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Inspect Curtain Wall Brackets: Alignment & Torque Checklist

Inspect curtain wall brackets for alignment and torque with an interactive checklist. Fully commentable and ready to export as PDF/Excel for compliant, traceable site records.

Project:	
Date:	
Filled by:	

Preparation and Safety	
1	Confirm access equipment (scaffold/MEWP) is inspected and tagged current; wear helmet, gloves, eye protection, and fall arrest. Acceptance: valid permits/tags, PPE log; capture a photo of safe access setup.
2	Establish an exclusion zone below work area with barrier tape and signage; coordinate with hoist operations to avoid live loads. Evidence: photo of barriers and coordination log entry.
3	Verify torque wrench calibration certificate is within validity (e.g., ≤ 3 months or per QA plan) and tolerance ±4%. Evidence: attach calibration certificate image and tool ID.
4	Clean accessible bracket faces and bearing surfaces; remove debris and sealant smears to avoid measurement errors. Evidence: before/after photos of representative brackets.

Documentation and References	
5	Load latest approved shop drawings, bracket schedule, and manufacturer torque data; verify revision status. Evidence: screenshot or notation confirming current revisions used.
6	List bracket IDs by elevation/axis and panel bay; cross-check against installation log. Acceptance: 100% ID match; attach marked elevation with checked IDs.
7	Confirm specified torque values by fastener type/size/material and any staged sequence. Evidence: extract or reference from approved submittal; note N·m per fastener.

Bracket Alignment Verification	
8	Check vertical plumb of bracket faces using laser or digital level. Acceptance: deviation ≤ 2 mm per 1 m or per approved project specifications; record mm and attach photo of reading.
9	Check horizontal alignment to control line/string. Acceptance: offset ≤ 2 mm or per approved project specifications; record left/right deviation in mm with photo of setup.
10	Measure bracket projection (standoff) from substrate with depth gauge. Acceptance: within ±2 mm of drawing value or per specification; log mm and photo the gauge in position.
11	Verify spacer/packer thickness and material match submittal; ensure full bearing contact. Acceptance: thickness within ±1 mm; photo of spacer and label/packaging.
12	Confirm slotted holes remain centered to allow movement; maintain minimum adjustment reserve as specified. Evidence: photo showing slot/bolt position with scale.
13	Inspect shim stacks for stability and coverage: no point-loading, full-face bearing, corrosion-resistant shims. Acceptance: arrangement per approved project specifications; photo from two angles.

Fastener and Substrate Checks	
14	Verify anchor/bolt type, grade, and diameter against submittal; check head markings and embedment depth with probe or depth gauge. Acceptance: matches submittal; record depth (mm) and attach close-up photo.
15	Measure edge distances and spacing to drawings using steel rule or tape. Acceptance: within drawing limits; record mm for nearest edges and spacing; photo with measurement reference.
16	Inspect substrate around anchors for cracks, spalls, or crushing; perform light tap test. Acceptance: sound substrate with no visible defects; record findings and photos.
17	Confirm corrosion protection: stainless or coated fasteners intact; isolation pads/breaks installed where required. Evidence: photos and material labels/lot numbers.

Torque Verification	
18	Mark fastener heads with paint pen, then apply torque with calibrated wrench. Acceptance: achieve specified torque (N·m) within tolerance (e.g., ±10% unless specified otherwise); record reading and photo of witness mark.
19	For bolts requiring preload, follow manufacturer method (torque-angle, tension indicator). Acceptance: preload achieved per submittal; record N·m or kN equivalent and attach method used.
20	Apply staged torque (e.g., 50%/80%/100%) in cross-pattern where applicable. Acceptance: final pass reaches specified N·m; log each stage and attach sequence photo.
21	If fastener turns without reaching torque or substrate rotates, stop and tag nonconformance. Evidence: photo, NCR reference, and isolation of affected bracket.
22	Perform back-off verification on a sample set (e.g., 10%) to confirm retention. Acceptance: no significant loss; record initial and back-off readings in N·m.
23	Re-check torque after 30 minutes (or per specification) to account for relaxation or embedment. Acceptance: remains within tolerance; record delta N·m and remarks.

Finalization and Records	
24	Install specified locking devices (lock washers, pins, thread-locker) and verify orientation. Evidence: close-up photos and material references.
25	Apply tamper-evident torque seal to all tightened fasteners; color per QA plan. Evidence: photo of seals and bracket ID visible.
26	Record final plumb, level, and standoff readings on as-built elevations; annotate slot positions. Evidence: upload marked drawings or digital overlays.
27	Complete inspection form with date/time, weather, and zone; obtain installer and inspector digital signatures. Evidence: e-signed report.
28	Export the inspection package (photos, torque logs, certificates) and link via QR for site posting. Evidence: exported PDF/Excel and QR link record.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Inspect curtain wall brackets for alignment and torque after installation is essential to ensure panels seat correctly, loads transfer safely, and movements occur as designed. This checklist focuses on post-installation bracket alignment verification, torque verification of anchors and bolts, and documentation of evidence for quality records. It excludes panel glazing checks, air–water testing, and structural analysis beyond visual and measurable bracket criteria. You will confirm plumb/level, bracket standoff, slot centering for movement, and fastener torque per approved project specifications and authority requirements. By controlling these factors, you reduce risks of panel drift, water ingress, racking, noise, and premature fatigue. The workflow supports field-ready practices: laser and string-line alignment checks, calibrated torque application in stages, witness marking, and photo-backed sign-off. Use this interactive, commentable checklist to tick items, add field notes, and export as PDF/Excel with a QR-secured audit trail.	1. Prepare tools and conditions: laser or digital level, string line, depth gauge, calibrated torque wrench, paint marker, PPE, safe access, current drawings, and approved torque data. 2. Open the interactive checklist, select project, elevation, and zone. Sync the latest approved drawings and bracket schedule to ensure correct IDs and tolerances. 3. Enter or import bracket IDs and specified torque values by fastener type. Attach calibration certificates and set staged torque prompts if required. 4. Perform alignment checks. Input plumb, level, and standoff readings in mm; attach photos of measuring devices. Add comments where deviations or obstructions occur. 5. Execute torque verification. Follow the defined sequence, log achieved N·m for each fastener, and add photos of witness marks and head stamps. 6. Flag nonconformances with bracket ID, cause, and proposed action. Assign to responsible party with due dates and request reinspection through the comment thread. 7. Complete final checks, apply tamper-evident torque seal, and capture as-built markups. Obtain installer and inspector digital signatures within the checklist. 8. Export the package as PDF/Excel with embedded photos and a QR-secured link. Distribute to stakeholders and archive per the project QA plan.