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Inspect Façade Glass Quality: Scratches, Chips, Distortion

Inspect façade glass quality for scratches, chips, and distortion with an interactive checklist. Fully commentable and ready to export as PDF/Excel for compliant, traceable QA.

Project:	
Date:	
Filled by:	

Pre-Inspection Setup	
1	Verify approved glass types, heat-treatment, coatings, and lot numbers against submittals and drawings; photograph pane labels and mock-up benchmark. Acceptance: matches approved project specifications and authority requirements; evidence: photos and reviewer initials.
2	Clean each pane with neutral pH cleaner and lint-free cloths; no abrasives or blades. Acceptance: surface free of residue prior to inspection; evidence: before/after photos with pane ID visible.
3	Establish lighting: diffuse daylight or 300–600 lx uniform artificial light; verify with a calibrated lux meter. Acceptance: variation within ±20% across inspected area; evidence: lux readings logged per elevation.
4	Define viewing conditions: mark 1.5–3.0 m floor standoff and inspect at 90° and ~45°. Acceptance: method per approved project specifications; evidence: site sketch and photos showing markers.
5	Confirm safe, non-contact access to entire pane using platforms or boom lifts; avoid leaning tools on glass. Acceptance: full surface reachable without touching glass; evidence: access method log and supervisor check.

Surface Scratch Inspection	
6	Scan the surface in a consistent grid pattern using removable tape guides; progress left-to-right, top-to-bottom. Acceptance: 100% coverage recorded; evidence: grid map with pane ID and inspector initials.
7	Use oblique lighting to highlight fine scratches; differentiate from streaks by gentle recleaning and retest. Acceptance: no persistent scratch visible under standard conditions; evidence: macro photos before/after clean.
8	Classify scratch severity using fingernail drag and measure length to nearest 1 mm with a steel rule. Acceptance: within limits per approved project specifications; evidence: annotated photo with scale and measurement.
9	Note scratch orientation and clustering that may affect viewing aesthetics across panels. Acceptance: appearance within project acceptance criteria; evidence: elevation photo highlighting affected sightlines.
10	Do not attempt on-site polishing unless method is approved. Raise NCR or RFI for manufacturer disposition. Acceptance: documented action plan; evidence: NCR/RFI reference linked to pane ID.

Edge and Corner Damage	
11	Inspect all edges and corners with a 10× loupe; measure chip length/width/depth with calipers (0.1 mm). Acceptance: within limits per approved project specifications; evidence: macro photos with ruler and dimensions.
12	Record distance from chip to nearest corner or edge to nearest 1 mm. Acceptance: location and size within acceptance zones; evidence: annotated sketch or photo with measurements.
13	Check for cracks radiating from chips and for shelling or spalls. Acceptance: no propagation into glass body/interlayer; evidence: loupe photos and inspector note.
14	Confirm chips are outside the defined sightline and not compromising setting blocks or gaskets. Acceptance: per approved details; evidence: detail reference and photo aligning chip to sightline.

Optical Distortion Assessment	
15	Conduct reflection grid test using a vertical zebra/check board; observe reflected lines across pane. Acceptance: distortion within project limits; evidence: reflection photos at 1.5–3.0 m with pane ID.
16	Measure local bow using a 1 m straightedge and feeler gauges; record maximum gap in mm. Acceptance: within specified tolerance; evidence: photo showing gauge reading and location.
17	Assess roller wave on heat-treated glass using zebra pattern or wave gauge; record wavelength and amplitude in mm. Acceptance: within specified limits; evidence: annotated images and readings.
18	Verify visual quality at normal viewing (3 m) under diffuse light for ripples near spacers and edges. Acceptance: unobtrusive appearance per project criteria; evidence: panoramic elevation photo notes.
19	Record pane surface temperature with an IR thermometer (°C) to contextualize distortion observations. Acceptance: condition logged for fair comparison; evidence: temperature value stored with each pane record.

Surface Contaminants and Inclusions	
20	Inspect for seeds, stones, bubbles, or inclusions; measure largest dimension to nearest 1 mm. Acceptance: within project limits; evidence: macro photo with scale and measurement.
21	Identify anisotropy/iridescence patterns on heat-treated glass using polarized sunglasses; note extent and location. Acceptance: within visual criteria; evidence: photos under comparable lighting conditions.
22	Confirm absence of paint, mortar, sealant smears, or protective film residue; perform spot-safe removal test. Acceptance: clean, residue-free surface; evidence: before/after photos and cleaner product reference.

Documentation and Acceptance	
23	Assign unique pane IDs and map positions on elevation drawings; optionally affix QR tags. Acceptance: complete traceability; evidence: ID register and marked elevation sheets.
24	Upload photos, measurements, lux and temperature readings, and lot numbers to the checklist. Acceptance: record set complete for each pane; evidence: exported data review and approver initials.
25	Record disposition (accept, clean, repair, replace) with responsible party and target date; obtain digital signatures. Acceptance: approvals per approved project specifications; evidence: signed report.
26	Export the final report as PDF/Excel and archive with QR authentication for audit. Acceptance: files stored and shared to stakeholders; evidence: export timestamp and share log.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Inspect façade glass quality for scratches, chips, and distortion is a focused, field-ready process to validate installed glazing before handover. This checklist supports glazing inspection across curtain walls, addressing surface defects, edge chips and spalls, and optical distortion such as roller wave or local bow. It defines viewing conditions, tools, and documentation so results are repeatable and defensible. By verifying glass against approved project specifications and authority requirements, teams reduce rework, avoid warranty disputes, and protect the building's visual performance. The scope stays on exterior façade glass panels and their visible faces; it excludes frame alignment, sealant quality, structural performance, and unrelated envelope trades. Practical methods—diffuse lighting, set viewing distances, reflection grid tests, and macro photography with scales—ensure consistent acceptance decisions. Outcomes include traceable pane IDs, defect mapping, a clear disposition for repair or replacement, and complete records for sign-off. Use this interactive checklist: tick items, add comments, and export PDF/Excel with a secure QR.	1. Preparation: Gather tools—lux meter, 1 m straightedge, feeler gauges, 10× loupe, steel rule, IR thermometer, zebra/grid board, lint-free cloths, neutral cleaner, and a mobile device with the checklist. 2. Set site conditions: Establish diffuse light or 300–600 lx artificial lighting, mark 1.5–3.0 m viewing distances, and ensure clean, dry glass surfaces without residue. 3. Start interactive mode: Open the checklist on your device, select the elevation and pane ID, and follow the grouped items in order. 4. Tick and comment: Complete each item, attach photos and measurements, tag issues, and add comments or RFIs for manufacturer input when needed. 5. Review and sign-off: Assign dispositions (accept, clean, repair, replace), obtain digital signatures from installer, contractor, and consultant, and confirm alignment with approved project specifications. 6. Export and archive: Export as PDF/Excel, generate a secure QR code for authentication, distribute to stakeholders, and archive in the project CDE.