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Test louver assemblies for water ingress & drainage control

Test louver assemblies for water ingress and drainage control using an interactive checklist that is commentable and can export as PDF/Excel for traceable logs.

Project:
Date:
Filled by:

Pre-Test Conditions

1	Confirm louver type, size, location, orientation, and installation match approved drawings and submittals; note model/lot numbers. Acceptance: conforms to project documents. Evidence: marked-up elevation photo set and inspector signature.
2	Verify weather: no precipitation; wind ≤ 5 m/s at façade; ambient 5–35 °C. Acceptance: within range to avoid confounding spray. Evidence: weather app screenshots with timestamp.
3	Protect interior finishes with poly sheeting and absorbent trays extending ≥ 1 m from louver plane. Acceptance: full coverage in photos. Evidence: wide-angle interior photos before testing.
4	Clean louver blades, frames, and sills; clear visible debris from weep holes. Acceptance: no debris observed; weeps visibly open. Evidence: before/after macro photos of weeps and sill.
5	Confirm safe access and exclusion zone; verify scaffold/MEWP tags and PPE. Acceptance: active permits and barriers in place. Evidence: signed permit-to-work and site safety photos.

Instrumentation & Calibration

6	Calibrate inline flow meter at planned rate; accuracy $\pm 2\%$. Acceptance: calibration sticker current; verification with 60 s volumetric check within $\pm 2\%$. Evidence: calibration cert and stopwatch/graduated cylinder log.
7	Zero differential manometer; range suitable for 50–300 Pa; resolution ≤ 1 Pa. Acceptance: baseline drift $\leq \pm 2$ Pa over 60 s. Evidence: manometer zero check photo and data snippet.
8	Set up continuous interior video with timestamp; include a visible test clock/board. Acceptance: time-synced footage covering entire interior plane. Evidence: test frame grab before spray.
9	Apply a visible interior mapping grid (e.g., A–D, 1–6) on the plane behind the louver. Acceptance: grid readable in photos/video. Evidence: interior reference photo.

Water Spray Setup	
10	Assemble spray rack to fully cover the louver area; nozzle stand-off 300 ± 25 mm; deliver 3.4 ± 0.3 L/min·m ² . Acceptance: measured 60 s flow within tolerance. Evidence: flow check log and rack photo.
11	Set nozzle orientation perpendicular to façade; overlap $50 \pm 10\%$. Acceptance: distribution uniformity within $\pm 15\%$ verified by tray/film test. Evidence: uniformity sheet with volumes/heights recorded.
12	Use clean water at 10–25 °C; record conductivity/TDS for reference. Acceptance: temperature within range. Evidence: thermometer reading photo and water quality note.
13	Place pre-weighed catch containers or graduated cylinders inside at sill and joints. Acceptance: tare masses/zero volumes logged. Evidence: container ID list with initial readings.

Pressure Control	
14	Seal adjacent openings within 1 m of test area to prevent bypass. Acceptance: smoke pencil shows no unintended leakage paths. Evidence: smoke test photos/videos.
15	Establish target pressure differential 150 ± 10 Pa (or per project). Hold 5 min with no spray. Acceptance: stability within ± 5 Pa. Evidence: manometer trend screenshot.
16	Record fan speed/airflow needed to maintain pressure for repeatability. Acceptance: settings documented and repeatable within $\pm 10\%$. Evidence: blower door log export.

Test Execution & Observations	
17	Start spray and target pressure concurrently; maintain 15 ± 1 min. Acceptance: uninterrupted duration achieved. Evidence: timer photo and continuous video clip.
18	Continuously inspect interior; place blotter cards at joints, corners, and penetrations. Acceptance: cards remain dry/unstained. Evidence: card photos before/after.
19	If water appears, record grid location, onset time, and collect volume in containers. Acceptance: criteria per approved project specifications and authority requirements. Evidence: leak log with timestamps and volumes (mL).
20	Inspect fasteners, mullion interfaces, frame corners, and perimeter sealant for paths. Acceptance: no free water beyond the interior plane. Evidence: macro photos of suspect points.
21	Stop spray; maintain pressure for 5 additional minutes to detect delayed seepage. Acceptance: no new wetting observed. Evidence: manometer trend and interior video segment.

Drainage Verification & Post-Test	
22	Observe exterior drain-down; time until drips cease. Acceptance: drain-down ≤ 120 s with no spray. Evidence: video with audible timestamp call-out.
23	Check accessible sills/channels for standing water after 5 min. Acceptance: ponding depth < 3 mm. Evidence: ruler photo showing water depth.
24	Verify weep discharge paths: introduce 0.5 L dyed water at head/sill and confirm exit at designated points ≤ 60 s. Acceptance: unobstructed flow. Evidence: video of discharge.
25	Inspect façade below louver for staining, streaks, or backflow. Acceptance: none observed post-test. Evidence: elevation photos within 1.5 m below unit.
26	Compile deliverables: calibrated flow/pressure logs, photos/videos, mapping, and approvals. Acceptance: complete package exported with QR-linked audit trail. Evidence: signed PDF and Excel exports.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
<p>Test louver assemblies for water ingress and drainage control is a targeted, field-ready procedure for exterior, vertical, wall-mounted louvers. This checklist supports louver water penetration testing and drainage verification by guiding you through calibrated spray rack setup, controlled pressure differentials, and objective evidence capture. You will verify that no free water passes the interior plane and that all collected water drains via designed paths without ponding or backflow. The scope excludes acoustic, airflow performance ratings, or structural load testing; it focuses strictly on water entry, leakage pathways at joints and fasteners, and the effectiveness of weeps and channels. Following these steps reduces rework, protects interior finishes, and confirms workmanship against approved project specifications and authority requirements. Typical outputs include uniform spray validation, stable differential pressure logs, timed drain-down observations, and a complete photo/video record. Use this interactive checklist to tick off tasks, add comments, attach evidence, and export to PDF/Excel; a QR code secures your record for audits and handover.</p>	<p>1. Preparation: Gather spray rack, calibrated flow meter, differential manometer, stopwatch, camera, dye, rulers, blotter cards, poly sheeting, trays, and PPE. Verify access, weather, and protection. Align acceptance criteria per approved project specifications and authority requirements. 2. Start Interactive Mode: Open the checklist on your device, enable tick boxes, and set the project, location, louver ID, and test pressure/flow targets. Use comments to note deviations or site constraints. 3. Capture Evidence: Attach photos, videos, and logs at each step. Record flow and pressure readings, durations, and grid-referenced observations. Use timestamps and label containers for collected volumes. 4. Export & Share: Generate an export as PDF/Excel, embedding photos and data tables. Share the file link or QR code with the site team, client, and consultant for concurrent review. 5. Sign-Off & Archive: Collect digital signatures from installer, inspector, and consultant. Lock the record with QR authentication and archive to the project folder for handover and warranty support.</p>