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# Inspect curtain wall mullion installation: plumbness spacing

Inspect curtain wall mullion installation for plumbness and spacing using interactive checklist; commentable, with photo evidence and export as PDF/Excel for QA.

Project:
Date:
Filled by:

## Pre-Inspection Setup

1	Verify latest approved shop drawings, setting-out plans, and stated tolerances are on hand; record drawing numbers/revisions and specification references in the checklist.
2	Confirm calibration status of laser level/digital level/laser distance meter; log certificate numbers, calibration dates, and expiry, and attach photos of calibration labels.
3	Inspect access and fall protection near façade edges; accept only if guardrails or restraint systems are installed and exclusion zones are marked; attach a wide-angle site photo.
4	Clean mullion faces where measurement tools contact; accept if free from debris preventing true readings; photograph a representative cleaned area per elevation.

## Reference Control & Benchmarking

5	Confirm horizontal control lines and gridline marks are transferred to the elevation with a total station; accept if closures to benchmarks are within $\pm 3$ mm; upload as built sketch.
6	Establish a base reference at sill/anchor channel using laser; mark centerlines at each bay; accept if marks are legible and protected; photo each grid intersection.
7	Verify vertical reference using laser plumbline from control point; accept if reference aligns within $\pm 2$ mm at top/bottom; capture laser dot photos against scale.
8	Check anchor bracket elevations with a staff and laser; accept if within project tolerance (e.g., $\pm 3$ mm across a bay); record readings at each bracket.

## Plumbness Verification

9	Measure mullion plumbness at bottom, mid, and top using laser plumb or digital level; accept if verticality $\leq 2$ mm/m and $\leq 5$ mm overall (or per specs); log offsets and photos.
10	Check with a 2 m spirit level on the mullion web; accept if bubble is centered or gap $\leq 2$ mm to straightedge; capture close-up photo showing vial.
11	Verify mullion twist using a digital angle gauge across flanges; accept if torsion $\leq 0.5^\circ$ over mullion depth (or per specs); record degrees and device serial.
12	Confirm temporary bracing holds plumb before final tightening; recheck after 10 minutes; accept if deviation change $\leq 1$ mm; attach before/after readings with timestamps.

Mullion Spacing Verification	
13	Measure center-to-center spacing at sill and head with a steel tape/laser; accept if each bay within $\pm 2$ mm of drawing; record measurements and bay IDs.
14	Check cumulative spacing over 3–5 bays using a fixed baseline; accept if cumulative error $\leq 5$ mm (or per specs); log start/end positions and variance.
15	Verify edge mullion offset to structural gridline with tape/total station; accept if within $\pm 3$ mm; capture photo of measurement against permanent grid mark.
16	Measure clear joint/gasket pocket between adjacent mullions at three heights; accept if uniform and within $\pm 1$ mm of design width; include macro photos with gauge.

Fixings & Shims Related to Alignment	
17	Confirm anchor bolts sit mid-slot to allow fine adjustment; accept if edge distance $\geq$ slot width/4; provide close-up photo of bolt-in-slot position.
18	Verify shims are non-compressible, full-bearing, and stacked per manufacturer; accept if no point bearing or gaps; photo each shim stack with thickness noted (mm).
19	Tighten fixings to specified torque using a calibrated wrench; accept if torque achieves spec (N-m) without rotation shift; record torque values and tool serial.
20	Recheck plumbness and spacing after final torque; accept if still within tolerances; attach final readings and an as-built photo of each inspected bay.

Documentation & Sign-Off	
21	Tag inspected mullions with QR/sticker linking to this checklist; accept if tag is visible yet discreet; capture a context photo per elevation.
22	Upload instrument readings, calibration certificates, photos, and redlined drawings; accept if all evidence is time-stamped and mapped to gridlines/bays.
23	Record any non-conformance (NCR): describe variance, root cause, corrective action, and retest plan; assign responsible party and target date.
24	Obtain digital approvals from installer, QA/QC, and consultant per approved project specifications and authority requirements; capture signatures and distribution list.

**Comments:**

Filled by:

Signature:

Introduction	How to use this checklist
<p>Inspect curtain wall mullion installation for plumbness and spacing is a targeted field procedure ensuring every vertical mullion is truly plumb and correctly spaced. This guide focuses on mullion alignment, verticality checks, center-to-center spacing, and cumulative layout control—without drifting into glazing, sealants, or finishes. You will establish reliable control lines, measure plumbness with laser or digital levels, and confirm spacing with tapes or laser distance meters against approved shop drawings. By keeping alignment within stated tolerances, you avoid racking of frames, binding of operables, glazing stress, water ingress risks, and costly rework. Outcomes include verified mullion verticality, uniform joint dimensions, and a documented as-built that supports façade performance and warranty requirements. Use this interactive, commentable checklist on site to capture readings, photographs, and approvals; then export your record as PDF/Excel with a secure QR for audit and handover.</p>	<p>1. Preparation: Gather approved drawings, calibrated laser/digital level/tape, angle gauge, torque wrench, camera, and PPE. Establish access and fall protection, then transfer gridlines and datums to the façade work area. 2. Using the Interactive Checklist: Open the checklist on your device, start a new elevation/bay record, and follow grouped steps. Tick items, enter readings, attach photos, and add comments for variances or constraints. 3. Capture Measurements: For each mullion, log plumbness (mm/m and total), twist (<math>^{\circ}</math>), and spacing (mm). Reference gridlines, bay IDs, and tool serials. Tag any NCRs and link corrective actions. 4. Resolve Variances: Adjust via slots and shims, re-measure, and update the entry. Use comments to document rationale, responsible party, and recheck timing until readings meet project tolerances. 5. Sign-Off: Collect digital signatures from installer, QA/QC, and consultant. Export as PDF/Excel, embed the QR for authentication, and distribute to stakeholders for records and audit.</p>

