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Review façade anchor design & substrate fixing assumptions

Review façade anchor design and substrate fixing assumptions before release with interactive checklist, commentable, and export as PDF/Excel. Ensure QA traceability.

Project:	
Date:	
Filled by:	

Design Basis and Loads	
1	Tabulate dead, live, wind, and seismic actions per approved project specifications and authority requirements; record kN per anchor and panel. Acceptance: worst-case factored load clearly identified. Evidence: signed calculation summary (PDF) with revision/date.
2	Confirm load combinations and partial factors used in calculations match project basis. Method: cross-check calc sheets versus design criteria register. Acceptance: alignment within 0.5% rounding tolerance. Evidence: marked-up criteria page and checker initials.
3	Verify tributary area per anchor for wind suction/pressure. Method: take-off from GA and panel shop drawings. Acceptance: area within ±5% of modelled value. Evidence: calculation sheet with drawing references and screenshots.
4	Check global load path continuity from panel through bracket and anchor to primary structure. Method: hand sketch or 3D markup. Acceptance: no unsupported transfer or eccentricity unaccounted. Evidence: annotated detail with reactions (kN) and moments (kN·m).

Substrate Verification	
5	Confirm substrate type and grade at every anchor zone (e.g., C30/37 concrete, fully grouted CMU). Method: structural drawings/specs. Acceptance: design uses equal or lower characteristic strength. Evidence: excerpt of material specs linked to locations.
6	Check reinforcement mapping at proposed drill points. Method: review rebar scan plan or bar schedule. Acceptance: clear embedment without cutting primary bars; cover maintained. Evidence: scan plan or section mark-up with dimensions (mm).
7	Validate member thickness, edge distance, and embedment feasibility. Method: dimension check on sections. Acceptance: edge distance and thickness meet or exceed manufacturer minima. Evidence: redlined detail with measured distances (mm).
8	For masonry/CMU, confirm block type, face shell thickness, and grout continuity assumed in design. Method: supplier submittals. Acceptance: matches design inputs; ungrouted cells not used for anchors. Evidence: approved data sheet highlighting properties.
9	For steel backings, verify plate thickness, grade, and weld availability at anchor interface. Method: fabrication drawings. Acceptance: plate ≥ design minimum thickness with accessible welds. Evidence: drawing reference and MTR summary.

Anchor Selection and Detailing	
10	Confirm anchor type (mechanical, adhesive, or undercut) is approved for the substrate and load regime. Method: manufacturer approval documents. Acceptance: listed for intended substrate and cracked/non-cracked condition. Evidence: approval certificate and datasheet.
11	Verify required embedment depth and drill diameter against datasheet. Method: datasheet cross-check. Acceptance: embedment tolerance ±2 mm; hole diameter within specified range. Evidence: datasheet markup and calculation snippet.
12	Check minimum spacing between anchors and from edges/corners. Method: layout drawing review. Acceptance: spacing and edge distances ≥ manufacturer minima. Evidence: dimensioned layout with compliance notes.
13	Confirm bracket stand-off and eccentricity used in moment capacity checks. Method: 3D model or detail review. Acceptance: factored moment ≤ capacity with ≥20% reserve. Evidence: calc page and bracket detail reference.
14	Review hole tolerances and slot orientations for movement points. Method: shop drawing check. Acceptance: slots oriented correctly; oversize accommodates ± movement specified (mm). Evidence: annotated detail showing slot size and direction.

Corrosion and Durability	
15	Verify material grade and coating for exposure category (e.g., stainless at marine sites). Method: project spec comparison. Acceptance: material/coating matches exposure requirements. Evidence: materials schedule with highlighted grades.
16	Check galvanic compatibility between anchor, bracket, and adjacent metals. Method: materials matrix. Acceptance: no high-risk pairings; isolators specified if needed. Evidence: compatibility note and detail reference.
17	Validate fire performance and reaction requirements for components in anchor zone. Method: test reports and spec. Acceptance: documented performance equal to or above requirement. Evidence: report index and certificate copies.
18	Confirm design life and inspection/maintenance assumptions. Method: O&M; strategy review. Acceptance: stated design life (years) and access provisions documented. Evidence: extracted O&M; page and design note.

Thermal and Movement Accommodation	
19	Verify thermal break pads or spacers to mitigate cold bridging. Method: energy model outputs. Acceptance: linear thermal transmittance meets project target. Evidence: U/ψ-value calculation summary and product datasheet.
20	Confirm fixed/sliding point strategy per panel. Method: panel schedule review. Acceptance: one fixed point per panel; others accommodate movement. Evidence: drawing tags and notes.
21	Check cumulative tolerance and adjustability. Method: tolerance matrix. Acceptance: bracket/anchor system provides ≥ ±10 mm in-plane adjustability. Evidence: table extract and detail markup.
22	Assess building sway and creep allowances. Method: structural input check. Acceptance: slots/gaskets accommodate predicted drift (mm) without binding. Evidence: structural letter and detail annotation.

Documentation and Approvals	
23	Compile anchor schedule with unique IDs, capacities (kN), embedment (mm), and locations. Method: BIM/Excel export. Acceptance: 100% of anchors listed and cross-referenced. Evidence: exported schedule file and drawing index.
24	Attach manufacturer approvals, datasheets, MSDS, and installation method statements. Method: submittal package. Acceptance: complete and current revisions. Evidence: transmittal log with document list.
25	Register assumptions needing site verification (e.g., pull-out tests, substrate strength). Method: assumptions log. Acceptance: action owner, test method, and due date recorded. Evidence: screenshot or PDF of live register.
26	Obtain design check and client/authority review per procedure. Method: digital signatures. Acceptance: required signatories completed; comments closed. Evidence: signed cover sheet and QR-authenticated export.

Design Basis and Loads	
27	Confirm factor of safety for anchor resistance relative to factored demand. Method: calc check. Acceptance: resistance/demand ratio ≥ 1.5 unless project states otherwise. Evidence: ratio table with checker sign-off.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Review façade anchor design and substrate fixing assumptions before release is a targeted pre-issue verification for façade engineers, consultants, and QA leads. This checklist focuses on design basis validation, substrate verification, and anchor detailing, including pull-out capacity, embedment depth, edge distance, and spacing. It also addresses movement accommodation, thermal isolation, corrosion resistance, and documentation needed for approval. By confirming façade fixings against real substrate properties and project loads, you reduce the risk of pull-out failures, cracking, water ingress, galvanic corrosion, and costly site delays. The scope covers desktop review of drawings, calculations, manufacturer data, and test reports—prior to releasing IFC/IFU packages—per approved project specifications and authority requirements. It excludes on-site installation and testing, which should be executed under separate method statements and ITPs. Use this interactive tool to assign actions, capture evidence, and formalize design checks. Start now: tick items, add comments, and export PDF/Excel with a secure QR.	1. Preparation: Gather design criteria, structural drawings, shop drawings, calculations, manufacturer datasheets/approvals, and any substrate test reports. Ensure access to a BIM viewer, PDF markup tool, and project specifications. 2. Open the checklist in interactive mode. Assign categories to team members (loads, substrate, detailing, durability, documentation) and set due dates for each group. 3. Work through items sequentially. Tick completed checks, attach files (PDF, images, spreadsheets), and use comments to raise queries or note assumptions requiring site verification. 4. Resolve comments by tagging stakeholders. Update evidence links, record ratios/tolerances, and recheck any items impacted by drawing or criteria revisions. 5. Sign-Off: Apply digital signatures for designer and checker, then export PDF/Excel with an embedded QR code for authentication and archive it in the document control system.