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Test façade operable vents for actuation & weather sealing

Test façade operable vents for actuation and weather sealing using an interactive checklist that is commentable and export as PDF/Excel for traceable results.

Project:

Date:

Filled by:

Pre-Test Setup

1	Confirm latest approved drawings, test method statements, and permits are on hand; brief the team. Acceptance: documents current and signed; record document numbers, revision dates, and attendees' signatures.
2	Verify calibration of manometer, flow gauge, and force gauge within 6 months. Acceptance: valid certificates; capture photos of calibration labels and log calibration IDs and dates.
3	Measure ambient wind at façade with an anemometer. Acceptance: proceed when wind speed ≤ 5 m/s or per approved project specifications; record value, time, and location photo.
4	Isolate the vent under test using low-tack tape and temporary shrouds to prevent edge leakage. Acceptance: adjacent joints masked; attach before/after photos showing isolation extent.
5	Set up protection and signage: drop sheets, buckets, and warning cones. Acceptance: protected finishes and clear access routes; photo evidence and supervisor acknowledgment.

Visual Condition & Installation

6	Check frame plumb/level and reveal uniformity with a 1 m straightedge and feeler gauge. Acceptance: gap uniformity within ± 2 mm; record measurements and close-up photos.
7	Inspect gaskets and corner joins for continuity, elasticity, and compression set. Acceptance: no cuts, gaps, or hardened sections; document with macro photos at corners and splices.
8	Verify hardware fasteners (hinges, stays, operators) are seated and torqued per approved project specifications. Acceptance: recorded torque values (N·m); no stripped heads; photo of each location.
9	Confirm weep holes and pressure-equalization paths are unobstructed using a probe and water drop test. Acceptance: free flow to exterior; capture probe and outflow photos.

Actuation & Hardware Performance

10	Cycle the vent fully open/closed 10 times using the intended handle or motor. Acceptance: no binding or scraping; consistent travel; record cycle time per stroke (s) and anomalies.
11	Measure peak operating force with a calibrated spring scale at the handle. Acceptance: within project limit (N); log peak force readings and photo of gauge during pull.
12	Verify latching and seal compression: insert 0.05 mm feeler probe around perimeter when latched. Acceptance: probe does not pass; note any ingress points; attach photos.
13	Check restrictors/limit stops for maximum opening angle using an inclinometer. Acceptance: opening angle within design range (°) per approved project specifications; photo of reading.
14	Confirm interlocks (BMS/smoke control/contact switches) respond correctly when vent opens/closes. Acceptance: correct signal state change; attach screenshots/point logs and timestamp.

Weather Sealing – Air Tightness

15	Install temporary airtight hood over the vent and connect blower fan and manometer. Acceptance: stable baseline; photo of setup and hood sealing details.
16	Apply target pressure differential per approved project specifications (positive and/or negative). Acceptance: stabilize setpoint within ± 5 Pa for 60 s; record Pa vs time.
17	Measure airflow rate at each setpoint. Acceptance: leakage within specified limit (L/s·m ² of vent area); capture readings and calculation sheet.
18	Use a smoke pencil to trace perimeter and hardware penetrations under pressure. Acceptance: no visible smoke ingress; attach photos/video stills highlighting any trails.

Weather Sealing – Water Tightness

19	Calibrate spray rack/nozzles to required flow rate per approved project specifications. Acceptance: each nozzle within $\pm 10\%$ of target L/min; record flowmeter readings.
20	Establish required pressure differential if specified using fan/suction box and manometer. Acceptance: maintain target Pa within ± 5 Pa; log continuous pressure trace.
21	Spray the exterior uniformly at prescribed angle and duration. Acceptance: continuous sheet without dry bands; record start/stop times and coverage photos.
22	Inspect interior continuously for water penetration at frames, corners, and hardware. Acceptance: no droplets, damp patches, or tracking; document with interior photos and notes.
23	Stop test, remove masking, and trace any moisture paths to root cause. Acceptance: sources identified; create punch list with locations and recommended corrective actions.

Drainage & Weep Function

24	Pour 500 mL of water along the interior sill channel and monitor outflow. Acceptance: drains freely to exterior within 60 s; record time and outflow photo.
25	Check external weep baffles/caps for secure fit with a 50 N pull test. Acceptance: no movement or deformation; attach photo during pull test.
26	Remove debris from weeps and cavities using a soft brush and vacuum. Acceptance: clear openings; bag and tag debris; photo of cleaned weeps.

Documentation & Closeout	
27	Record vent ID, elevation, gridline, and orientation; link to drawings. Acceptance: location data complete; attach marked-up plan and ID plate photo.
28	Log defects with photos, assign responsible party and due date. Acceptance: each item tracked to closure; capture retest readings and sign-off.
29	Affix a durable QR code tag linking to the final report. Acceptance: scannable within 3 s; photo of tag in situ and test lead signature.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Test façade operable vents for actuation and weather sealing to confirm installed units operate smoothly and remain weather-tight under realistic conditions. This field procedure covers opening vents in curtain walls and window systems, evaluating operable windows and façade vents for motion, alignment, and weatherproofing. We verify actuation force, cycle performance, interlocks, and seals, then assess air infiltration and water penetration with calibrated equipment like blower fans, manometers, and spray racks. By isolating the test area, measuring pressure differentials, and inspecting gaskets, frames, and drainage paths, teams prevent leaks, drafts, corrosion, and occupant complaints. The checklist focuses on in-situ functional testing only; laboratory certification and structural load testing are excluded. Deliverables include readings in SI units, photos, and digital signatures suitable for project and authority compliance. Start interactive mode to tick items as you go, add comments for defects, and export results to PDF/Excel with a QR-secured link for handover.	1. Preparation: Gather calibrated manometer, blower fan, spray rack, flow meter, force gauge, anemometer, torque wrench, low-tack tape, drop sheets, ladders, and PPE. Brief the team and verify permissions per approved project specifications and authority requirements. 2. Site setup: Notify occupants, isolate only the vent under test, protect finishes, and confirm acceptable weather. Coordinate BMS/alarms and establish communication between interior and exterior observers. 3. Start interactive mode: Open the checklist on your device, assign roles, and scan or place a QR code for traceability. Tick items as you proceed to avoid omissions. 4. Document evidence: Add comments for observations and defects, attach photos and instrument readings, and reference calibration IDs. Use consistent SI units for all entries. 5. Export results: Generate a commentable report and export as PDF/Excel. Ensure the export includes timestamps, photos, signatures, and the QR link for verification. 6. Sign-off: Capture digital signatures from the tester, contractor, and consultant. Distribute to stakeholders and archive in the project CDE for future maintenance reference.