



Test façade panels for flatness, waviness, visual tolerances

Test façade installed panels for flatness, waviness, and visual tolerances with an interactive checklist that's commentable and can export as PDF/Excel for QR-secured records.

Project:

Date:

Filled by:

Pre-Inspection Controls

1	Confirm acceptance criteria and readiness before measurements.
2	Review approved drawings, specifications, and mock-up acceptance photos; record target tolerances per approved project specifications and authority requirements; upload extracts.
3	Confirm panels are fixed, cleaned, and dry; remove protective films as specified; photograph representative elevations ready for testing.
4	Record ambient temperature and wind; verify panels stabilized (e.g., 24 h after installation) before testing; attach logger screenshot.
5	Establish safe access (scaffold/MEWP), fall protection, and permits; attach access inspection tag and location photos.

Measurement Equipment Setup

6	Calibrate/verify 2 m straightedge and feeler gauges; zero check with gauge block; photo of calibration labels and serials.
7	Verify laser line/plane instrument accuracy (two-peg test or manufacturer check); record offset results and accept if within instrument spec.
8	Set lighting: diffuse daylight (10:00–14:00) or 400–600 lux artificial; avoid raking light; record lux meter reading and conditions.
9	Define test grid: minimum one flatness/waviness check per 5 m ² or as specified; upload elevation mark-up with panel IDs.

Flatness Measurement

10	Place 2 m straightedge vertically on panel; measure maximum gap with feeler gauge; record mm; target $\leq$ project-specified limit (e.g., ≤ 2 mm/2 m).
11	Repeat horizontal straightedge placement; record worst gap in mm; photograph gauge reading and panel ID.
12	Check diagonal flatness using taut string or straightedge across corners; record maximum deviation in mm; compare to specification.
13	Verify array planarity across 3–5 adjacent panels using laser plane; record out-of-plane offsets at panel corners (mm); target within specified array tolerance (e.g., ≤ 3 mm over 5 m).
14	Document measurement locations and results on elevation mark-up; attach photos showing instrument placement and readings.

Waviness Assessment	
15	Conduct reflection line test at 3–5 m normal viewing distance using a high-contrast vertical stripe board; note distortion zones; capture photo/video.
16	Under diffuse light, scan for oil canning; place 300 mm straightedge over ripples and gauge gap depth; record maximum ripple depth (mm).
17	Compare observed waviness to approved mock-up visual standard; classify Pass/Fail; attach side-by-side images.
18	Check for telegraphing of stiffeners/fasteners from oblique views; record any print-through lengths and amplitudes; add annotated photos.

Visual Tolerances Review	
19	Measure joint width with caliper/gap gauge at 1 m intervals; record mean and range (mm); target $\pm$ project-specified tolerance (e.g., ± 2 mm).
20	Check joint alignment over 5 m runs with string line; record offsets (mm) at 1 m stations; acceptance per specification.
21	Assess color and gloss uniformity under D65 or controlled lightbox; if available, record ΔE and gloss units; attach calibrated photos.
22	Verify sealant bead width and tooling; measure bead at three points per joint; record mm and finish quality; attach close-ups.
23	Inspect edges, corners, and coatings for scratches, dents, abrasions, and warping; count defects per elevation; map on drawing with photos.
24	Confirm fastener exposure, caps, and hardware match system design; sample at least 10% of panels; attach detail photos.

Documentation and Closeout	
25	Tag all nonconformances with unique IDs on the elevation; assign corrective actions and due dates; upload mark-up.
26	Record inspector name, date/time, instrument serials, and calibration validity; obtain digital signatures.
27	Summarize measured values versus specified limits; mark lot status (Pass/Conditional/Fail); attach summary sheet.
28	Export report as PDF/Excel with embedded photos and QR code; upload to project CDE and distribute to stakeholders.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Test façade installed panels for flatness, waviness, and visual tolerances is a focused QA procedure verifying installed cladding meets appearance and geometry requirements. This checklist guides façade flatness testing, panel waviness assessment (oil canning), and visual inspection of cladding across representative grids. You will use calibrated tools—straightedges, feeler gauges, laser planes, and controlled lighting—to determine deviations from a defined plane and to judge reflective distortion against the approved mock-up. It also captures joint uniformity, alignment, color and gloss consistency, sealant finish, and any surface defects. By following these steps, teams avoid premature rework, client disputes, and warranty exposure, while ensuring consistent workmanship and traceable results per approved project specifications and authority requirements. Start in interactive mode to tick items, add comments with photos, and export PDF/Excel secured by a QR code for project stakeholders.	1. Preparation: Gather tools (2 m straightedge, 300 mm straightedge, feeler gauges, laser plane/line level, string line, caliper, lux meter), PPE, access equipment, drawings, and mock-up references. 2. Calibrate and verify instruments; photograph calibration labels and note serial numbers. Confirm safe access and environmental conditions suitable for appearance checks. 3. Open the checklist, select the elevation/area, and load project-specified tolerances and mock-up images into the reference section. 4. Using the Interactive Checklist: Tick each item as completed, add measurements in millimetres, and attach photos or short videos showing tool placement and readings. 5. Use comments to flag nonconformances, tag panel IDs, assign responsible parties, and set due dates. Mention likely causes and proposed fixes. 6. Review the dashboard summary to confirm all grid points were sampled and that evidence is complete for each acceptance criterion. 7. Export the record as PDF/Excel with embedded photos and a QR code for authenticity, then share to the project CDE for review. 8. Sign-Off: Capture digital signatures from inspector, subcontractor, and consultant; archive the QR-secured file with instrument IDs and date-time stamps.