

PREFLEX 3000

INSTALLATION MANUAL

REORDERED • TECHNICALLY RECONCILED • SITE-PHOTO ISSUE

Technically Review Issue – 10 August 2026

FORSPEC

PROTECTIVE COATINGS

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HOW TO USE THIS MANUAL

Corrected Construction Order

- Prepare and approve the substrate before any membrane is released for installation.
- Install the complete floor system and perimeter upturn before the wall sheets.
- Complete grade beams, raised pile caps, penetrations and wall returns before the final inspection.
- Carry out membrane repair near the end of the waterproofing works, immediately before protection and reinforcement placement.

What Controls The Work

- The current approved project waterproofing drawings and specification take precedence over generic concept details.
- Use current FORSPEC TDS, SDS, batch labels and written technical advice for every product.
- Record substrate, lap, detail, repair and pre-pour hold points with dated photographs.



CONTROL NOTE: The issue supersedes the mixed and incorrect figure-eight, exposed-fastener and flush pile-cap imagery in the previous draft.

CONTENTS

01	INTRODUCTION	4
02	SYSTEM PLANNING	9
03	SUBSTRATE PREPARATION	15
04	FLOOR MEMBRANE INSTALLATION	23
05	GRADE BEAMS	36
06	PILE CAPS & PENETRATIONS	44
07	WALL MEMBRANE INSTALLATION	55
08	INSPECTION, REPAIR & PROTECTION	65
09	CONTROLLED DETAILS	73
10	SYSTEM COMPLETION	78



01

INTRODUCTION

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PREFLEX 3000 SYSTEM

Purpose

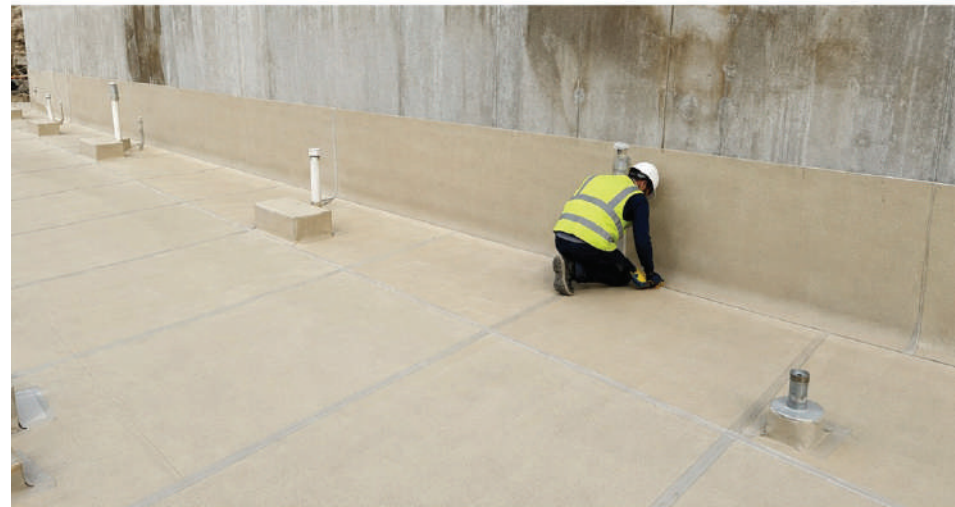
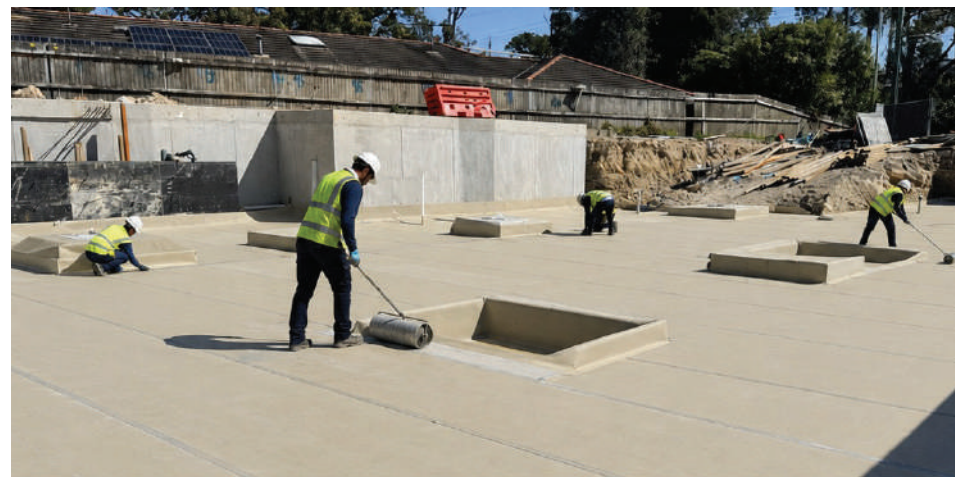
- Pre-applied, multi-layer HDPE sheet waterproofing for below-ground reinforced-concrete construction.
- The membrane is installed before structural concrete and forms a continuous barrier against water ingress and lateral water tracking.

Concrete-bonding face

- The warm beige mineral-sanded face is presented to fresh concrete and develops an integral bond as the concrete hydrates and cures.
- No torching, hot-air activation, external heat source, power or water activation is required during installation.

Typical work areas

- Ground slabs, pile-supported slabs, lift pits, grade beams, blindside retaining walls, pile caps and project-specific penetrations.



MEMBRANE ORIENTATION

Always identify both faces

- Concrete-facing side: beige/tan, fine mineral-sanded surface that must remain exposed to the future structural concrete.
- Substrate-facing side: HDPE backing placed against blinding, soil support, formwork, wall support or the approved receiving layer.

Do not reverse the sheet

- A reversed sheet prevents the intended bond and can create a pathway for lateral water migration.
- Confirm orientation at the first-sheet hold point and again at every fold, upturn, grade beam and wall return.

Keep the sanded face bondable

- Remove mud, standing water, oil, release agents, adhesive contamination and loose debris before concrete placement.



SYSTEM ACCESSORIES – CORRECT ROLES

PREFLEX 3000 NS

- Double-sided self-adhesive tape for concealed side and end laps, transitions and detailing where the next sheet must bond over it.
- NS Tape is installed beneath the covering sheet; release liner is removed progressively and the closed lap is pressure rolled.

PREFLEX 3000 S TAPE

- Adhesive underside with the same sanded concrete-reactive face on top.
- Use for exposed terminations, edge sealing, circular corner pieces, repair sealing and approved visible details that must bond to fresh concrete.

PRESSWELL

- Hyrdophilic strip waterstop. Cut ends square and butt join tightly; do not overlap. Maintain project/TDS concrete cover.



CONTROL NOTE: NS Tape must not remain exposed to fresh concrete; S Tape is the exposed sanded termination/detailing tape.

SYSTEM BOUNDARIES

This manual provides

- A buildable generic sequence, minimum workmanship controls, corrected accessory roles and representative job-site photographs.
- Inspection and repair criteria before reinforcement and concrete placement.

This manual does not replace

- Project-specific waterproofing design, structural details, construction-joint design, drainage design or engineer-approved pile-cap geometry.
- Current product TDS/SDS, approved shop drawings, method statements and written FORSPEC technical advice.

Resolve conflicts before work

- Stop at the affected detail; obtain written clarification; update the marked-up drawing and inspection plan before proceeding.



A photograph of three construction workers in white hard hats and high-visibility vests standing in a large, deep construction pit. They are looking at blueprints spread out on a wooden table in the foreground. One worker is pointing towards the background. The pit has concrete walls and several concrete pillars with rebar protruding from them. In the background, a city skyline with tall buildings is visible under a clear sky. A yellow and black laser level is on the ground to the right, and a roll of material is partially visible in the bottom right corner.

02 SYSTEM PLANNING

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DOCUMENT CONTROL & HOLD POINTS

Required site documents

- Latest approved waterproofing and structural drawings; project specification; current TDS and SDS; installation method; inspection and test plan.
- Approved product schedule confirming PREFLEX 3000 sheet thickness, roll size, lap arrangement and accessory compatibility.

Mandatory hold points

- Substrate acceptance; first sheet/orientation; first side and end lap; first grade-beam and pile-cap detail; wall-floor junction; repair acceptance; pre-steel and post-steel inspections; pre-pour release.

Records

- Photograph each hold point with location reference, batch details, installer, date, weather and corrective actions.



PRODUCT SCHEDULE

PREFLEX 3000

- Primary pre-applied HDPE sheet membrane; sanded face to fresh concrete.

PREFLEX 3000 NS

- Concealed double-sided lap/transition/detailing tape.

PREFLEX 3000 S TAPE

- Exposed sanded termination, circular corner and repair-detail tape.

FORBUILD 100

- Fibre-reinforced repair/profiling mortar for sound concrete repairs and coves; use the current specified primer/slurry system.

PREFLEX 3000

- Primary pre-applied HDPE sheet membrane; sanded face to fresh concrete.

PREFLEX 3000 NS

- Concealed double-sided lap/transition/detailing tape.

PREFLEX 3000 S TAPE

- Exposed sanded termination, circular corner and repair-detail tape.

FORBUILD 100

- Fibre-reinforced repair/profiling mortar for sound concrete repairs and coves; use the current specified primer/slurry system.

CONTROL NOTE: Check current pack labels and approved TDS before use.
Do not substitute products or combine systems without written approval.

DELIVERY, STORAGE & HANDLING

Sheet rolls

- Store dry, protected from sunlight, rain, mud and physical damage on a stable level surface in the original packaging.
- Do not stack or handle in a way that flattens edges, creases the sanded face or contaminates the selvedge.

Tapes and reactive products

- Keep liners intact and cartons closed until use. Condition within the temperature limits on the current TDS.
- Quarantine wet, damaged, out-of-date, unlabelled or contaminated materials.

Handling

- Use sufficient labour and lifting aids. Do not drag rolls across reinforcement, sharp concrete or dirty ground.



TOOLS, PPE & SYDNEY SITE CONTROLS

Minimum PPE

- Fluorescent high-visibility reflective vest, hard hat, gloves, long workwear, safety boots and project-required eye, hearing and respiratory protection.
- All people visible within the installation work area must comply with site PPE rules.

Typical tools

- Sharp hook/utility knives with controlled blade disposal; straight edges; chalk line; tape measure; scissors; soft broom; clean cloths; hand and long-handle pressure rollers.
- Mixing drill, clean pails and steel trowels only for approved mortars/coatings.

Work-zone controls

- Barricade open excavations, grade beams and membrane areas. Provide safe access, lighting, edge protection and protected walkways.



WEATHER, EXPOSURE & CONCRETE PROGRAM

Exposure Planning

- Coordinate membrane release with reinforcement and concrete works to minimise UV, rain, dust and trade traffic.
- Place concrete within 56 days of membrane installation; reduce to 42 days where temperatures exceed 38°C for more than seven days, unless written project/FORSPEC requirements require earlier placement.

Weather

- Do not trap standing water, mud or frost beneath laps. Dry and clean adhesive zones before closing.
- Protect uncured FORBUILD, HYDROPLUG, ACTFLEX 988 CWP and ACTFLEX HBR in accordance with their current TDS.

Concrete Interface

- Plan access and reinforcement so the sanded face is not crushed, polished, oil-contaminated or punctured before the pour.



A large-scale construction project in a deep concrete pit. Three workers in high-visibility vests and hard hats are shown. One worker on the left is using a power trowel on a gravel surface. Two other workers on the right are using a long metal straightedge to level a freshly poured concrete slab. The background shows a city skyline with modern buildings.

03

SUBSTRATE PREPARATION

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GROUND / COMPACTED SUBSTRATE

Compaction and stability

- Provide engineered, stable compacted fill or crushed-dust support capable of carrying installation and concrete loads without pumping, rutting or settlement.
- Confirm the project compaction criterion and records before release; 95% Modified Proctor Density is a common project requirement

Level and drainage

- Remove hollows, ridges, sharp stones and protrusions. Maintain designed falls and drainage so groundwater cannot pool beneath the membrane.

Cleanliness

- Remove loose dust, debris, oils, fuels, chemicals, standing water and contaminants that may damage the sheet or impair laps.



CONCRETE / BLINDING SUBSTRATE

Surface Condition

- Concrete or blinding must be sound, dimensionally stable and sufficiently smooth to provide continuous sheet support.
- Remove laitance, fins, slurry, loose particles, tie-wire ends, sharp edges, oil, curing compound and standing water.

Repairs

- Break out unsound concrete to a sound edge. Fill honeycombing, voids and deep irregularities with an approved repair mortar.
- Avoid feather edges. Cure repairs before membrane placement and confirm that the finished surface will not puncture or bridge the sheet.

Junctions

- Form accurate corners and coves where detailed. Verify that wall, floor, pile and grade-beam levels match approved drawings.



PITS, PADS & RAISED ELEMENTS

Inspection

- Check pit bases, pad footings and grade-beam channels for level, drainage, square corners, sound edges and full access for rolling.
- Confirm penetration locations and reinforcement do not prevent the specified membrane return or tape width.

Raised pile caps

- The pile cap must stand proud of the surrounding floor membrane. Do not depict or construct the cap flush with the membrane field unless an approved detail expressly requires it.
- Prepare the vertical cap edge so the termination can be fully rolled and inspected.

Hold Point

- Record the prepared geometry before any membrane hides the receiving surfaces. drawings.



COVE SELECTION

Purpose

- A cove removes a sharp 90° internal transition, supports the membrane and reduces bridging or puncture at the wall-floor junction.

Use FORBUILD 100 where

- The junction is sound and dry or has been made dry; structural repair/profiling and a durable mortar cove are required.
- Prepare and prime/slurry the substrate in accordance with the current FORBUILD 100 TDS.

Use ACTFLEX HYDROPLUG where

- Active water, seepage or a leaking chase must be stopped rapidly before subsequent waterproofing.
- Do not substitute HYDROPLUG for broad structural repair or routine dry coves.



FORBUILD 100 COVE PROCEDURE

1 – Prepare

- Cut back to sound concrete; remove laitance, dust and contaminants; pre-wet to the condition required by the current TDS.
- Apply ACTFLEX 300 Primer or the approved 1:1:3 ACTFLEX 300 : water : FORBUILD slurry and place while tacky.

2 – Mix and Place

- Use clean measured water for the supplied pack size. Mix 3–4 minutes, rest 1–2 minutes and remix briefly.
- Pack tightly into the junction and form the project-specified smooth 45° cove without voids or feather edges.

3 – Cure

- Protect the completed cove for at least 48 hours and until adequate strength is achieved for membrane installation.



HYDROPLUG – ACTIVE WATER

Open and clean

- Form a sound chase generally not less than 20 × 20 mm; increase for high-volume leaks as required by the approved detail.
- Remove loose concrete and dust, then dampen the substrate without leaving free water outside the active leak.

Mix small batches

- Use approximately 150 mL clean water per 1 kg powder and mix to a firm putty consistency. Prepare only about 0.5 kg at a time.

Plug

- Press firmly into the opening and hold for about 30 seconds to one minute. Typical set is approximately 2–4 minutes, temperature dependent.
- For an approved wet wall-floor junction, form the specified chase/cove geometry; the TDS describes an approximately 40mm 45° cove.



SUBSTRATE RELEASE CHECKLIST

Geometry

- Correct levels, falls, upstands, pile heights, grade-beam dimensions, coves and penetration locations.

Support

- Stable, fully supported and smooth enough that the sheet will not bridge, stretch or puncture.

Condition

- Sound, clean and free of dust, laitance, mud, standing water, sharp objects, oils and incompatible compounds.

Repairs

- Cured, dry enough for the next system layer, finished flush and accepted at the repair hold point.

Access

- Safe, lit and large enough to cut, form, peel liners and pressure roll every lap and return.

Release

- Waterproofing supervisor signs the substrate record before the first roll is opened.



CONTROL NOTE: Do not use membrane to hide an unacceptable substrate or unresolved water ingress.



04

FLOOR MEMBRANE INSTALLATION

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FLOOR INSTALLATION SEQUENCE

Sequence

1. Set out the sheet direction, side laps, staggered end laps, grade beams, pile caps and perimeter upturn.
2. Install the floor field and close all concealed side/end laps.
3. Form grade beams, raised pile-cap transitions and penetrations.
4. Complete and inspect the floor perimeter upturn before any wall sheet is installed.

General Rules

- Keep the beige sanded face upward to receive fresh concrete.
- Stagger end joints. Never create an uncontrolled four-corner stack or leave release liner trapped in a lap.
- No screws, nails or washers through horizontal field sheets or adhesive lap zones. 40mm 45° cove.



SET OUT & FIRST SHEET

Set out

- Mark the working line from the approved grid rather than from an irregular excavation edge.
- Plan the first sheet so the proprietary self-adhesive selvedge will receive the next sheet and all end joints remain staggered.

Place

- Unroll without dragging. Relax the sheet, align it to the set-out line and confirm the sanded face is upward.
- Trim only with a sharp controlled blade over a cutting board or sacrificial layer—never cut an installed sheet below.

First-sheet hold point

- Record orientation, line, lap direction, edge condition and perimeter allowance before continuing.



CONTROL NOTE: Do not use membrane to hide an unacceptable substrate or unresolved water ingress.

SIDE LAPS – SELVEDGE

Prepare

- Keep the self-adhesive selvedge and receiving underside clean, dry and flat. Remove sand, mud and fibres without damaging the edge.

Close progressively

- Align the covering sheet to the full proprietary selvedge width.
- Peel the release liner progressively while maintaining alignment.
- Do not stretch the sheet or bridge low spots. Reposition before full contact if alignment is incorrect.

Roll

- Pressure roll the full lap from the centre outward, including ends and intersections. Mark and repair fishmouths or unbonded edges immediately.



PREFLEX 3000 NS – CONCEALED LAPS

Where NS is used

- Concealed end laps, transitions, sheet-to-sheet details and approved areas where the next sheet must adhere over the tape.

Application

- Apply to a clean, dry receiving sheet without wrinkles or gaps. Butt adjacent tape ends neatly unless the approved detail requires a different arrangement.
- Leave the release liner in place until the covering sheet is aligned. Peel progressively, close the lap and pressure roll firmly.

Finished condition

- The NS Tape is completely hidden beneath the covering sheet. No adhesive, liner, screw, nail or washer remains exposed.



END LAP – PREPARE THE RECEIVING SHEET

Stagger the end joint

- Position the end lap away from adjacent end joints and high-risk intersections in accordance with the approved layout.

Correct triangle cut

- At the specified lap intersection, cut the small triangular relief from the RECEIVING / UNDERLYING sheet only.
- Do not cut the intact covering sheet. Do not leave the triangle open as a finished detail.

Prepare concealed bond

- Clean and dry the receiving sheet, apply PREFLEX 3000 NS beneath the future overlap and retain the liner until alignment is confirmed.



CONTROL NOTE: The photograph intentionally shows the underlying-sheet triangle before it is covered.

END LAP – COVER & ROLL

Cover completely

- Lay the next intact sheet over the prepared receiving sheet so the full triangular relief is hidden beneath the overlap.
- Maintain the approved end-lap width and prevent trapped folds, debris or liner.

Pressure roll

- Roll the complete end lap and all intersections in multiple directions with firm, even pressure.
- The finished sanded surface must be continuous; the triangle must not remain visible.

Inspect

- Probe visually without sharp tools. Repair any fishmouth, contamination or loss of adhesion before the next sheet blocks access.



T-, CROSS- & CHANGE-OF-DIRECTION LAPS

Plan out four-layer stacks

- Stagger sheet ends and lap intersections so no uncontrolled four-corner build-up remains beneath structural concrete.

Concealed build-up

- Use the approved relief cut and concealed NS Tape arrangement. The final covering sheet must remain intact over the cut receiving sheet.

Exposed edges

- Where an approved detail leaves an edge exposed to fresh concrete, seal with sanded PREFLEX 3000 S Tape—not bare NS Tape.

Inspection

- Confirm every intersection is flat, rolled, clean and free of fishmouths before proceeding.



ROLLING & FIELD QUALITY

Rolling Technique

- Use a clean roller wide enough to apply uniform pressure. Roll along the lap, then across it, concentrating on ends, changes of direction and repaired edges.

Field-sheet Condition

- Remove wrinkles, bridging, air pockets, sharp inclusions and trapped liner. A wrinkle must not be buried by the next sheet.

Raised Elements

- Keep pile caps and penetrations visible and proud where detailed. Do not use the field sheet to flatten or hide geometry.

Daily close-out

- Clean the completed area, protect open edges, identify incomplete work and prevent other trades entering without controlled walkways.



FLOOR PERIMETER UPTURN

Floor comes first

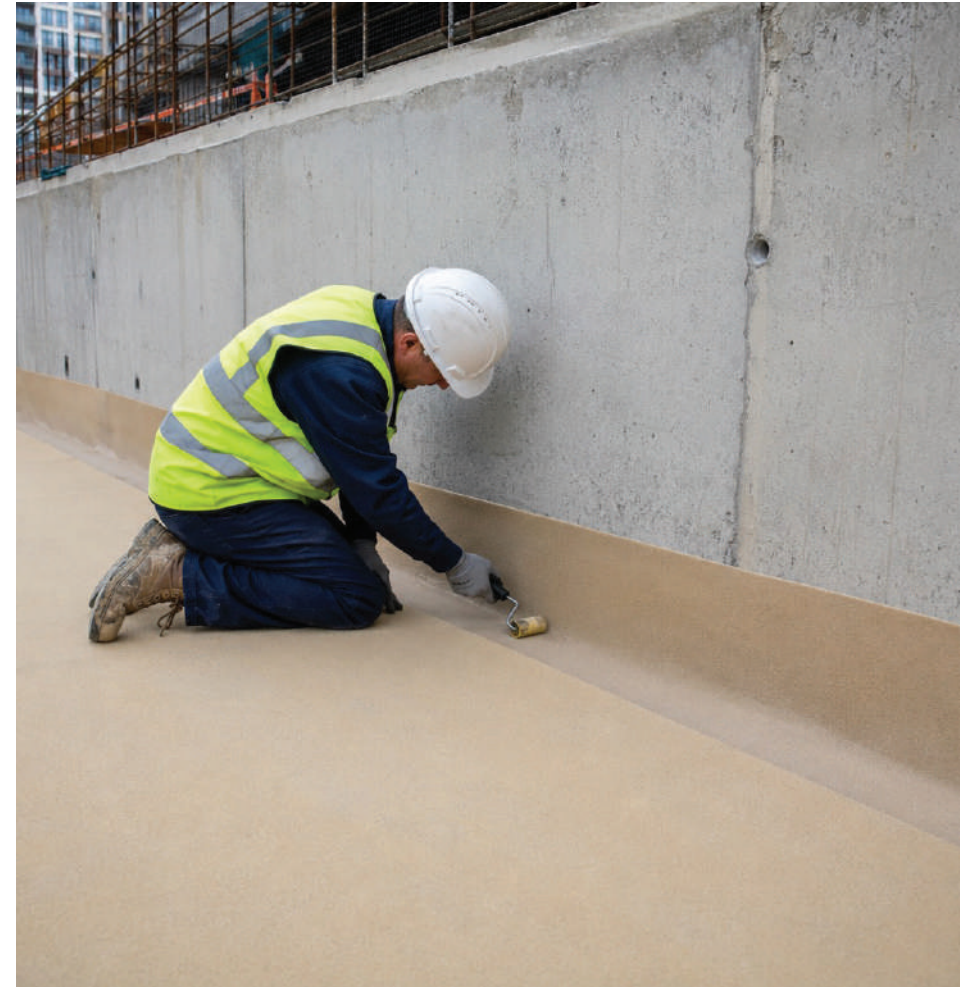
- Extend the floor membrane to the wall and form the approved continuous upturn before wall-sheet set-out.
- The upturn must remain visible and accessible so the later wall L-return can overlap it.

Form without bridging

- Dress the sheet tightly into the cove and up the wall. Do not crease, stretch or puncture the sanded face.

Corners

- Use project-approved cuts and concealed tape to keep the upturn flat. Reserve exposed sanded S Tape for the specified corner/termination piece.



FLOOR PENETRATIONS & OBSTRUCTIONS

Set out before cutting

- Confirm centre, diameter, sleeve type, movement and approved waterproofing detail before cutting the sheet.

Cut accurately

- Make the smallest practical controlled opening. Do not make uncontrolled star cuts or leave gaps hidden beneath loose pieces.

Continuity

- Dress and seal the sheet with the approved PREFLEX accessory arrangement. Use sanded S Tape wherever a termination remains exposed to fresh concrete.

Movement

- Do not rigidly bridge a designed movement joint or moving penetration. Obtain a project-specific detail.



FLOOR CLEANING & PROTECTION

Clean

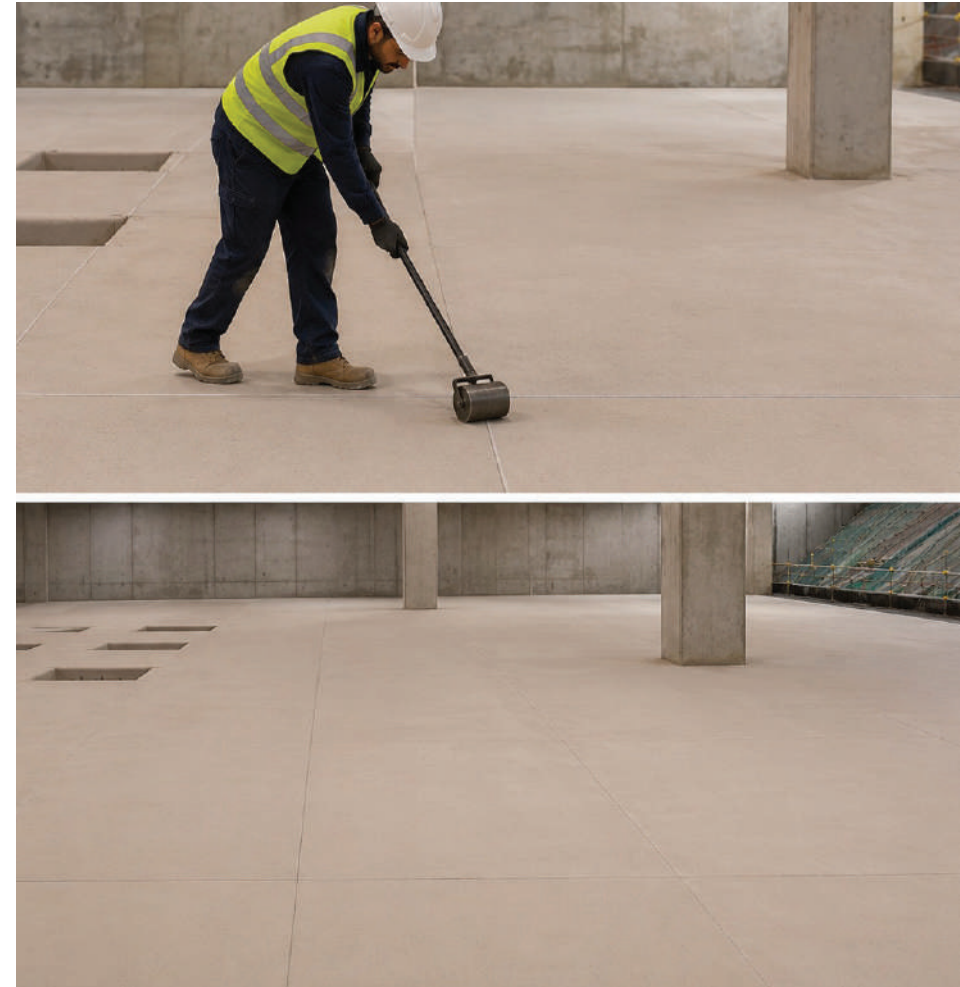
- Use a soft broom, vacuum or approved low-pressure water cleaning. Remove all standing water and allow adhesive zones to dry.
- Do not use solvents, aggressive detergents or methods that polish or strip the mineral-sanded face.

Protect

- Provide designated access and sacrificial/protection layers where traffic, bar chairs, reinforcement bundles or lifting operations could damage the membrane.

Open edges

- Secure and cover work boundaries so wind, rain or other trades cannot contaminate concealed bonding surfaces.



FLOOR HOLD POINT

Verify before grade beams/walls

- Sanded face upward; sheet layout and staggered end joints correct; all side/end laps fully closed and rolled.
- Triangle relief cuts belong to receiving sheets and are fully covered by intact overlapping sheets.
- NS Tape is concealed; S Tape is used for approved exposed sanded terminations; no release liner remains.
- No screws, nails or washers penetrate horizontal field or adhesive lap zones.
- Perimeter upturn is continuous, clean and ready to receive the later wall L-return.

Protect

- Photograph each grid, penetration, raised element, lap intersection and perimeter before access is restricted.



A large-scale construction project is shown, featuring a deep excavation with multiple levels of concrete retaining walls. Two workers in the foreground, wearing white hard hats and high-visibility yellow safety vests over dark blue work clothes, are kneeling on a wide, flat concrete beam. They are applying a light-colored, textured protective coating to the surface of the beam. The beam is part of a larger structure that recedes into the distance, creating a sense of depth. In the background, other workers can be seen on higher levels of the excavation. A steep, rocky cliff face rises behind the site, and modern city buildings are visible on a hillside in the far background under a clear sky.

05

GRADE BEAMS

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GRADE-BEAM PLANNING

Confirm geometry

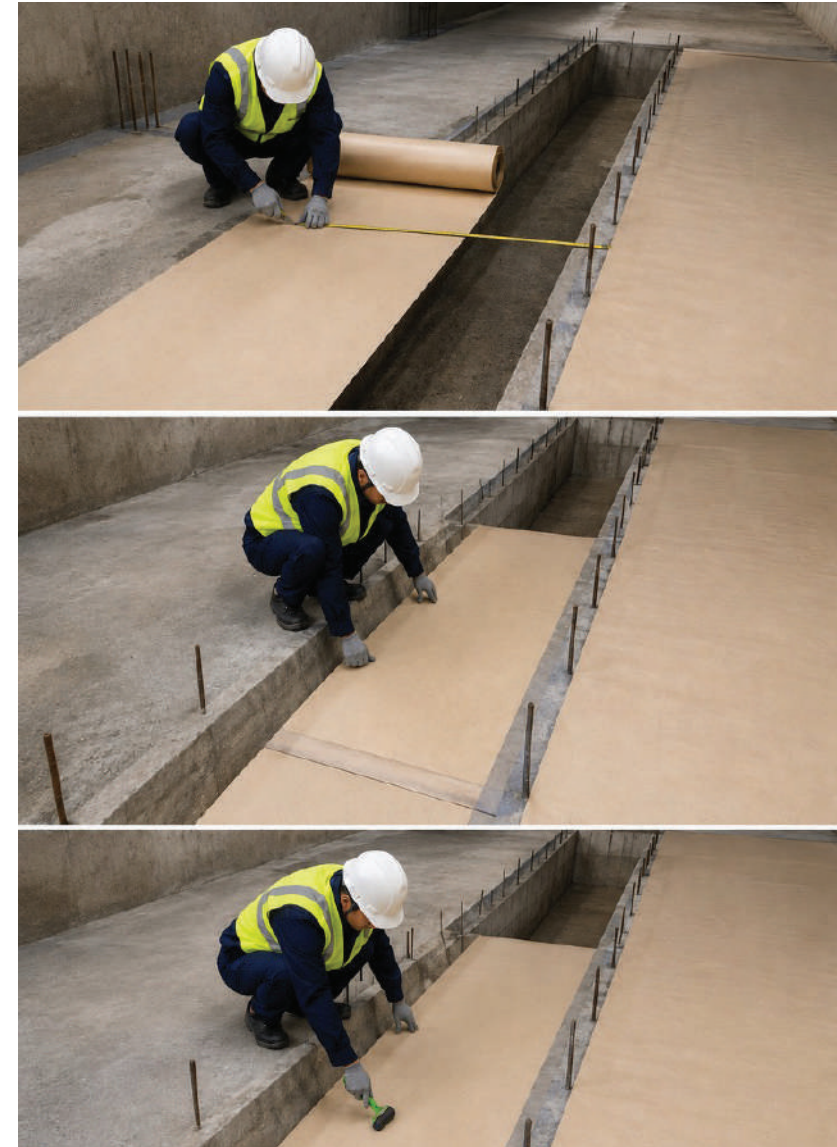
- Survey the channel base, shoulders, wall faces, ends and junctions. Repair sharp edges and confirm access for full pressure rolling.

Plan the sheet

- Cut the PREFLEX 3000 to form the base and returns with the sanded face toward the future grade-beam concrete.
- Plan folds and laps so water cannot bypass the floor system and no exposed substrate remains.

Full-detail framing

- Inspect the whole channel—not only the worker's hands—including both shoulders, internal base, end returns and connection to the floor field.



BASE INSTALLATION – CONCEALED NS

Fit

- Place the base sheet centrally and dress it smoothly into the channel without bridging or tension.

Concealed Adhesion

- Apply PREFLEX 3000 NS beneath the overlapping shoulder/transition flap. Keep the liner until final alignment, then peel progressively.
- Press the overlap closed and roll until the sanded surface is continuous and no adhesive remains visible.

Prohibited

- Do not use screws, nails or washers through the horizontal base, shoulders or adhesive zones.



SHOULDER FOLDS & RETURNS

Form

- Dress the membrane over both grade-beam shoulders and down the required faces using smooth, supported folds.
- Keep fold lines away from sharp concrete arrises or provide the approved profiling/cove support.

Join to floor field

- Lap the grade-beam sheet into the surrounding floor system with concealed NS Tape beneath the covering sheet.
- Maintain the sanded face outward on every concrete-contacting plane.

Roll

- Use hand rollers at shoulders and corners; do not accept bridged voids that cannot be inspected after closing.



ENDS, CORNERS & CHANGES OF LEVEL

Cut from the approved template

- Make controlled relief cuts that allow the membrane to fold without an open pinhole at the change of direction.

Cover cuts

- Use an intact overlapping membrane piece or approved sanded S Tape detail so no relief cut remains exposed.

Do not improvise

- Stop where multiple beams, piles or walls intersect. Confirm the layer order and exposed/hidden tape type before cutting.

Inspect whole detail

- The completed corner must show continuous sanded membrane across the base, walls, shoulders and floor transition.



EXPOSED TERMINATIONS – S TAPE

When exposed

- Where an approved grade-beam edge or termination remains exposed to the future concrete, use PREFLEX 3000 S Tape.

Apply

- Clean and dry the membrane, position the adhesive underside over the termination and press without wrinkles.
- Roll the complete tape. The mineral-sanded top remains exposed and continuous with the sheet's sanded face.

Do not substitute NS

- Double-sided NS Tape is a concealed bond and must be covered by the next sheet; it is not the exposed concrete-bonding finish.



TEMPORARY RESISTANT

Preferred restraint

- Use folds, weight, approved concealed adhesive and sequenced sheet placement to control the membrane without penetrations.

If mechanical restraint is detailed

- Limit it to the specifically approved top/termination zone.
- Never place it through the horizontal field, base or adhesive lap.
- Cover and seal every approved fixing so no fastener or washer is exposed to become a leak path.

Reject

- Exposed screws or washers at shoulder adhesive zones, unsupported bridged folds, torn sanded face, or a fastener used as a substitute for pressure rolling.



GRADE-BEAM HOLD POINT

Continuity

- Complete membrane through the beam and onto both surrounding floor areas; no exposed substrate or open cut.

Adhesion

- All NS Tape hidden under covering sheets; all exposed terminations finished with sanded S Tape; every lap pressure rolled.

Geometry

- Base, shoulders, end returns and corners fully supported and visible in the inspection photographs.

Condition

- No screws/washers in field or lap zones; no bridging, fishmouths, liner, standing water, contamination or damage.



A construction site showing multiple concrete pile caps with vertical rebar protruding from them. Two workers in high-visibility vests and hard hats are visible; one is in the foreground crouching near a cap, and another is in the background near a bucket. The site is an excavation with a retaining wall in the background.

06

PILE CAPS & PENETRATIONS

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PILE-CAP PREPARATION

Geometry

- Confirm the cap is structurally complete, stable and raised above the surrounding membrane plane as shown on the approved detail.

Surface

- Remove laitance, weak concrete, slurry, oil and loose particles. Scabble/roughen only where the approved coating or bond detail requires it.
- Repair honeycombing and form a sound, accessible vertical perimeter for the floor-sheet termination.

Reinforcement

- Clean loose corrosion/contamination as specified and confirm bar spacing allows coating, waterstop and concrete cover.

Water

- Stop active leaks with HYDROPLUG before applying coatings or tape.



HYDROPLUG AT THE PILE PERIMETER

Use only when required

- Apply HYDROPLUG to active seepage, leaking chases or the approved pile perimeter seal—not as a broad levelling coat.

Procedure

- Open to a sound chase, remove debris, dampen, mix a small putty-consistency batch and press firmly until set.
- Typical set is 2–4 minutes; maintain pressure for approximately 30 seconds to one minute and protect until stable.

Finish

- Remove proud sharp edges and leave a profile compatible with the next approved coating/membrane layer.



ACTFLEX 988 CWP – APPROVED PILE COATING

System

- Two-part cementitious acrylic waterproof coating. Supply kit: Part A 8 kg liquid + Part B 12 kg powder; mix 1:1.5 by weight.

Below-ground pile-cap build

- Apply three coats to achieve 1.5 mm total dry-film thickness, changing direction between coats and fully covering the prepared cap surfaces.
- Allow approximately 24 hours between coats, subject to site conditions and the current TDS.

Cure

- For confined/below-ground service, allow 7 days after the final coat before covering or placing the next incompatible load, unless written project advice states otherwise.

Quality

- Check coverage, pinholes, thickness, curing and continuity around bars and perimeter load, unless written project advice states otherwise.



CONTROL NOTE: Required underground build: 1.5mm TOTAL DFT across. Each individual coat is not 1.5mm.

ACTFLEX HBR – REPAIR / PROFILING ONLY

Role

- Two-component, pre-filled high-build epoxy mortar for local repair, profiling, rebuilding and approved pile-cap detail preparation.
- ACTFLEX HBR is not a waterproofing membrane and does not replace PREFLEX 3000, ACTFLEX 988 CWP, laps or terminations.

Below-ground pile-cap build

- Mix Part A : Part B at 2:1 by volume and weight. Use complete kits or calibrated partial batches.
- Apply vertical/overhead work in compacted layers not exceeding 20–25 mm per layer between 15°C and 35°C.

Cure

- Typical recoat is about 8 hours at 25°C or 6 hours at 40°C; full cure is 7 days. Confirm site conditions and current TDS.



CUT FLOOR SHEET AROUND THE CAP

Template first

- Measure the raised cap and reinforcement. Prepare an accurate template so the field sheet fits the vertical perimeter without uncontrolled gaps.

Cut safely

- Cut on a board away from installed membrane. Keep the surrounding field sheet intact and preserve the sanded face.

Place

- Fit the floor membrane to the cap perimeter while keeping the cap top and vertical edge visibly proud of the membrane plane.
- Do not lay the floor membrane over the pile-cap top unless a separate approved detail requires it.



RAISED CAP – FLOOR TRANSITION

Correct finished geometry

- The circular concrete pile cap projects above the sanded field membrane, with its vertical perimeter available for the approved coating/tape transition.

Field Laps

- Keep all nearby floor laps staggered and fully rolled. Do not position a four-layer intersection against the pile perimeter.

No field fasteners

- Do not use blue plastic washers, screws or nails to hold the horizontal membrane around the cap.

Inspect

- Confirm cap height, perimeter fit, coating cure, clean sanded surface and access for S-Tape termination.



PILE-PERIMETER TERMINATION – S TAPE

Prepare

- Ensure the cured cap system and surrounding PREFLEX 3000 are clean, dry, sound and compatible with the approved transition.

Apply S Tape

- Place the adhesive underside across the approved cap-to-sheet transition. Maintain the specified overlap onto both receiving surfaces.
- Form smoothly around the circumference; prevent pleats, tension and open butt joints.

Roll and Inspect

- Pressure roll the entire tape. The warm beige sanded top remains exposed to the future concrete.



BLUE PRESWELL AT REINFORCEMENT

Product Form

- Use blue hydrophilic PRESWELL strip where the approved pile detail calls for waterstop around reinforcement.
- It is a flexible rectangular strip—not a moulded black collar or injection ring.

Install

- Wrap tightly once around the bar at the specified level. Cut ends square and butt join firmly with no gap and no overlap.
- Secure with fine tie wire without cutting or deforming the strip.

Concrete cover

- Maintain the current TDS/project cover; the supplied TDS recommends at least 75 mm concrete cover on all sides.



CONTROL NOTE: Use blue PRESWELL strip with square, butt-jointed ends. Moulded collars require a separate approved specification.

PIPES, SLEEVES & PENETRATIONS

Design before cutting

- Confirm the pipe material, diameter, movement, restraint, annular space and approved detail. Obtain a proprietary detail for for grouped or moving services.

Prepare

- Clean sound pipe and concrete surfaces. Remove release agents, rust scale, laitance and sharp projections.

Membrane Fit

- Cut the smallest controlled opening, dress the sheet without tension and use the approved PREFLEX tape/accessory sequence.
- Any exposed termination to fresh concrete must present a sanded S-Tape face.

Waterstop

- Where PRESWELL is specified, butt join ends and maintain cover; do not bridge a movement joint with a rigid detail.



PILE / PENETRATION HOLD POINT

Pile cap

- Raised geometry correct; concrete/coating sound and cured; field membrane neatly fitted; S-Tape termination continuous and rolled.

Waterstops

- Correct blue PRESWELL product, location and cover; ends square and butt joined; tie wire secure; no overlapped ends.

Penetrations

- Approved detail used; surfaces clean; openings minimal; no unsupported gap, tension, fishmouth or exposed substrate.

Records

- Photograph full geometry and close details before reinforcement congestion prevents inspection.





07

WALL MEMBRANE INSTALLATION

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FLOOR SYSTEM MUST PRECEDE WALLS

Required condition

- The floor field, floor perimeter upturn, grade-beam returns, raised pile-cap transitions and nearby penetrations are complete and accepted.

Visible upturn

- Keep the floor upturn exposed and clean so the wall sheet can overlap it. Do not cut it off at the slab line.

Wall sequence

- Set out vertical sheets, install and close side laps, then form each lower wall sheet into the approved L-shaped return over the floor system.

Corner completion

- Finish the actual three-plane base corner with the approved circular sanded S-Tape patch.



WALL SET-OUT

Survey

- Mark vertical sheet lines, top termination, construction joints, corners, penetrations and the floor-upturn overlap line from approved control.

Plan Laps

- Arrange proprietary selvages so succeeding wall sheets shingle consistently. Keep lap intersections clear of corners and penetrations where possible.

Support

- Confirm the blindside support or wall substrate is continuous, sound and smooth enough for full sheet support and rolling.

Photograph

- Record the full wall-floor area including the existing floor upturn before covering it.



CUTTING, SIZING, & ORIENTATION

Cut

- Measure from approved lines and cut sheets on a clean board. Provide allowance for top termination, side selvedge and the bottom L-return.

Orient

- Present the beige mineral-sanded face toward the future structural wall concrete; place the HDPE backing against the substrate/support.

Protect edges

- Do not contaminate selvedges or tapes with shotcrete dust, mud, oil or fibres. Keep liners in place until final alignment.

Trial fit

- Dry fit complex corners and penetrations before removing any liner or installing permanent restraint.



POSITIONING & APPROVED TOP RESTRAINT

Position

- Align the first sheet plumb and smooth with the floor return allowance resting loose until the wall sheet is fully set.

Temporary Restraint

- Use the approved top/termination fixing method only. Keep fasteners out of the wall-floor lap, side selvedge and future exposed concrete-bonding area unless the detail expressly covers and seals them.

Cover fixings

- Seal every approved fixing or termination with the specified sanded S-Tape detail before the concrete pour.

Reject

- Sagging, bridged sheets, unsupported edges or random washers used as primary lap fastening.



WALL SIDE LAPS

Prepare

- Clean and dry the self-adhesive selvedge and the receiving underside. Confirm the sheets are plumb before exposing adhesive.

Close

- Peel liner progressively from top to bottom while maintaining the full proprietary lap. Prevent wrinkles and diagonal tension.

Roll

- Pressure roll the entire side lap, especially at top and bottom terminations and where wall sheets meet the floor L-return.

Repair Immediately

- Do not conceal a fishmouth, contaminated edge or damaged selvedge behind the next sheet.



WALL-TO-FLOOR L-RETURN

Layer order

- Floor sheet and upturn are installed first. The wall sheet descends over the upturn and turns horizontally as an L-shaped return over the floor field.

Bond

- Use the approved concealed NS Tape arrangement under the covering wall return. Remove liner progressively and pressure roll the full horizontal and vertical transition.

Finished Condition

- The L-return is continuous, flat and sanded on top; the floor upturn is not cut off or left behind the wall without overlap.

No figure-eight

- Do not place a vertical figure-eight patch up the wall or at mid-height.



INTERNAL BASE CORNER – CIRCULAR S PATCH

Location

- Centre one circular PREFLEX 3000 S Tape piece at the actual three-plane base corner after the L-return closed.

Form

- Use the adhesive underside to bridge the approved corner cut/edge. Dress the patch across the corner without pleats or tension.

Concrete Face

- The circular patch's mineral-sanded top remains exposed and continuous with the surrounding sanded membrane.

Roll

- Use a small roller and hand pressure at the center and perimeter. No edge may lift or form a water path.



EXTERNAL CORNERS, T-JUNCTIONS & RETURNS

Template complex details

- Dry fit corner pieces and confirm layer order before exposing any adhesive. Avoid uncontrolled diagonal cuts.

Concealed versus exposed

- Use NS Tape beneath overlapping sheets. Use sanded S Tape only where the finished detail remains exposed to fresh concrete.

Support

- Dress sheets tightly over prepared arrises and coves without bridging. Provide project-approved profiling where the geometry cannot support the membrane.

Intersections

- Obtain an approved detail where wall corners coincide with construction joints, penetrations, pile caps or grade beams.



WALL TERMINATION & HOLD POINT

Termination

- Finish the top and ends at the approved line. Cover approved restraint with sanded S Tape or the specified termination accessory.

Continuity

- Wall sheets plumb and supported; side laps closed; bottom L-return overlaps the complete floor upturn; base corners have circular S patches.

Condition

- Sanded face clean and exposed to future concrete; no black/ reversed sheet, loose liner, figure-eight patch, open relief cut or exposed NS Tape.

Record

- Photograph full elevations, every termination, corner, penetration and wall-floor return before reinforcement or formwork blocks access.





08

INSPECTION, REPAIR & PROTECTION

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FULL SYSTEM INSPECTION BEFORE REPAIR

Clean first

- Remove loose debris and standing water so punctures, cuts, contamination, lifted edges and unbonded laps can be seen.

Inspect systematically

- Walk grid by grid: floor field, side/end laps, grade beams, pile caps, penetrations, perimeter upturn, wall laps, L-returns, corners and terminations.

Mark defects

- Use removable non-contaminating markers. Record type, size, location, cause and repair method before work begins.

Do not install steel yet

- Complete and accept all accessible membrane repairs before reinforcement placement.



SMALL DAMAGE – 12MM OR LESS

Prepare

- Clean and dry the membrane around the puncture. Remove loose sand or sharp debris without enlarging the damage.

Repair

- Apply PREFLEX 3000 S Tape centred over the damage with adequate sound bond area around the full perimeter.
- The adhesive underside bonds to the membrane and the sanded top remains exposed to fresh concrete.

Roll

- Pressure roll from the centre outward and confirm no wrinkle, void or lifted edge remains.

Escalate

- Treat tears, irregular cuts, contaminated areas or damage greater than 12 mm as a large repair.



LARGE DAMAGE – CUT THE PATCH

Classify

- For holes or punctures greater than 12 mm, remove sharp loose material and define the full damaged/contaminated zone.

Patch Size

- Cut a PREFLEX 3000 membrane patch extending at least 150mm beyond the damage in every direction.
- Round patch corners where practicable to reduce peel points.

Orientation

- The patch's warm beige sanded face is on top toward future concrete. Do not install a smooth/reversed patch.

Trial fit

- Dry fit and mark the perimeter before applying any concealed adhesive or removing liner.



LARGE REPAIR – CONCEALED PATCH BOND

Back of Patch

- Apply PREFLEX 3000 NS double-sided tape to the patch underside in the approved arrangement so the repair sheet bonds completely to the clean existing membrane.

No fasteners

- Do not use screws, nails or washers to hold a repair patch. Do not leave NS Tape exposed beyond the patch edge.

Prepare receiving area

- Clean and dry the full bond zone. Remove standing water, dirt, oil and loose material; replace membrane if a sound bond cannot be achieved.

Liner

- Keep release liner in place until final patch alignment, then peel progressively while closing the patch.



LARGE REPAIR – PLACE, SEAL & ROLL

Place

- Position the patch without trapping air or liner. Press from the centre outward so the complete underside bonds.

Seal exposed edges

- Seal the patch perimeter with PREFLEX 3000 S Tape as required by the current repair method. Keep the sanded top exposed to fresh concrete.

Roll

- Pressure roll the patch and every sealed edge in multiple directions. Confirm the 150 mm extension remains intact around the damage.

Record

- Photograph the damage, prepared area, patch size, concealed bond and finished repair; update the repair register.



PROTECTION & REINFORCEMENT PLACEMENT

Before Steel

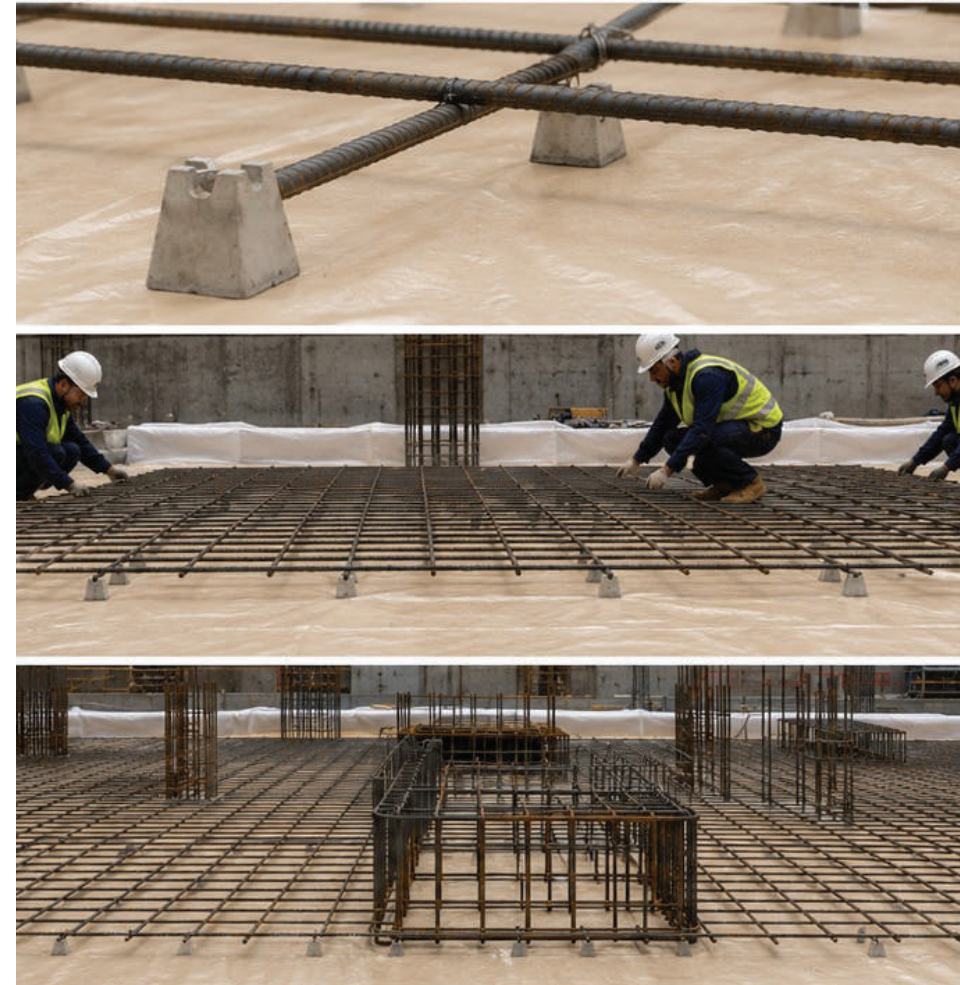
- Accept all membrane repairs and install protected access routes. Use approved protection/sacrificial layers beneath storage and high-traffic areas.

Place Reinforcements

- Lift and place bars, chairs and cages; do not drag them across the sanded face. Use compatible chairs and bearing pads required by the project.
- Control tie-wire ends, welding/grinding sparks, dropped bars and sharp tools.

Maintain Details

- Do not displace PRESWELL, pile-cap terminations, wall L-returns or perimeter upturns. Keep concrete cover and reinforcement clearance.



POST-STEEL & PRE-POUR RELEASE

Reinspect after Reinforcement

- Inspect beneath accessible cages, around chairs, pile bars, penetrations, wall starters, grade beams, access routes and material-storage areas.
- Repair all new damage using the same classified repair method and re-record it.

Concrete-readiness

- Remove debris, loose wire, liner, standing water, oil and incompatible protection. Confirm sanded faces remain exposed and bondable.

Release

- Waterproofing supervisor signs the post-steel inspection and pre-pour checklist. No concrete placement is permitted before sign-off.



CONTROL NOTE: Repair is deliberately positioned near the end of this manual, immediately before protection, steel and final pre-pour release.

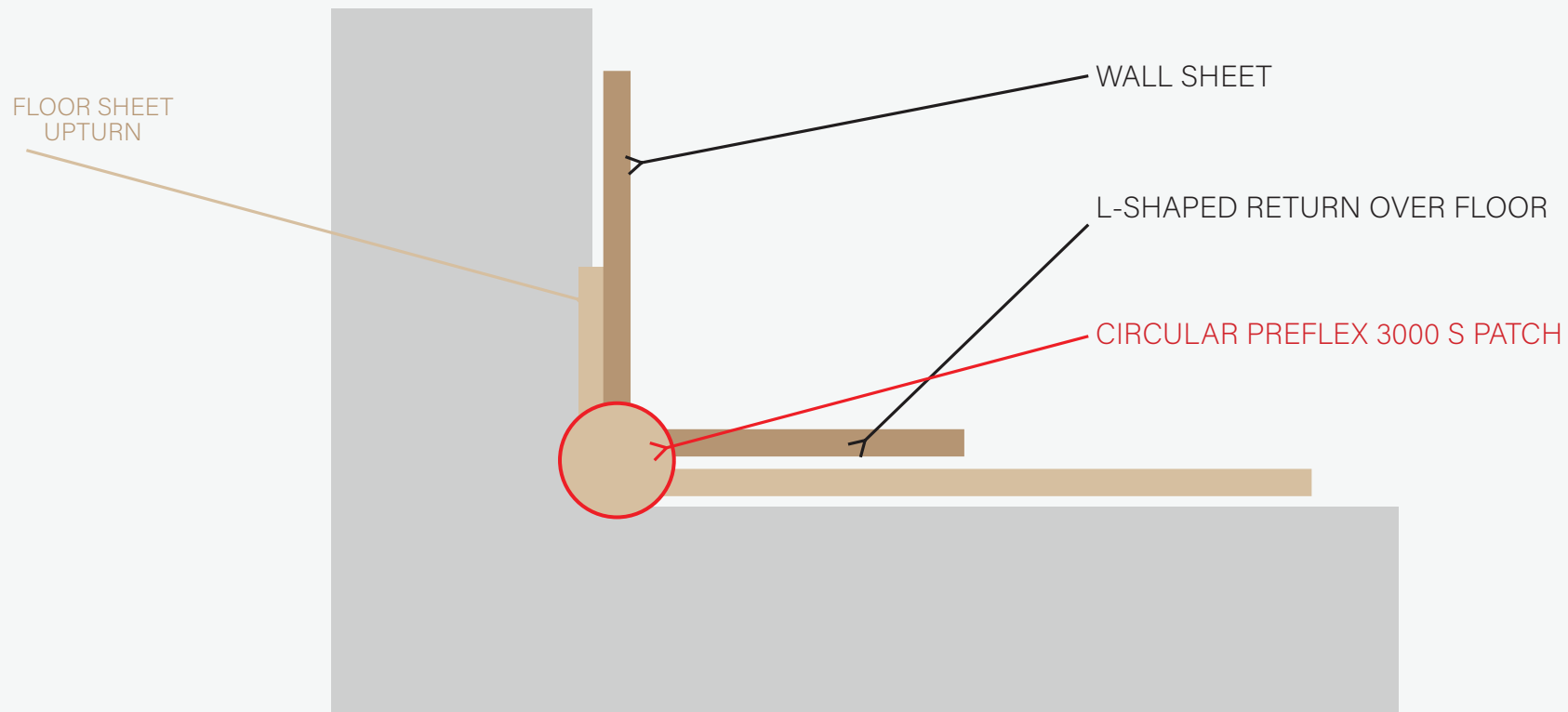


09

CONTROLLED DETAILS

D-01 WALL-FLOOR CONTINUITY

Floor membrane first • wall sheet L-return over floor • circular S-Tape corner patch

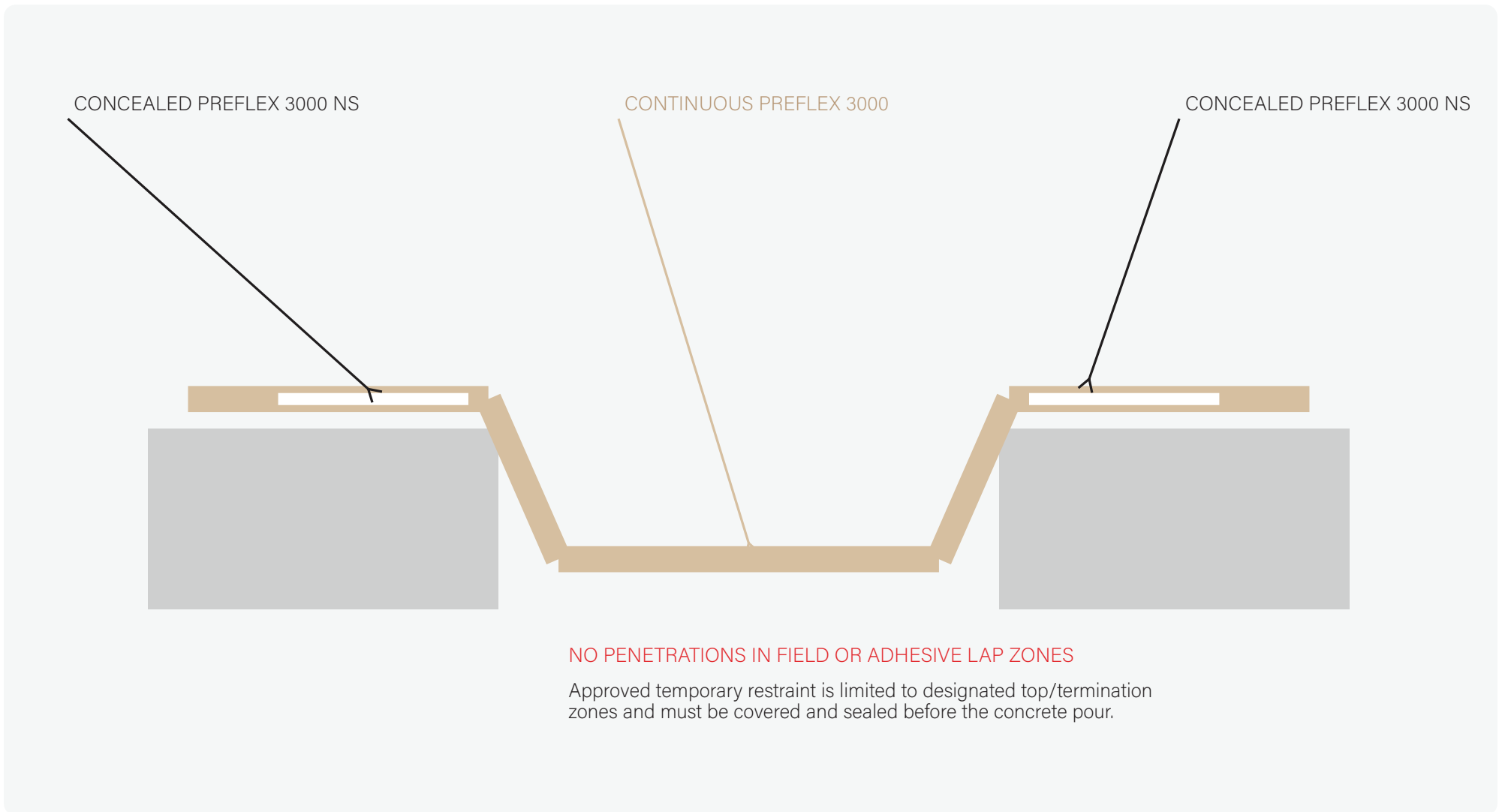


INSTALLATION RULE

Do not use a vertical figure-eight patch. Keep all exposed termination surfaces sanded so fresh concrete can bond.

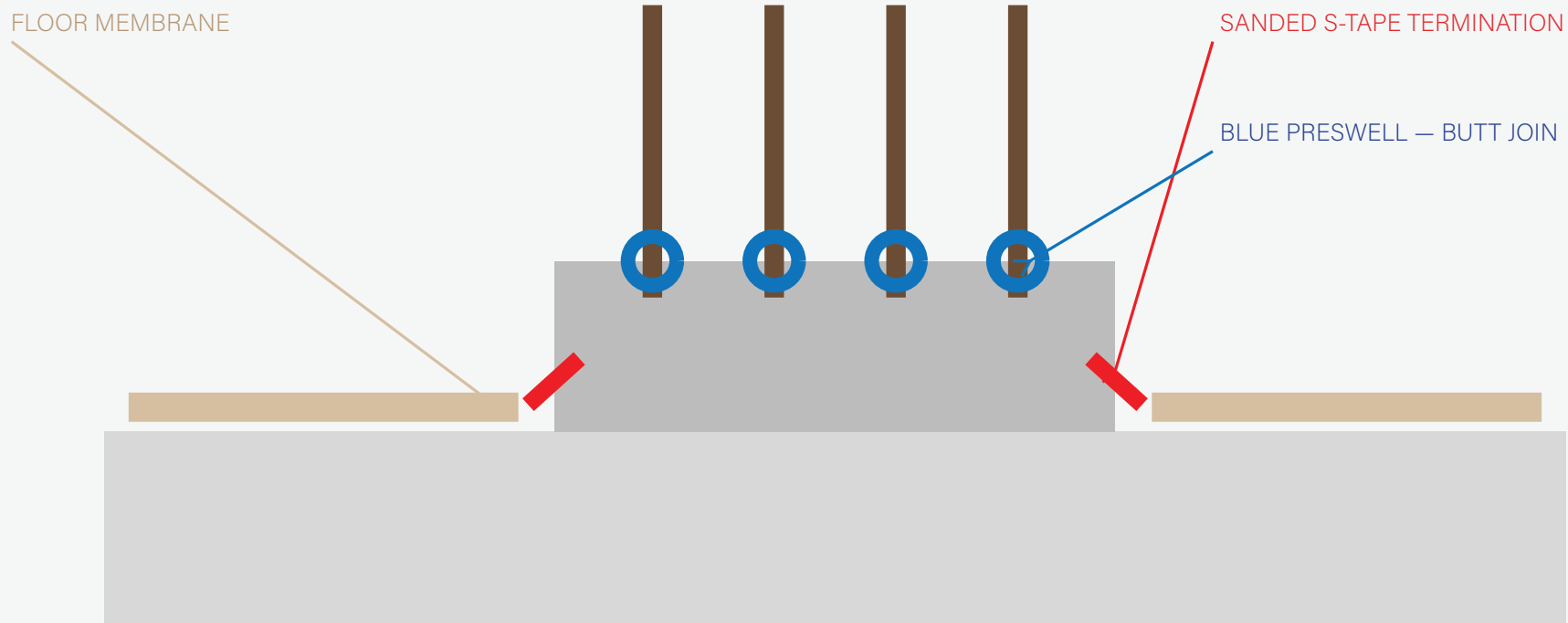
D-02 GRADE BEAM LINING

Continuing formed sheet • concealed NS Tape • sanded face to structural concrete



D-03 RAISED PILE-CAP TRANSITION

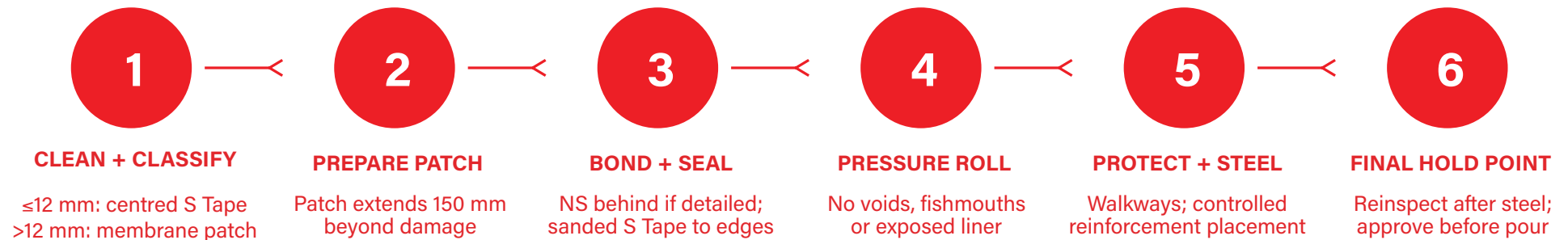
Pile cap remains proud • prepared coating system • S-Tape termination • blue PRESSWELL



Maintain the concrete cover required by the current PRESSWELL TDS and the project detail.
Do not depict or substitute moulded collars unless separately specified.

D-04 REPAIR AND PRE-POUR RELEASE

Repair after membrane installation • protect before steel • inspect again after steel



RELEASE CONDITION

No concrete placement until the waterproofing supervisor accepts the full system, including laps, details, repairs, protection and post-reinforcement condition.

SYSTEM COMPLETION REQUIREMENTS

Concrete placement

- Place concrete without dragging pump lines, reinforcement or sharp tools across the membrane. Do not use sharp objects against the sheet during consolidation.
- Control the pour so reinforcement, waterstops, terminations and wall-floor returns are not displaced.

Final records

- Approved substrate, first-sheet, lap, detail, repair, pre-steel, post-steel and pre-pour records complete with photographs and locations.
- Product batches, weather, exposure duration, non-conformances and written technical clarifications filed with the handover documentation.

Release status

- These generic details remain subject to current approved project drawings, current FORSPEC TDS/SDS and written project-specific advice.

System outcome

- Correct orientation, continuous laps, sanded exposed terminations and an intact pre-pour membrane create the fully bonded waterproofing barrier.



CONTROL NOTE: Technical review issue: verify drawing revision, product availability and project-specific details before construction release.