// METHOD STATEMENT · ROOFS

Torch-Applied Membrane Roof Waterproofing

PetroGrip APP / SBS modified bitumen membranes on concrete roof slabs

DOCUMENT	REVISION	ISSUE DATE	SYSTEM
PS-MS-01	Rev 01	04 Nov 2026	PetroGrip APP / SBS

1. Purpose & scope

This method statement covers waterproofing of concrete roof slabs, terraces and podiums with PetroGrip APP or SBS torch-applied membranes. It includes single-ply and two-ply systems, upstands, outlets, penetrations, flood testing and protection.

APP is normally used as the exposed cap sheet on hot, UV-exposed roofs. SBS is used where more flexibility is required. Plain PE-film finishes must be covered by screed, tiles, gravel or insulation and ballast. Use aluminium or mineral-surfaced cap sheets where the membrane stays exposed.

2. Reference documents

- PetroGrip APP Polyester Fiberglass Membrane TDS
- PetroGrip SBS Waterproofing Membrane TDS
- Petroseal bituminous primer product data
- Project drawings, roof falls layout and waterproofing details

3. Responsibilities

ROLE	RESPONSIBILITY
Project manager	Approves this method statement, schedules work and provides access.
Site supervisor	Briefs crews, controls the hot works permit, checks each stage before cover-up.
QA/QC inspector	Runs the inspection and test plan, signs hold points, keeps records.
Applicator crew	Installs to this method statement. Reports any substrate defect before starting.
Petroseal technical	Advises on product selection and details. Site visits as agreed.

4. Materials

- PetroGrip APP or SBS membrane, thickness and surfacing as specified (e.g. 3 mm or 4 mm; plain, aluminium or mineral)
- Bituminous primer, applied at the coverage on the primer product data
- Cement-sand mortar for 50 × 50 mm angle fillets
- Termination bar and compatible bitumen mastic / sealant
- Outlet collars and pre-formed or cut reinforcement patches

5. Tools & equipment

- LPG cylinders, regulators, hoses and roofing torches
- Wire brushes, scrapers, grinder, industrial vacuum / blower
- Rollers, brushes for primer
- Hook knife, trowel, lap roller, measuring tape, chalk line
- Lap probe (blunt steel tool)
- Fire extinguishers, first-aid kit
- Moisture meter

- Protection: screed, tiles, insulation and ballast as designed

6. Health, safety & environment

- Hot works permit issued before any torch is lit. Keep a hot works log for every shift.
- Dry powder fire extinguisher (min 6 kg) at each torch crew. Fire watch for at least 60 minutes after the last torch is extinguished.
- LPG cylinders upright, secured, and at least 3 m from the flame. Check regulators, hoses and connections with soapy water before each shift. Close cylinder valves during breaks.
- Never direct flame at timber, insulation, plastic pipes, cables, XPS boards or under lifted flashings. Use self-adhesive membrane where flame is not allowed.
- PPE: safety boots, heat-resistant gloves, long sleeves, safety glasses. Fall arrest or edge protection where work is within 2 m of an unprotected edge.
- Primer is solvent-based: no smoking or flame until the primer is dry and vapours have cleared.

7. Conditions before starting

- Roof slab cured at least 28 days, or as approved by the engineer.
- Falls checked to outlets with no ponding (design falls, typically not flatter than 1:80).
- Surface dry: no work in rain, on dew-wet surfaces, or when rain is forecast before laps can be completed.
- All penetrations, upstands, parapets, outlets and equipment bases built before membrane work starts.
- Materials checked against the approved submittal: product, thickness, surfacing, batch number.

8. Substrate preparation

1. Remove laitance, mortar droppings, sharp projections and loose material. Grind high spots.
2. Repair honeycombing, cracks wider than 1 mm and holes with cement-sand or polymer repair mortar. Allow to cure.
3. Form 50 × 50 mm cement-sand angle fillets at all slab-to-upstand junctions.
4. Round external corners. Chase a 25 × 25 mm reglet (groove) for terminations where specified.
5. Clean the whole surface with brush and blower immediately before priming.

9. Priming

1. Apply bituminous primer by roller or brush in one even coat over the slab, fillets and upstands at the coverage stated on the primer TDS.
2. Allow the primer to dry until it is no longer tacky (typically several hours; time per primer TDS). Do not torch onto wet primer.
3. Prime only the area that will be covered with membrane the same day or the next day.

10. Detailing (before field membrane)

1. Outlets: torch a reinforcement patch (min 500 × 500 mm) around each outlet, dressed into the outlet bowl. Fit the outlet clamping ring or collar over the field sheet later.
2. Pipe penetrations: fit a pre-formed sleeve or cut collar. Seal the top with a clamp and mastic.
3. Internal and external corners: torch reinforcement strips (min 300 mm wide) centred on the fillet.

11. Field membrane installation

1. Set out rolls starting at the lowest point (outlets), so laps shed water like roof tiles.
2. Unroll and align each roll dry, then re-roll from both ends toward the centre.
3. Torch the underside of the roll and the primed substrate evenly while unrolling, until the PE film shrinks and the bitumen is glossy. Do not overheat or burn through the reinforcement.

4. Side laps minimum 100 mm. End laps minimum 150 mm. Stagger end laps of adjacent rolls by at least 300 mm so four-way junctions never occur.
5. Cut a 45° corner at T-junctions on the middle sheet before overlapping.
6. Press laps with a lap roller or trowel immediately after heating to obtain a continuous bleed bead.
7. Two-ply systems: torch the cap ply fully bonded to the base ply, offsetting laps by half a roll width (about 500 mm).

> Lap welds are correct when a continuous bead of molten bitumen (about 5–10 mm) bleeds out along the whole lap edge. A missing bead means a cold lap: re-heat and re-press. Never smear mastic over a cold lap.

12. Upstands and terminations

1. Carry the membrane up all upstands to at least 150 mm above finished roof level (above screed / tiles, not above the slab).
2. Use a separate upstand strip lapped at least 150 mm onto the field membrane.
3. Fix the top edge into the reglet or under a termination bar, and seal with mastic. Protect with a flashing, cement plaster or coping as detailed.

13. Flood test

1. Plug outlets and flood the roof to about 50 mm depth at the highest point. Hold for at least 48 hours, unless the specification says otherwise.
2. Check soffits and walls below for damp patches. Mark the water level at start and finish.
3. Repair any leak, then re-test the affected area.

14. Protection and finishing

1. Plain-finish membranes: lay a separation layer (PE sheet or geotextile), then screed, tiles or ballast as designed, without delay.
2. Do not drop tools or materials on the membrane. Keep wheelbarrows on boards.
3. Exposed aluminium / mineral cap sheets: inspect for scuffs and patch with a torched patch of the same membrane.

15. Inspection & test plan (hold points)

#	STAGE	CHECK	ACCEPTANCE	RECORD
01	Substrate	Cure age, falls, dryness, fillets, repairs	No ponding, dry, sound, fillets formed	Inspection checklist + photos
02	Materials	Product, thickness, batch vs submittal	Matches approved submittal	Delivery note, roll labels photo
03	Primer	Full coverage, dry before torching	No bare areas, not tacky	Daily log
04	Laps	Lap probe all side / end laps	Continuous bleed bead, no open laps	Lap probe sheet (marked plan)
05	Upstands	Height, termination, sealing	≥ 150 mm above finished level, terminated	Photos
06	Flood test	Leakage over test period	No leaks, level drop explained by evaporation only	Flood test report, signed
07	Protection	Separation and protection laid	Membrane covered, undamaged	Photos before cover-up

16. Common defects to avoid

- Cold laps without a bleed bead, or mastic smeared over a cold lap
- Torching onto wet primer or a damp deck (blisters later)
- Upstands terminated at slab level, below the finished screed

- Four-way lap junctions and fish-mouths at T-junctions
- Plain PE-finish membrane left exposed to sun
- Damage from following trades before protection is placed

17. Handover records

- As-built sketch showing roll layout, lap positions and details at outlets
- Product batch numbers, delivery notes and primer records
- Lap probe record and inspection checklists
- Signed flood test report
- Photo record of each stage before cover-up
- Warranty certificate as per contract terms

PREPARED BY	CHECKED BY (QA/QC)	APPROVED BY (CONSULTANT)
Name / signature / date	Name / signature / date	Name / signature / date

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