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Inspect dynamic façade safety stops and fail-safe positions

Inspect dynamic façade safety stops and fail-safe positions with an interactive checklist that is commentable and export as PDF/Excel for compliant, documented fail-safe behavior.

Project:	
Date:	
Filled by:	

Documentation and Access Control	
1	Confirm latest approved shop drawings, I/O lists, and sequences for stops and fail-safe positions are on hand; verify revision dates match equipment labels; attach photos of title blocks.
2	Implement LOTO on façade drive circuits using lockable isolators; verify zero energy with a multimeter (<1 V AC/DC); photo of lock and tag with timestamp.
3	Inspect access routes, edge protection, and anchor points; ensure guardrails or Class A harness with double lanyards; record anchor IDs and inspection dates with photos.
4	Verify HMI/PLC program version aligns with approved sequence; capture screenshot of fail-safe setpoints and tag names; attach configuration export file reference.

Mechanical Stops and Physical Guards	
5	Torque-check end-stop fasteners with a calibrated wrench to manufacturer’s stated N·m; record values ±5% of spec; photo each fastener and torque sticker.
6	Measure maximum over-travel at each end-stop using a steel rule; acceptance ≤2 mm beyond design limit; upload close-up photos showing scale.
7	Check bumper or damping elements for cracks, compression set, and secure seating; acceptance: no visible damage; note part numbers and batch codes.
8	Verify pinch/sheer clearances at moving interfaces with feeler gauges; acceptance ≥25 mm or per approved project specifications; record minimum measured gap and location.

Sensors, Limit Switches, and Interlocks	
9	Function-test open/close limit switches by manual actuation; verify continuity change with a multimeter; acceptance: repeatable switching within ±1 mm position window.
10	Calibrate position encoders/potentiometers via HMI; align displayed angle/travel to physical measurement within ±1° or ±2 mm; screenshot calibration page.
11	Inspect cable routing, IP ratings, and strain reliefs; acceptance: glands tight, no kinks, bend radius ≥10× cable diameter; photo terminations.
12	Verify safety interlock chain (guards, access doors) opens control circuit; simulate guard open and confirm motion inhibit within 0.5 s; log PLC safety bit status.

Control Logic and Fail-Safe Positions	
13	Confirm programmed fail-safe rest position (e.g., fully open, closed, or feathered) matches approved sequence; record PLC tag and HMI setpoint screenshots.
14	Cycle-test each façade bay 10 times; measure run time with stopwatch; acceptance: variance ≤10% and no missed limit events; upload trend logs.
15	Validate motion speed/acceleration per spec using inclinometer or travel markers; acceptance within ±10%; store instrument serial and calibration due date.
16	Test obstruction detection (current/torque monitoring or edges): introduce 10 mm test block; acceptance: stop and reverse/relieve within 1 s; video evidence.

Power Loss, E-Stop, and Environmental Overrides	
17	Simulate mains loss; verify movement to fail-safe rest using UPS/spring return; acceptance: reaches safe position within 30 s or per spec; timestamped video.
18	Test emergency stop at mid-travel; acceptance: motion ceases ≤0.5 s and restart interlock requires reset; photo E■stop location and label.
19	Verify wind sensor integration: simulate wind input at threshold per spec; acceptance: façade moves to wind-safe position and locks; attach PLC trace.
20	Confirm post-fault restart sequence requires acknowledgement and position re-homing; acceptance: no automatic motion on power restore; screenshot interlock status.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Inspect dynamic façade safety stops and fail-safe positions to confirm operable elements reliably halt at engineered limits and default to safe states during faults. This checklist targets kinetic/operable façade systems—such as movable louvers, shading fins, and sliding screens—focusing specifically on mechanical end-stops, limit switches, interlocks, and programmed fail-safe positions. It does not cover structural anchorage, architectural finish reviews, or unrelated building controls. By validating stop integrity, obstruction clearances, response timings, and power-loss behavior, teams prevent pinch, shear, and over-travel hazards while safeguarding equipment and the public realm below. The outcome is a traceable, evidence-backed record of acceptance per approved project specifications and authority requirements, supporting commissioning, handover, or periodic maintenance. Use this interactive tool to tick off steps, add comments with photos and measurements, and export results to PDF or Excel, complete with QR-based authentication for site posting and digital records.	1. Preparation: Review approved drawings, sequences, and permits; plan safe access; gather calibrated tools (torque wrench, multimeter, inclinometer, feeler gauges, stopwatch), PPE, and HMI/PLC credentials. Brief the team and set LOTO. 2. Configure bays: Map façade zones, label test points, and assign responsibilities. Pre-stage cameras for photo/video capture and ensure time sync on all devices for consistent timestamps. 3. Start interactive mode: Open the checklist, tick items as completed, attach photos, enter readings, and add comments for any deviations or punch-list actions. 4. Capture evidence: Upload screenshots of HMI/PLC parameters, instrument calibration certificates, and brief videos for E■stop, wind override, and power-loss tests. 5. Export and distribute: Generate an export in PDF or Excel for stakeholders, including QR code linking back to the authenticated record. 6. Sign-off: Obtain digital signatures from commissioning, safety, and client representatives; record dates, names, and approvals per approved project specifications and authority requirements. 7. Archive: Store the signed report, photos, and configuration backups in the common data environment; label files by façade zone and test date.