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Install Vertical Bentonite Sheets: QA Checklist (Walls)

Install vertical bentonite sheets using this interactive checklist—commentable and export as PDF/Excel—to verify overlaps, fixings, penetrations, and protection on vertical walls only.

Project:	
Date:	
Filled by:	

Pre-Installation Verification	
1	Confirm wall substrate is sound, clean, and even; grind protrusions >5 mm and fill voids >10 mm with non-shrink repair mortar. Acceptance: dust-free, no standing water, no sharp edges. Evidence: photos with scale, inspector sign-off.
2	Check plumb and datum lines for panel alignment using a 2 m level; tolerance ±5 mm per 2 m. Mark start/stop heights and corners. Evidence: level reading photos and marked layout sketch.
3	Verify bentonite sheets type, manufacturer, and lot numbers match submittals; store rolls dry, ≥150 mm off ground, covered. Acceptance: intact packaging, labels readable. Evidence: delivery dockets, label photos, storage photos.
4	Confirm ambient and substrate conditions: temperature –5 to 40 °C; no precipitation onto substrate; wind controls in place. Evidence: weather log, site photos, supervisor confirmation.
5	Plan vertical layout from highest point downward in shingle fashion. Pre-mark penetrations and corners. Acceptance: sequence drawing or photo-markup approved. Evidence: annotated photos and supervisor approval.

Sheet Overlaps and Sequencing	
6	Install vertical side laps ≥100 mm; clean lap zones; stagger adjacent vertical joints ≥300 mm. Consolidate with a hand roller. Acceptance: no gaps or contaminates. Evidence: tape-measured photos and roller pass photos.
7	At course ends, form horizontal shingle laps ≥150 mm with upper sheet over lower; apply bentonite granules or paste along the lap. Acceptance: continuous bead/granule line. Evidence: close-up photos with ruler.
8	Treat inside and outside corners by wrapping or using preformed corners with ≥200 mm overlap each face; fix at 200 mm centres. Seal folds with bentonite paste. Evidence: corner sequence photos and spacing check.
9	Eliminate fish-mouths or blisters >5 mm height by lifting, re-rolling, and adding paste. Patch tears with an oversheet extending ≥200 mm beyond damage. Evidence: before/after photos with scale.
10	Top termination: maintain ≥300 mm upstand above finished grade; install continuous termination bar at 200 mm centres with sealant bead. Acceptance: unbroken bead and uniform fastener spacing. Evidence: close-ups and elevation photos.

Mechanical Fixings	
11	Fix sheets with stainless or hot-dip galvanized washers (38–50 mm dia) at 300 mm vertical centres and 200 mm at laps; edge distance ≥50 mm. Evidence: spacing measurements and photo log.
12	Perform pull-out checks on 5% of fasteners (min 5 per elevation) to achieve ≥0.6 kN. Use a calibrated pull-tester. Acceptance: readings ≥0.6 kN. Evidence: gauge photos, calibration certificate.
13	Install termination bars with M6 anchors at 300 mm centres; torque fasteners to 6–8 N·m using a torque wrench. Acceptance: torque within range; no over-crushing. Evidence: torque logs and tool calibration.
14	Seal each fastener head and washer perimeter with bentonite mastic; ensure full coverage without voids. Evidence: close-up photos and supervisor verification.

Penetrations and Terminations	
15	Pipe penetrations: install split boot or cone flashing; embed in bentonite paste; lap sheets ≥150 mm around pipe. Secure stainless band clamp at 5–7 N·m. Evidence: staged photos and torque record.
16	Small bars/anchors: pack bentonite putty tightly around penetration; oversheet patch extends ≥200 mm all around; roll firmly to bond. Evidence: before/after photos with ruler.
17	At construction joints with waterstops, ensure sheet overlaps onto the joint zone ≥150 mm and does not displace the waterstop. Evidence: photo of continuous waterstop and overlap.
18	At dissimilar substrates (e.g., steel), prime with manufacturer-approved primer; use compatible termination strip at 200 mm centres; seal edges with paste. Evidence: primer data sheet, application photos.
19	Base of wall: secure sheet to the vertical face of kicker/curb; maintain ≥150 mm wrap onto vertical surface; seal with paste and fixings. Evidence: close-ups and alignment photo.

Protection and Handover	
20	Install protective boards (e.g., HDPE dimple or cement board) over sheets before backfill; no gaps >5 mm; temporary fixings secure. Evidence: coverage photos and gap checks.
21	Backfill with rounded granular material; drop height <1.0 m; compact in ≤300 mm lifts per approved project specifications and authority requirements. Keep equipment ≥0.6 m from wall. Evidence: lift photos and compaction records.
22	Limit UV exposure: cover or protect sheets within 30 days of installation. Evidence: installation and cover dates, photos, supervisor sign-off.
23	Final walkdown every 10 m: mark damage, repair with ≥200 mm patches, re-photograph, and update as-built. Evidence: punch list, repair photos, signatures.
24	Compile handover pack: approved submittals, labels/lot numbers, calibration certs, test logs, annotated elevations, and completed checklist export. Evidence: PDF/Excel export with QR code.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Install vertical bentonite sheets with disciplined, repeatable controls for vertical walls only. This checklist focuses on bentonite waterproofing panels, sometimes called GCL sheets or self-sealing geosynthetic clay liners, addressing four critical aspects: correct overlaps, reliable mechanical fixings, robust sealing at penetrations and terminations, and timely protection before backfilling. By excluding horizontal works, it keeps scope tight and verifiable. You will confirm substrate readiness, use measurable acceptance criteria (mm, kN, N·m), and document evidence with photos, lot numbers, torque readings, and signatures. The result is a continuous, watertight barrier that resists displacement and detailing errors at corners, edges, and service entries. Following these steps reduces post-construction leakage risks, prevents patchy adhesion or fish-mouths, and ensures compliant interfaces with other building elements per approved project specifications and authority requirements. Use this interactive tool to tick items, add comments, upload photos, and export your records as PDF/Excel secured by a QR code.	1. Preparation: gather bentonite sheets, paste/granules, rollers, washers, termination bars, torque wrench, pull-tester, clamps, protection boards, PPE, and calibrated measuring tools. Confirm drawings, elevations, and approved submittals. 2. Open the interactive checklist on your device, select project, elevation, and date, and assign responsible roles for installation and inspection. 3. Work through items in sequence. Tick each step, attach photos with rulers, enter measurements (mm, kN, N·m), and record lot numbers and weather. 4. Use comments to flag issues, tag teammates, and note corrective actions. Link manufacturer data sheets and calibration certificates. 5. On completion, export the record as PDF/Excel, embedding photos and measurements. The export includes a QR code for verification. 6. Sign-Off: capture digital signatures from installer, inspector, and supervisor. Confirm all defects closed and evidence attached. 7. Archive the checklist in the project repository and share the QR-coded export with stakeholders for traceable handover.