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Install Horizontal Bentonite Sheets: QA Field Checklist

Install horizontal bentonite sheets with an interactive checklist that's commentable and can export as PDF/Excel. Verify overlaps, fasteners, penetrations, hydration, and protection boards.

Project:
Date:
Filled by:

Pre-Installation Verification

1	Confirm approved product submittals, installation instructions, and SDS on site; verify sheet and accessory lot numbers match delivery tickets; obtain written approval to proceed.
2	Verify weather window: no precipitation forecast during installation and until temporary cover in place; wind < 10 m/s. Record thermometer, hygrometer, and anemometer readings; save forecast screenshots.
3	Inspect slab: broom-dry, clean, and sound; no standing water; remove loose laitance. Check levelness with a 3 m straightedge; deviations ≤ 10 mm. Photograph locations with straightedge and scale.
4	Confirm access and safety: edge protection, fall arrest where required, exclusion zones, and lighting. Record toolbox talk attendance and JSA signatures before work begins.

Substrate Preparation

5	Grind or chip off sharp protrusions > 5 mm; fill voids > 10 mm with non-shrink grout. Cure per approved project specifications and authority requirements. Photograph before/after repairs.
6	Sweep and vacuum the slab to remove fines and debris; no loose particles > 2 mm remaining. Capture wide-angle cleanliness photos and close-ups at corners and around drains.
7	Apply primer/adhesion layer where specified; target coverage 0.2–0.4 L/m ² at 10–30 °C. Record product, batch, ambient/ substrate temperatures, and coverage calculations with photos.
8	Create temporary drainage falls where needed; achieve $\geq 1\%$ slope toward drains/sumps using screed or patch. Verify with a digital level; record readings and marked arrows on slab.

Sheet Placement & Overlaps

9	Snap chalk lines and set control references; place first course square to datum. Alignment tolerance ± 10 mm over 3 m. Photograph first course lines and start panel.
10	Maintain overlaps: longitudinal ≥ 150 mm; end laps ≥ 300 mm. Measure with tape at every 3 m; photograph each measurement showing the scale.
11	Stagger end laps ≥ 300 mm between adjacent runs; avoid four-corner intersections. Mark offsets on sheets and sketch on as-built; capture photos of staggered pattern.
12	Eliminate wrinkles and fishmouths > 10 mm by lifting and re-laying; roll with a 30–50 kg flooring roller for consolidation. Photograph corrected areas.

Fasteners & Seaming	
13	Fix sheets to slab with corrosion-resistant fasteners and 35–50 mm washers: 300 mm centers along laps, 600 mm in field (unless specified otherwise). Record tool setting, counts per m ² , and photo evidence.
14	Apply bentonite paste or strip continuously along laps; bead 10–15 mm thick, uninterrupted around corners and terminations. Take close-up photos every 2 m showing continuous bead.
15	Inspect laps with light probing; no openings > 2 mm permitted. Perform three spot peel checks per 100 m ² ; document locations, observations, and corrective action if gaps found.
16	Protect exposed fastener heads and cut edges in wet zones with bentonite mastic; continuous coverage, no pinholes. Photograph representative coverage.

Penetrations & Terminations	
17	Cut sheets tight to penetrations; maintain a 10–15 mm annulus and infill with bentonite mastic. Install collar/patch with ≥ 300 mm overlap all around. Photo with tape measure.
18	For round pipes, install preformed collar or wrap and double-seam; apply stainless clamp where specified and torque 5–8 N·m. Record clamp size and torque reading.
19	At drains/sumps, recess or prepare flange; lap sheets ≥ 300 mm onto flange; add bentonite granules at 0.5–1.0 kg/m around throat. Photograph before covering.
20	At slab edges, upturn sheets ≥ 150 mm against formwork/curb; fix termination bars at 200 mm centers and seal top edge with mastic. Photo of bar spacing and sealant bead.

Hydration Control & Protection	
21	Prevent premature hydration: cover installed areas with polyethylene sheeting ≥ 0.2 mm during breaks/rain; sandbag edges. No standing water allowed. Log weather and take overview photos.
22	Install protection boards (HDPE/cementitious) over sheets before reinforcement or traffic; tight-butt joints, staggered, 100% coverage. Photograph representative areas and board labels.
23	Coordinate concrete placement per approved project specifications and authority requirements; monitor for sheet displacement during pour and stop to correct if movement occurs. Document first-pour checks with photos and pour logs.
24	Complete closeout: upload photos, measurements, and batch/lot numbers; record approvals; finalize digital signatures with QR-authenticated checklist export to PDF/Excel.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
<p>Install horizontal bentonite sheets on slabs demands disciplined preparation, precise lap control, and dependable protection before concrete placement. This checklist focuses on horizontal applications of bentonite waterproofing using sheet or GCL panels, including sodium bentonite seams, penetration detailing, hydration control, and protection boards. By holding tight tolerances on overlaps and fastener spacing, you prevent edge lift, washout, and seam separation that cause leaks and costly rework. Careful handling around pipes, drains, and slab edges is essential to maintain continuity, while temporary coverings and protection boards keep the system dry and undisturbed before it is locked in by concrete. The sequence here stops premature hydration, documents batch data and photos, and guides you through acceptance cues you can see and measure on site. Use this interactive checklist to tick items, add comments with photos, and export your record as PDF or Excel with a QR code for authentication.</p>	<ol style="list-style-type: none"> 1. Preparation: Assemble sheets/GCL panels, primers, mastic, bentonite granules, fasteners with 35–50 mm washers, protection boards, 30–50 kg roller, utility knives, chalk line, 3 m straightedge, digital level, anemometer, hygrometer/thermometer, camera, PPE (gloves, eyewear, hearing, fall arrest). 2. Project setup: Open the checklist, enter project, area, date, weather, and team. Attach approved submittals and manufacturer instructions to the record. 3. Start interactive mode: Assign item owners, due times, and acceptance criteria. Enable photo capture and geotagging for each step. 4. Execute checks: Tick items as you verify, measure tolerances, and record batch/lot numbers. Add close-up photos and sketches to comments. 5. Issue management: Use comments to log nonconformances, tag responsible parties, and upload corrective-action photos before closing items. 6. Export: Generate a commentable report and export as PDF/Excel with embedded photos, measurements, and item status. 7. Sign-off: Collect digital signatures from contractor, inspector, and client. Verify QR authentication on the final report. 8. Archive and share: Store the signed checklist in your project system and share the QR-secured link with stakeholders.