ± 0.5 m/s, SD < 0.8 m/s; upload log screenshots.
9	Time-sync all data loggers and cameras to network time; acceptance: inter-device drift < 2 s; photograph sync screens and note reference time source.
10	Confirm exterior/interior temperature and RH sensors operational; record baseline; acceptance: test window 5–35 °C documented; attach raw data files and sensor serial numbers.

Environmental & Safety Controls	
11	Set an exclusion zone with barriers and signage; conduct toolbox talk; acceptance: perimeter ≥ 3 m from equipment; attendance sheet signed; site photos uploaded.
12	Inspect electrical and water connections; install RCD/GFCI protection; acceptance: no damaged cables, leak-free couplings; RCD trip test < 30 mA verified; record readings.
13	Prepare wastewater containment with sump and filtration as planned; acceptance: discharge quality per site environmental plan (e.g., turbidity < 50 NTU if measured); disposal log completed.

Test Execution – Dynamic Pressure	
14	Perform dry run without water; operate wind generator and pressure cycling per plan for ≥ 5 min; acceptance: target pressure stability within $\pm 5\%$; attach trend screenshots.
15	Start wetting: activate spray rack and recheck flow at start; acceptance: $3.4\text{--}5.0$ L/(m ² ·min); photo evidence of collections and stopwatch.
16	Apply dynamic pressure sequence per approved test plan (e.g., staged pressures); log at 1 Hz minimum; acceptance: each stage duration met within ± 1 min; export CSV.
17	Continuously observe interior with headlamp and absorbent cards; acceptance: no uncontrolled water beyond interior plane; record leaks with grid, time, pressure; photos/video required.
18	Measure interior moisture at predefined points using pin meter; acceptance: $\leq 3\%$ WME increase from baseline; log readings with grid references and photos.
19	Execute stop/safe procedure if flooding occurs; isolate water and wind; acceptance: response ≤ 30 s; incident note issued; stakeholders notified and acknowledgment recorded.

Observations & Evidence Capture	
20	Annotate leaks on elevation grid; categorize drip/stream/spray; acceptance: include time, pressure stage, joint type; upload marked drawing.
21	Photograph exterior wetting pattern for each stage; acceptance: full mock-up visible with scale marker and grid; timestamps embedded.
22	Record a continuous interior video during peak pressure; acceptance: ≥ 60 s with verbal grid references; file name includes date-time and project code.
23	Compile datasets: pressure, wind speed, spray rate, temperature, RH; acceptance: CSV and plots attached; filenames standardized; checksum and QR generated.

Post-Test Restoration & Sign-Off	
24	Shut down and secure equipment; drain hoses; remove masking; acceptance: no finish damage; area cleaned; before/after photos uploaded.
25	Inspect components post-test for residual moisture/staining; acceptance: surfaces dry within 24 h or per spec; moisture readings documented and compared to baseline.
26	Issue corrective action tickets for any failures; acceptance: suspected path, repair method, responsible party, and due date recorded; digital signatures captured.
27	Finalize the test report per approved project specifications and authority requirements; acceptance: summary, evidence, conclusions, and stakeholder sign-offs; QR-authenticated PDF distributed.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Test façade mock-up for water penetration under dynamic pressure is a critical building envelope quality assurance procedure. Also called dynamic water penetration testing or wind-driven rain testing of façade mock-ups, it validates that assembled systems, joints, and interfaces resist rain under airflow-induced pressure differentials. This checklist focuses on a representative exterior mock-up only, using a spray rack and wind generator with calibrated pressure measurement. It excludes structural, thermal, or acoustic testing and avoids mixing static pressure protocols. By following these steps, teams reduce false failures from miscalibration, prevent unsafe setups, document findings with time-synced data, and produce clear pass/fail evidence for stakeholders. Outcomes include confident performance verification, targeted remediation when needed, and a complete audit trail aligned with approved project specifications and authority requirements. Use this interactive page to tick items, add comments, attach photos and logs, and export as PDF/Excel secured with a QR link for authentication.	1. Preparation: Gather spray rack, wind generator, differential pressure transducers, anemometer, calibrated flow containers, moisture meters, data loggers, lighting, PPE, barriers, and waste containment per the test plan. 2. Preparation: Review approved drawings, manufacturer data sheets, and the project-specific test sequence. Align stakeholders on pass/fail criteria and stop/safe procedures. 3. Using the Interactive Checklist: Open the checklist on a tablet, select your project, and start a new test run; scan the project QR for quick access. 4. Using the Interactive Checklist: Tick items as completed, add time-stamped photos and videos, log readings, and tag locations with the façade grid coordinates. 5. Using the Interactive Checklist: Use comments to assign actions, capture calibration screenshots, and attach CSV exports from data loggers for each test stage. 6. Using the Interactive Checklist: Monitor item status to avoid omissions; the progress bar highlights remaining steps before test execution begins. 7. Export: Generate a consolidated PDF/Excel package including evidence, datasets, and annotations; share the QR-secured link with stakeholders for verification. 8. Sign-Off: Capture digital signatures from contractor, consultant, and client representatives; lock the record to preserve the audit trail. 9. Archiving: Store the signed report in the project repository and link corrective actions and retests to maintain traceability.