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Static Tension Test (Uplift) Checklist and Acceptance Guide

Static tension test (uplift) interactive checklist for reactions, load steps, creep, and acceptance; commentable and export as PDF/Excel with secure QR.

Project:	
Date:	
Filled by:	

Pre-Test Setup and Documentation	
1	Verify test element ID, drawing reference, and test plan scope; photograph tag and location; record GNSS coordinates; acceptance: matches approved plan; contractor and inspector signatures.
2	Confirm method statement, risk assessment, and permits approved per project specifications and authority requirements; upload current revisions; acceptance: approvals logged and visible in checklist.
3	Establish exclusion zone with barriers and signage; brief crew on uplift-only operations; evidence: photos and toolbox talk record; acceptance: zone per RAM, no public access.
4	Set independent benchmarks using auto level; record elevations to ±1 mm; acceptance: two stable benchmarks beyond 3 m from test element.

Reaction System and Alignment	
5	Check reaction frame/anchors capacity ≥ 1.2× maximum test load; inspect for damage; evidence: manufacturer sheets; acceptance: all fasteners present and rated.
6	Verify embedment and spacing clearances to avoid group interaction; measure with steel tape; acceptance: dimensions within ±10 mm of plan.
7	Align jack, load cell, and pulling head with pile/anchor axis using plumb line and straightedge; acceptance: eccentricity ≤ 2 mm, tilt ≤ 1°; photos saved.
8	Preload reaction bolts to specified torque using calibrated torque wrench; record each value; acceptance: all within ±5% of target torque.

Instrumentation and Calibration	
9	Install inline load cell and connect to datalogger; verify calibration certificate ≤ 12 months old; acceptance: zero balance within manufacturer tolerance; serial photos.
10	Mount two or more displacement gauges (dial/LVDT) on an independent reference beam ≥ 3 m from test element; acceptance: resolution ≤ 0.01 mm; zeroed readings recorded.
11	Set synchronized timebase for all devices; capture timestamp screenshot; acceptance: time drift ≤ 1 s over 1 h.
12	Conduct trial pull at ~5% of maximum test load for 2 min; acceptance: stable signals, elastic return within ±0.1 mm; log file saved.

Loading Procedure (Uplift Only)	
13	Confirm compression testing is excluded; remove compressive bearing plates/fixtures; acceptance: uplift load path only; photo of final setup.
14	Apply seating load 5–10% of maximum for 2–5 min; record initial displacement; acceptance: establish zero reference without slip.
15	Increase load in planned increments (e.g., 10–25%) using hydraulic jack; acceptance: ramp rate within plan; hold load within ±2% of target.
16	Hold each step for specified duration (e.g., 5–15 min); record displacement at 0.5, 1, 2, 5 min; acceptance: gauge variance ≤ 0.2 mm.
17	At maximum test load, maintain extended hold (e.g., 30–60 min) for creep; acceptance: load stability within ±2%; continuous data logging confirmed.

Measurement and Creep Criteria	
18	Compute net uplift displacement, correcting for load-train elasticity if required; method: unloading-reloading or modulus-based; evidence: calculation sheet attached.
19	Evaluate creep by comparing displacement between specified intervals (e.g., 1–10 min, 10–60 min) at constant load; acceptance: within project-specified limits.
20	Check lateral movement/rotation with plumb and straightedge; acceptance: lateral displacement within plan limits; photos and readings logged.
21	Validate load readings: correlate load cell and jack pressure using calibration factor; acceptance: deviation ≤ 3%; discrepancy investigated and resolved.

Acceptance, Unloading, and Reporting	
22	Compare peak displacement and creep to acceptance criteria per approved project specifications and authority requirements; record pass/fail with signatures.
23	Unload in decrements to zero; observe elastic rebound for 5–10 min; acceptance: no sudden load drops; final readings captured.
24	Dismantle reaction system; inspect test element and surroundings; evidence: photos; acceptance: no damage; site left safe and tidy.
25	Compile report with load–displacement and creep plots, calibration certificates, photos, checklists; export PDF/Excel; acceptance: issued to stakeholders within agreed timeframe.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Static tension test (uplift) verifies the uplift resistance of piles or ground anchors through controlled static loading, displacement monitoring, and creep evaluation. This checklist focuses solely on tension uplift testing and excludes compression testing. It supports related practices such as pile uplift test procedures, static load test in tension scheduling, and anchor uplift testing instrumentation. You'll set up reactions, align the jack and load cell, step loads in calibrated increments, and capture creep behavior against acceptance criteria per approved project specifications and authority requirements. Following this process helps avoid misalignment, load loss, instrumentation drift, and unsafe reactions that can invalidate results or damage works. The outcome is defensible data—load versus displacement plots and creep curves—suitable for foundation capacity confirmation, QA sign-off, or dispute resolution. Use this interactive checklist to tick tasks, add comments with photos, and export results as PDF/Excel. Start, collaborate, and share with a secure QR for verification.	1. Preparation: Assign a responsible engineer; gather the test plan, method statement, calibration certificates, hydraulic jack, load cell, displacement gauges, auto level, barriers, and PPE. Confirm uplift-only scope and safety boundaries. 2. Open the checklist on a tablet or laptop; start interactive mode. Preload project metadata (element ID, location, maximum test load, step schedule) for consistent recordkeeping. 3. Work through groups sequentially. Tick each item when complete, attach photos of setup, gauges, and readings, and log measurements in SI units. Use comments to flag anomalies. 4. During loading, capture live readings at the specified times. Use comments to note ramp rates, leaks, or adjustments. Tag calibration IDs for traceability. 5. After testing, generate plots from recorded data if available. Export the checklist and data as PDF/Excel for review. Share the QR for verification. 6. Sign-Off: Obtain digital signatures from the responsible engineer, contractor representative, and inspector. Distribute the report to stakeholders and archive per project procedures.