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Set up crack gauges or tell-tales on adjacent structures

Set up crack gauges or tell-tales on adjacent structures - interactive checklist, commentable, export as PDF/Excel. Baseline readings, protection, and frequency.

Project:	
Date:	
Filled by:	

Pre-Installation Planning	
1	Confirm monitoring scope and adjacent structures using latest drawings and precondition survey; mark proposed gauge locations on elevations with coordinates (x, y, z) in metres. Acceptance: plan approved by the engineer. Evidence: signed plan and marked-up drawings.
2	Select device type (acrylic crack gauge or glass tell-tale) with range ±5 mm minimum and resolution ≤0.1 mm. Acceptance: datasheet suitability for environment (internal/external). Evidence: product datasheets and selection record.
3	Assign unique ID naming convention (building-level-grid-gauge number). Acceptance: IDs unique across project. Evidence: monitoring register issued for construction.
4	Verify substrate condition at each location: solid, clean, dry, and free of loose material. Acceptance: surface prepared to sound substrate; adhesion test spot passes per manufacturer guidance. Evidence: pre-install photos.

Gauge Installation	
5	Mark the crack centerline and gauge orientation with a fine-tip marker; establish a perpendicular datum line. Acceptance: centerline clearly visible; datum marked. Evidence: close-up photo with scale.
6	Bond first plate to one side of crack using two-part epoxy adhesive (2–3 mm bed). Acceptance: plate aligned within ±1 mm of marked centerline. Evidence: photo before adhesive cures.
7	Bond second plate to opposite side, aligning the reading scale at zero at ambient installation temperature. Acceptance: scale alignment tolerance ±0.5 mm. Evidence: photo showing zero alignment.
8	For traditional glass tell-tales, embed glass strip over crack with plaster pads (≥70×70 mm), ensuring the crack passes under midspan. Acceptance: full contact, no rocking. Evidence: side-on and front photos.
9	Label each gauge with permanent marker: ID, date, installer initials. Acceptance: label legible from 0.5 m. Evidence: labeled gauge photo.

Baseline Readings	
10	Allow adhesive to cure per datasheet; record cure time and ambient temperature (°C). Acceptance: minimum cure achieved before reading. Evidence: cure log entry.
11	Take initial baseline reading to 0.1 mm resolution by two observers independently; average if within ±0.1 mm. Acceptance: repeatability ≤0.1 mm. Evidence: baseline photo and signed reading entry.
12	Record environmental conditions: temperature (°C) and relative humidity (%) using calibrated devices (certificate ≤12 months old). Acceptance: device serial numbers logged. Evidence: instrument sticker photo.
13	Capture geo-referenced context photos: close-up (≤0.3 m), mid-shot (≈1.5 m), and wide shot (≈5 m). Acceptance: ID visible in at least two photos. Evidence: three photos uploaded.

Protection and Access	
14	Install clear polycarbonate protective cover with standoff, keeping ≥10 mm clearance to scale for visibility. Acceptance: cover fixed without stressing gauge. Evidence: photo of cover and fixings.
15	Provide weather shield for external points, UV-stable and vented to avoid condensation. Acceptance: shield secure under local wind loads. Evidence: installation photo and note.
16	Place warning sign “Monitoring Point—Do Not Disturb” at ≈1.5 m height, arrowing the gauge. Acceptance: readable from 3 m. Evidence: photo from approach path.
17	Establish safe access method (ladder, scaffold, or MEWP) for reading points >2.0 m. Acceptance: access equipment inspected and tagged. Evidence: access permit/tag photo.

Monitoring and Frequency	
18	Set reading frequency per risk and activity: e.g., daily during excavation, weekly thereafter, or as per approved project specifications and authority requirements. Acceptance: schedule approved. Evidence: issued monitoring plan.
19	Define alert thresholds (e.g., >0.5 mm/day or >2.0 mm cumulative) and escalation recipients. Acceptance: thresholds documented and communicated. Evidence: sign-off on threshold memo.
20	Prepare monitoring log template with fields: date/time, gauge ID, reading (mm), temperature (°C), humidity (%), notes, reader initials. Acceptance: version-controlled form. Evidence: template uploaded to CDE.
21	Perform scheduled readings to 0.1 mm; two-person verification when practicable. Acceptance: difference between two reads ≤0.1 mm. Evidence: reading photo and signed log.
22	Note any abnormal noise, vibration, or damage near gauges; install temporary barriers if works nearby could impact. Acceptance: barrier installed before high-risk activities. Evidence: photo and diary note.
23	Trigger escalation when thresholds exceeded: notify engineer, increase frequency, and document actions. Acceptance: escalation within 24 h. Evidence: notification and action log.

Documentation and Handover	
24	Maintain as-built register with coordinates to ±0.1 m, building reference, level, room, and photos. Acceptance: 100% points recorded. Evidence: updated register.
25	Upload daily logs and photos to the CDE with filenames: Project_GaugeID_YYYYMMDD_HHMM. Acceptance: files accessible to stakeholders. Evidence: upload report.
26	Generate weekly movement graphs (mm vs time) including baseline and alerts. Acceptance: axes labelled, units SI, legend present. Evidence: exported PDF and Excel.
27	Obtain review from contractor, designer, and asset owner; record comments and agreed actions. Acceptance: meeting minutes signed. Evidence: approved minutes.
28	Archive calibration certificates, adhesive batch numbers, and manufacturer datasheets. Acceptance: records complete and traceable. Evidence: archive index in CDE.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Set up crack gauges or tell-tales on adjacent structures to monitor crack movement safely and objectively during nearby construction activities. This checklist focuses on crack movement monitoring, tell-tale installation, and structural movement recording, not crack repair. You will define monitoring locations, select appropriate devices, align and fix them correctly, record baseline readings, and protect points from damage or weather. The process reduces ambiguity, supports risk management for adjacent buildings, and provides defensible records for stakeholders. You will also establish reading frequency, escalation thresholds, and data storage standards so trends are clear and timely actions are supported per approved project specifications and authority requirements. Follow these steps to capture repeatable 0.1 mm readings, maintain traceable photos, and manage access safely. Use the interactive features to tick items as complete, add comments where issues arise, and export your records to PDF/Excel with a secure QR code for verification.	1. Preparation: gather gauges/tell-tales, two-part epoxy, surface prep tools, thermometer/hygrometer, polycarbonate covers, labels/markers, PPE (gloves, eye protection, hard hat), ladders/MEWP as required, and approved monitoring plan. 2. Site readiness: verify drawing locations, perform precondition photos, confirm access permits and equipment tags, and brief the team on IDs, tolerances, and escalation thresholds. 3. Start interactive mode: open the checklist, enable ticking, and assign items. Add comments at each point for issues, photos, or deviations from the plan. 4. Record baseline: complete installation steps, capture zero alignment photos, enter environmental data, and sign the baseline entries digitally for each gauge ID. 5. Monitoring: follow the planned frequency, attach reading photos, and use comments to flag alerts. The system timestamps entries and links them to each gauge. 6. Export and sign-off: generate PDF/Excel outputs, obtain digital signatures from responsible parties, distribute to stakeholders, and archive with QR authentication for audit.