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# Test façade mock-up for seismic movement performance

Test façade mock-up for seismic movement performance with an interactive checklist, commentable and can export as PDF/Excel, confirming drift and racking.

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| Project: | |
| Date: | |
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| Pre-Test Submittals & Setup | |
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| 1 | Obtain signed test plan covering drift ratios, cycle counts, waveform, and acceptance criteria per approved project specifications and authority requirements; upload the approved PDF with revision/date and responsible engineer’s signature. |
| 2 | Verify rig capacity: actuator stroke and frame clearance meet maximum target drift (e.g., ±150 mm or greater as specified); photograph actuator nameplate and upload manufacturer datasheet highlighting stroke and load ratings. |
| 3 | Confirm current calibration (≤12 months) for LVDTs, load cells, and DAQ; record certificate numbers, dates, and uncertainties; attach scanned certificates and a calibration summary sheet. |
| 4 | Establish safety exclusion zone (≥2 m) with barriers and signage; brief crew on pinch/crush hazards and glass breakage response; upload toolbox talk attendance and site photos showing delineation. |
| 5 | Survey mock-up dimensions and plumbness with laser; confirm frame squareness within ±2 mm over 3 m; upload survey screenshots and marked-up photos. |
| 6 | Replicate anchorage conditions (embed plates, brackets, fixings) per shop drawings; document anchor types, spacings, and edge distances; upload annotated drawings and installation photos. |
| 7 | Record environmental conditions: temperature 10–35 °C and RH; verify sealant cure meets manufacturer guidance; log readings and include material batch/lot numbers as evidence. |

| Mock-up Fabrication & Installation | |
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| 8 | Install mullions/transoms to drawings; torque primary anchors to specified values within ±10%; upload torque wrench serial, torque logs, and close-up anchor photos. |
| 9 | Apply gaskets and sealants per manufacturer sequence; verify cure window before testing; upload lot numbers, datasheets, and bead continuity photos. |
| 10 | Fit glazing/panels with specified edge clearances and setting blocks; confirm glass bite per drawings; record shim materials; upload feeler gauge measurements and images. |
| 11 | Set movement and stack joints to design gaps (e.g., 20–30 mm or per plan); measure with calipers; upload readings and joint detail photos. |
| 12 | Replicate air/vapour/fire barriers at interfaces; verify continuity at corners and penetrations; upload smoke-pencil checks and annotated photos. |

| Instrumentation & Calibration | |
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| 13 | Mount LVDTs at interstorey interface and critical mullions; secure fixtures to prevent slippage; zero sensors before testing; upload close-up photos and zeroing screenshots. |
| 14 | Install strain gauges on anchors/brackets where required; record baseline microstrain; protect wiring; upload channel map and baseline readings. |
| 15 | Set accelerometers if dynamic input specified; select sampling rate ≥200 Hz; confirm orientation axes; upload DAQ configuration screenshot. |
| 16 | Program DAQ with channel IDs, units (mm, N, με), and time sync within ±0.01 s; test backup to redundant storage; upload a short trial recording. |
| 17 | Install crack gauges/markers on sealant and glazing edges where applicable; record initial gap widths; upload baseline photos with scales. |

| Seismic Displacement Testing | |
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| 18 | Run pre-conditioning cycles at ~0.1% drift for 10 cycles; verify stable instrumentation and no immediate distress; upload video snippet and DAQ plots. |
| 19 | Apply cyclic racking to specified drift ratios (e.g., ±1.5%, ±2.5%); control rate (e.g., 10–50 mm/s) and waveform per plan; upload displacement/time plots and actuator logs. |
| 20 | Hold at peak displacement for 10 s where specified; inspect seals, glass edges, and anchors; upload close-up photos at peak and after return to zero. |
| 21 | Measure out-of-plane deflection during racking if required; confirm within project limits; upload dial/LVDT readings and annotated diagrams. |
| 22 | Check operable units during/after cycles; verify open/close force ≤100 N or per plan; upload force gauge readings and operation videos. |
| 23 | Conduct post-racking air leakage test at 50 Pa (if specified); confirm increase ≤15% from baseline or per plan; upload test report and fan calibration. |
| 24 | Perform visual damage survey: note cracks, sealant tears >5 mm, gasket dislodgement, or fastener movement; upload marked-up photos with scale references. |

| Post-Test Inspection & Documentation | |
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| 25 | Verify fastener re-torque and any rotation marks; confirm no loosening or pull-out; upload torque re-check logs and photos. |
| 26 | Measure residual displacements at key points; confirm recovery within project limits (e.g., ≤2 mm unless specified otherwise); upload LVDT residual readings. |
| 27 | Export raw data (CSV) and plots (PDF/PNG); include channel mapping and time bases; upload files to the checklist record for traceability. |
| 28 | Compile test report with methodology, conditions, results, nonconformities, and corrective actions per approved project specifications and authority requirements; obtain reviewer sign-offs; upload final PDF. |
| 29 | Archive as-built photos, material lot records, and signed report; generate QR code linking to the final dataset; upload QR confirmation screenshot. |

**Comments:**

Filled by:

Signature:

| Introduction | How to use this checklist |
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| Test façade mock-up for seismic movement performance where required establishes whether the proposed façade assembly can accommodate interstorey drift and racking without loss of safety or serviceability. This guide covers seismic drift testing, curtain wall racking protocols, and movement joint verification for full-scale mock-ups representative of project details. The checklist focuses on preparation, instrumentation, cyclic displacement execution, and post-test assessment, avoiding adjacent scopes such as wind or rain penetration testing except where used as post-seismic verification. By following a structured, evidence-led approach—calibrated sensors, controlled waveforms, and measurable acceptance cues—teams reduce the risk of glass damage, sealant tearing, anchor distress, or operable hardware jamming. Outcomes include traceable data, photo documentation, and clear pass/fail judgements tied to the approved test plan, manufacturer instructions, and authority requirements. Start in interactive mode to tick items, attach comments, upload readings and photos, and then export to PDF/Excel with a secured QR code for audit. | 1. Preparation: Confirm the approved test plan, rig capacity, and calibrated sensors. Assemble tools (LVDTs, DAQ, torque wrench, calipers), PPE, and materials. Replicate anchorage and joints per shop drawings, and brief the team on safety and roles. 2. Using the Interactive Checklist: Open interactive mode, select your lot/mock-up ID, and work through sections in order. Tick items as completed, attach comments, photos, plots, and certificates, and tag issues for follow-up. 3. Record and Review: Enter measured values (mm, N, Pa) directly into fields. Use time-stamped comments to document anomalies. Generate interim summaries to confirm coverage before moving to cyclic racking and post-test checks. 4. Export and Share: When complete, export to PDF/Excel with embedded photos and readings. Share the file or a secure link with designers, contractors, and reviewers for timely feedback. 5. Sign-Off and Archive: Capture digital signatures from responsible parties, finalize nonconformities and actions, then archive the record. A QR code secures authenticity and enables rapid retrieval during audits. |