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Review Façade Louver Design: Airflow, Drainage, Access

Review façade louver design for airflow, drainage, and maintenance clearance with an interactive checklist that's commentable and export as PDF/Excel.

Project:

Date:

Filled by:

Airflow Performance

1	Calculate louver free area from CAD cut-out minus blade blockage using manufacturer geometry; accept if free area $\geq 50\%$ or meets the scheduled minimum; attach marked drawing and calculation sheet.
2	At duty airflow, compute face velocity (Q / gross opening); accept if ≤ 2.5 m/s for intake and ≤ 3.0 m/s for exhaust unless project specifies otherwise; upload calculation and schedule cross-check.
3	Use manufacturer pressure-drop curves to read Δp at duty face velocity; accept if total louver $\Delta p \leq 50$ Pa or per approved project specifications; attach curve screenshot with duty point marked.
4	Include bird/insect mesh or security screen losses; recalculate Δp with accessory factors; accept if overall Δp (louver + mesh) ≤ 75 Pa or as specified; upload revised calc and accessory datasheets.
5	Provide adequate plenum depth behind the louver for uniform intake; accept if clear plenum depth ≥ 1.0 m or as manufacturer recommends; submit section showing obstructions cleared and dimensions verified.
6	Remove/relocate obstructions (duct lips, framing, actuators) within 150 mm of the louver back face; accept when a uniform opening is maintained; upload annotated section and coordination screenshot.

Water Management and Drainage

7	Confirm blade profile, pitch, and overlap meet rain defense requirements at design wind and rainfall; accept per approved project specifications and authority requirements; attach manufacturer rain penetration data.
8	Detail sill/drip with slope $\geq 1:20$ falling outward; provide weep holes $\varnothing 8\text{--}10$ mm at ≤ 300 mm centres; accept with continuous, unobstructed drainage path; submit detailed section and annotated CAD.
9	Provide side/end flashings with end dams ≥ 25 mm and laps ≥ 100 mm; seal seams with compatible sealant; accept when water is directed to exterior; upload detail and sealant specification.
10	Design backpan/gutter behind louver with minimum fall 1:100 to a visible exterior drain; accept when discharge does not enter the cavity; attach drainage path diagram and outlet sizing calc.
11	Avoid capillary bridges at interfaces; maintain ≥ 5 mm separation above horizontal flashings and provide drips; accept when no reverse slope or ponding remains; submit detail review comment resolution.
12	Plan a pre-fabrication mock-up spray/hosing verification on a representative bay; accept with no interior wetting and documented flow at weeps; upload photos and signed test sheet.

Maintenance and Access	
13	Provide clear walkway behind louver ≥ 600 mm wide with headroom ≥ 2.1 m and anti-slip surface; accept with dimensioned section/elevation; attach access route plan.
14	Specify an access door integrated within the louvered zone; accept when clear opening $\geq 600 \times 1200$ mm, threshold ≤ 25 mm, outward swing, and lockable; submit hardware schedule and detail.
15	Limit removable panel mass to < 25 kg for single-person handling or provide lifting points and two-person label; accept with datasheet and handling note on drawings.
16	Locate dampers, filters, and meters within ergonomic reach (500–1700 mm above floor/landing); accept with coordinated section and equipment schedule; upload clash-free model snapshot.
17	Define exterior cleaning method (from inside, MEWP, or rope access) and provide anchors or tie-off points per approved project specifications and authority requirements; accept with layout, capacity note, and sign-off.

Materials and Durability	
18	Specify aluminium 6063-T5/T6 blades/frames with powder coating 60–80 μm or anodizing ~ 20 μm (AA20 equivalent) per exposure; accept with finish schedule and warranty.
19	Use stainless steel fasteners (A2/A4 equivalents) and isolate dissimilar metals with non-conductive washers/tapes; accept with fastener schedule and galvanic isolation detail.
20	Select gaskets/seals as UV-stable EPDM or silicone; temperature range -30 to $+90$ $^{\circ}\text{C}$; accept with manufacturer datasheets and compatibility confirmation with finish.
21	For coastal/industrial sites, upgrade to marine pre-treatment, duplex coating, and 316 stainless hardware; accept with environmental classification note and corrosion-resistance documentation.

Integration and Detailing	
22	Provide a perimeter joint 10–15 mm with backer rod and sealant; show continuous supports and fixings at ≤ 600 mm centres; accept with detailed sections and fastener calc.
23	Include thermal breaks or isolation clips to limit condensation; accept when calculated internal surface temperature stays above indoor dew point; attach isotherm or condensation check.
24	Maintain required fire separation; provide tested fire-stopping around penetrations to the specified rating; accept per approved project specifications and authority requirements with layout and approval note.
25	Account for acoustic liners/filters/sand traps in airflow sizing and access; accept with updated Δp calculations and a maintenance method statement; upload accessory datasheets.

Documentation and Approvals	
26	Submit coordinated shop drawings, calculations, drainage details, and maintenance plan; accept with digital approvals; archive signed PDF/Excel export with QR-linked evidence.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Review façade louver design for airflow, drainage, and maintenance clearance is a focused design-control step for architects, façade engineers, and MEP coordinators. This checklist targets ventilation louvers on building envelopes, verifying free area, face velocity, and pressure drop while confirming rain defense, drainage paths, and long-term maintainability. Closely related concerns—like duct sizing or HVAC controls—are out of scope; we concentrate on the louver assembly, its immediate interfaces, and safe service access. By catching undersized free area, obstructed drainage, or inadequate access clearance early, teams avoid rain ingress, noise, corrosion, and costly rework. The outcome is a coordinated, durable system that meets airflow duty at acceptable resistance, sheds water outward, and allows safe cleaning and service without dismantling adjacent works. Use this interactive, commentable checklist to assign actions, attach evidence, and capture approvals, then export to PDF/Excel with a QR code for authenticated field use.	1. Preparation: gather architectural elevations/sections, MEP airflow schedules, rainfall/wind design data, manufacturer catalogs/curves, and coordination models. Ready CAD/BIM, calculator, camera/screenshot tool, and PPE for any site verifications. 2. Set project criteria: confirm duty airflow, acceptable face velocity, target pressure drop, exposure category, and maintenance strategy. Note any authority or owner requirements that modify standard targets. 3. Using the Interactive Checklist: open the checklist, assign roles, start tick mode, and create comment threads on each item. Mention stakeholders for quick resolution and keep decisions within the item history. 4. Attach evidence: upload marked calculations, manufacturer curve snapshots, annotated details, and mock-up photos. Link drawing references and model views so reviewers can verify without searching. 5. Resolve conflicts: use comments to log design changes, assign actions with due dates, and record approvals. Update calculations when accessories (mesh, filters) are added. 6. Export: generate an export as PDF/Excel with embedded QR code to authenticate on site. Share the file for workshops and tender submittals. 7. Sign-Off: capture digital signatures from design lead, MEP, and façade contractor; distribute to stakeholders; archive the final, QR-verified record in the project CDE.