



Generated file by QChecklists
<https://quollnet.com>

Install earthing/grounding network: rods, conductors, tests

Install earthing/grounding network with our interactive checklist—commentable steps, photos, and calibrated tests, plus export as PDF/Excel. Verify rods, conductors, wells, continuity, and resistance.

Project:
Date:
Filled by:

Pre-Installation & Permits

1	Confirm approved IFC drawings, earthing layout, and method statements; verify scope excludes equipment earthing. Acceptance: latest revisions on site, approvals recorded. Evidence: stamped drawings, RFI closures, method statement sign-off.
2	Locate and clear underground utilities using permits, GPR/CAT scanning, and mark-out. Acceptance: no conflicts within planned rod locations and trenches. Evidence: utility clearance certificate, scan report, marked-up site photos.
3	Review soil resistivity data (Wenner test or geotechnical report) to plan rod spacing and grid density. Acceptance: data available and referenced. Evidence: resistivity report, seasonal notes, engineer acknowledgment.
4	Verify calibration of micro-ohmmeter and earth tester (3-point and clamp-on). Acceptance: valid calibration within 12 months or per project. Evidence: certificates with model/serial, expiry dates, photos.

Layout & Excavation

5	Set out grid using total station/laser, establish benchmarks, and stake trench lines. Acceptance: alignment within ± 50 mm of design. Evidence: survey report, geotagged photos, painted lines with offsets.
6	Excavate trenches to design depth (typically 0.6–0.9 m below finished grade). Acceptance: depth within ± 25 mm, smooth bottom free of sharp stones. Evidence: staff gauge photos, depth logs.
7	Provide dewatering/shoring where required to keep trench safe and dry. Acceptance: stable faces, no standing water at laydown. Evidence: inspection photos, daily safety checklist, pump logs.
8	Maintain separation from other services per drawings; install sleeves at crossings. Acceptance: minimum clearances met; sleeves extend beyond crossing by ≥ 300 mm. Evidence: photos with tape, sleeve material records.

Ground Rods	
9	Inspect copper-bonded steel rods (e.g., 16–20 mm diameter) for straightness and intact plating. Acceptance: no cracks, bends, or damaged threads. Evidence: delivery notes, batch numbers, photos.
10	Drive rods using an impact hammer to design depth or to refusal; set rod tops below grade. Acceptance: tip depth per design; rod top ≥ 0.6 m below finished grade or per spec. Evidence: depth log, geotagged photos.
11	Use listed threaded couplers to extend rods; check verticality. Acceptance: joints fully engaged; straightness deviation < 10 mm per metre. Evidence: torque record if applicable, joint photos.
12	Bond each rod to the grid conductor via exothermic weld or approved clamp. Acceptance: full fusion for welds; clamps torqued per manufacturer. Evidence: weld photos, mold and powder batch numbers, torque log.

Conductors & Connections	
13	Install bare copper conductors (≥ 35 mm ² or per design) at trench bottom with smooth route. Acceptance: bend radius $\geq 8 \times$ conductor diameter; no kinks. Evidence: photos with ruler, material certificates.
14	Make conductor-to-conductor joints using exothermic welding with clean, dry molds. Acceptance: shiny, void-free welds; slag removed; no underfill. Evidence: post-weld photos, batch numbers, visual inspection sign-off.
15	Where mechanical clamps are approved, clean contact surfaces and apply anti-oxidant; torque to spec. Acceptance: torque verified within $\pm 5\%$ of required value. Evidence: torque log, clamp model/lot photos.
16	Prevent galvanic corrosion at dissimilar-metal interfaces using tinned copper, inhibitors, and heat-shrink. Acceptance: full coverage, no exposed steel/aluminum. Evidence: close-up photos, product data sheets.
17	Install warning tape 150–300 mm above conductors along trench length. Acceptance: continuous tape with overlaps ≥ 300 mm. Evidence: in-trench photos before backfill.

Test Wells & Identification	
18	Install polymer/HDPE test wells over selected rods and key junctions; set tops flush with finish. Acceptance: verticality within ± 5 mm, lids seated. Evidence: geotagged photos, level reading.
19	Label wells with 'EARTH TEST' and unique IDs; map coordinates. Acceptance: permanent, legible labels; GPS coordinates logged. Evidence: label photos, ID schedule, coordinate list.
20	Fit locking lids or covers where required; verify accessibility. Acceptance: lids secure, accessible without excavation. Evidence: photos of closed and opened positions, key register.

Testing & Handover	
21	Perform continuity testing on each joint using a low-resistance ohmmeter (≥ 200 mA). Acceptance: each joint $\leq 0.05 \Omega$ or per spec. Evidence: test sheets with readings, instrument serial, ambient temperature.
22	Measure earth resistance using 3-point fall-of-potential with two auxiliary stakes at suitable spacing. Acceptance: overall resistance meets design/spec. Evidence: test plot, distances, soil condition notes, photos.
23	Where stake placement is impractical and permitted, use clamp-on tester on individual connections. Acceptance: readings within specified limit. Evidence: clamp-on screenshots, location photos, serial number.
24	Backfill in layers, free of debris; compact to specified density. Acceptance: compaction ≥ 90 – 95% of requirement. Evidence: compaction test results, backfill photos.
25	Update as-built drawings with rod depths, conductor routes, test well IDs, and test results. Acceptance: complete redlines approved by supervisor. Evidence: signed as-builts, GIS/KMZ if used.
26	Compile handover dossier: approvals, material certificates, weld/clamp logs, calibration, test reports. Acceptance: completeness per project and authority requirements. Evidence: consolidated PDF/Excel with QR verification.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
<p>Install earthing/grounding network work establishes a low-impedance path to earth using driven rods, buried conductors, and accessible test wells. This checklist guides field teams through building an earthing grid or grounding electrode system, verifying continuity, and performing earth resistance tests. It focuses on site networks only—equipment earthing and equipment bonding are intentionally excluded. You will set out the grid, drive and couple earth rods, place copper conductors, make exothermic or mechanical connections, install chambers, then document results. By following these steps, crews reduce shock risk, dissipate fault and lightning currents, and avoid hidden defects like loose clamps, poor welds, or corroding interfaces. Acceptance is per approved project specifications and authority requirements, with all testing completed using calibrated instruments and traceable evidence. Use this interactive checklist to tick items, add comments, and upload photos, torque logs, and test sheets—then export PDF/Excel with a QR-backed verification for handover.</p>	<p>1. Preparation: Gather approved drawings, soil resistivity data, rods, conductors, exothermic kits or clamps, test wells, PPE, and calibrated micro-ohmmeter and earth tester. Brief the crew on tolerances, safety, and documentation. 2. Open the checklist and start Interactive Mode. Assign sections (layout, rods, conductors, wells, tests) to responsible team members with due dates and hold points. 3. Tick items as completed, adding comments for deviations or site constraints. Attach photos, torque logs, weld batch labels, calibration certificates, GPS pins, and test sheets to each relevant item. 4. Use the comment threads for reviewer queries and close-out responses. Mention stakeholders to trigger notifications and maintain a clear audit trail. 5. Export the checklist and evidence register to PDF/Excel for submittal. The export includes a QR code that links to the verified record set. 6. Sign-Off: Capture digital signatures from contractor, consultant, and client. Distribute final exports and archive the QR-authenticated package in the project document control system.</p>