FORSPEC PROTECTIVE COATINGS

ACTFLEX 5000S.



Technical Data Sheet | **Pre-Applied Self-Adhesive Butyl Rubber Membrane with Reactive Sand Bonding Layer** | **Issue date: 9 November 2026**

Description

ACTFLEX 5000S is a self-adhesive butyl rubber sheet membrane engineered for critical below-ground and structural waterproofing where the topping slab must bond to the membrane rather than merely rest on it. The defining feature is the top layer of thermal-chemical reactive sand: on contact with fresh concrete or heated mortar it activates and forms a chemical bond between the topping material and the membrane itself, developing shear stress capacity at the interface of approximately 1.0 to 1.5 MPa.

That fused interface is what prevents lateral water migration between membrane and slab — the failure mode that defeats conventional loose-laid pre-applied systems. Used as a pre-applied membrane on substrates with minimal negative pressure, it remains impermeable at 0.6 MPa for 120 minutes and resists inter-layer water movement at 0.8 MPa across a 35 mm gradient. Durable and flexible enough to resist cracking and substrate movement, it installs peel-and-stick on vertical and horizontal surfaces with no torching and no site adhesives.

Advantages

- Thermal-chemical reactive sand top layer chemically fuses the membrane to the poured topping slab.
- Bond interface shear stress capacity of approximately 1.0–1.5 MPa to the topping slab.
- Prevents lateral water migration between membrane and slab — impermeable at 0.8 MPa across a 35 mm hydraulic gradient.
- Self-adhesive butyl rubber — no torching and no site adhesives required.
- Pre-applied installation on substrates with minimal negative pressure.
- Impermeable for 120 minutes at 0.6 MPa.
- Durable and flexible — resists cracking and substrate movement.
- Low temperature flexible to −25°C with no cracking, and heat resistant with slippage of 2 mm or less at 80°C.
- Suitable for vertical and horizontal surfaces, and compatible with structural slabs, precast panels and blockwork.
- Fast, clean peel-and-stick installation.

Uses

- Basement walls and floors.
- Retaining walls and foundation walls.
- Lift pits and below-ground tanks.
- Tunnels and podium slabs.
- Raft slabs.
- Pre-applied membrane installation on slabs and substrates with minimal negative pressure.
- Under concrete toppings and screeds where chemical adhesion to the membrane is required.
- Bonded topping slabs requiring chemical integration with the waterproofing layer.
- External wet areas, non-exposed.

Compliance Status

ACTFLEX 5000S is a pre-applied sheet membrane. Its performance values are FORSPEC R&D results, tested to the methods of GB/T 23457 for pre-applied waterproofing sheet. They are typical values and are asterisked.

STANDARD / TEST	STATUS	REFERENCE
Impermeability and hydraulic gradient resistance	FORSPEC R&D result	GB/T 23457 *
Bond interface shear capacity to topping slab	FORSPEC R&D result	FORSPEC R&D *

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Technical Data

All values are FORSPEC R&D results to the test standard shown in the Basis column, and are asterisked. The bond interface shear capacity is a FORSPEC R&D in-house test.

PROPERTY	VALUE	BASIS
Product type	Self-adhesive butyl rubber sheet membrane with thermal-chemical reactive sand top layer	—
Tensile strength	≥ 600 N/50 mm	GB/T 23457 *
Elongation at break	≥ 150%	GB/T 23457 *
Stretching behaviour	No separation between adhesive layer and polymer film	GB/T 23457 *
Nail shank tear strength	≥ 300 N	GB/T 23457 *
Puncture resistance	≥ 200 N	GB/T 23457 *
Impact resistance	0.5 kg·m — no seepage	GB/T 23457 *
Resistance to static loading	20 kg — no seepage	GB/T 23457 *
Heat resistance (80°C, 2 hours)	Slippage ≤ 2 mm	GB/T 23457 *
Low temperature flexibility	−25°C, no cracking	GB/T 23457 *
Oil permeability	≤ 2 sheets	GB/T 23457 *
Impermeability	Impermeable for 120 minutes at 0.6 MPa	GB/T 23457 *
Resistance to water movement between layers	Impermeable for 120 minutes at 0.8 MPa across a 35 mm hydraulic gradient	GB/T 23457 *
Peel strength, membrane to membrane at overlap	≥ 1.5 N/mm untreated; ≥ 1.0 N/mm after immersion, contamination, UV or heat treatment	GB/T 23457 *
Peel strength to concrete, bottom surface	≥ 1.5 N/mm untreated; ≥ 1.0 N/mm after heat treatment	GB/T 23457 *
Peel strength to concrete after immersion	≥ 1.0 N/mm top surface; ≥ 1.0 N/mm bottom surface	GB/T 23457 *
Heat ageing (80°C, 168 hours)	Tension retention ≥ 90%; elongation retention ≥ 80%; flexible at −23°C, no cracking	GB/T 23457 *
Dimensional change rate	± 1.5%	GB/T 23457 *
Bond interface — reactive sand top layer to topping slab	Shear stress capacity approx. 1.0–1.5 MPa	FORSPEC R&D *
Minimum overlap	75 mm side and end laps *	*
Roll dimensions	To current pack schedule *	*
Shelf life	24 months, unopened, stored dry and shaded *	*

* Typical R&D characteristic values, not for engineering design without written FORSPEC confirmation.

Coverage and Yield

MEASURE	VALUE	BASIS
Nett coverage per roll	Roll area less lap allowance *	Deduct 75 mm on every side and end lap
Lap allowance	Approx. 10% of gross roll area *	75 mm laps on a typical bay layout

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Coverage and Yield (continued)

MEASURE	VALUE	BASIS
Wastage allowance	Approx. 10% *	Cutting, corners, penetrations and terminations
Take-off basis	Measured area plus upturns, plus 20% for laps and wastage *	Standard sheet membrane take-off
Detail strip allowance	300 mm strip at every internal corner and penetration *	R&D typical

Quantity take-offs must allow for floor upturns, wall sheet height, detail strips, penetration collars and approximately 10% wastage in addition to the lap allowance. * Typical R&D characteristic values, not for engineering design without written FORSPEC confirmation.

Limitations

- Non-exposed applications only — ACTFLEX 5000S must be covered by the topping slab, protection, backfill or finish and must not be left permanently exposed to UV.
- Pre-applied use is limited to substrates with minimal negative pressure — confirm the groundwater regime and negative head with the project engineer before specifying.
- The reactive sand surface must be kept clean and dry before the pour — contamination, ponded water, mud or trafficking will prevent the chemical bond from forming.
- Do not prime, coat or cover the reactive sand surface with any product before the topping is poured.
- Not a substitute for structural crack repair — active and structural cracks must be treated before the membrane is laid.
- Do not install over frosted substrates, standing water, or substrates with sharp projections.
- Laps must be rolled and inspected — an unrolled lap is not a sealed lap.
- Not for use as an exposed trafficable surface.
- Confirm compatibility with a FORSPEC technical representative before use with any third-party primer, adhesive or membrane.

Surface Preparation

- Confirm the substrate is structurally sound, clean, dry and free of laitance, dust, oil, grease, curing compounds, release agents and all bond-inhibiting contaminants.
- Concrete must be fully cured — a minimum of 28 days — and free of standing water and frost.
- Remove all high points, fins, sharp projections and protruding fixings that could puncture the membrane, and grind back honeycombing.
- Reinstate blowholes, voids, spalls and defects with a FORSPEC concrete repair system such as FORBUILD 100 or FORCRETE 100, finished flush and cured.
- Form all internal corners and floor-to-wall junctions as a smooth cove or fillet before the membrane is laid — a sharp internal angle will bridge and tent.
- Confirm the substrate falls and drainage are set out and correct before covering.
- Vacuum the area thoroughly immediately before installation.

Application and Film Build

- Confirm substrate preparation is complete and the surface is dry and free of standing water.
- Set out the sheet layout with the reactive sand face UPWARDS, ready to receive the topping pour.
- Position and align the sheet dry, then peel the release liner progressively and bed the membrane from one edge, working it into full contact as it lands to exclude air. Never drop the sheet flat.
- Consolidate the full bonded area with a weighted or hand pressure roller.
- Overlap all side and end laps by a minimum of 75 mm and roller every lap firmly along its full length.
- Detail internal corners, floor-to-wall junctions and penetrations with a separate detail strip before the main sheet is laid, and roller it into both planes.
- Protect the installed membrane from site traffic, mud, ponded water and contamination until the pour — the reactive sand surface must be clean and dry for the chemical bond to develop.
- Inspect every lap, corner and penetration for lifting, fishmouths, wrinkles and trapped air, and cut out and re-detail any defect before the pour.
- Obtain pre-pour release from the site inspection before concrete is placed.

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Application and Film Build (continued)

- Place the topping concrete or heated mortar directly onto the reactive sand surface — the bond forms on contact.

Drying, Curing and Testing Times

All times below are measured at 25°C and 50% RH. Low temperature, high humidity, poor ventilation and substrate porosity extend every stage — verify the primer is fully dry on site before overcoating.

STAGE (AT 25°C, 50% RH)	TIME
Adhesion to substrate	Immediate on pressure rolling — no cure period *
Lap inspection and probe test	Immediately after rolling, before the pour
Pre-pour inspection and release	Before any concrete is placed
Chemical bond development at the reactive sand interface	On contact with fresh concrete or heated mortar
Full bond interface shear capacity	After the topping slab reaches design strength *
Maximum exposure before pouring	Cover promptly and protect from contamination — not UV stable *

* Typical R&D characteristic values, not for engineering design without written FORSPEC confirmation.

Clean Up

Remove offcuts, release liner and packaging immediately and keep the work area clear. Tools require no solvent cleaning. Where a primer, adhesive or liquid membrane has been used alongside the sheet, clean tools according to that product Technical Data Sheet while the material remains wet.

Container and Waste Disposal

Dispose of offcuts, release liner, cores and packaging as general construction waste in accordance with State and local requirements. Do not discharge primer or membrane residues into drains, soil or waterways. Refer to Section 13 of the SDS of any primer or liquid product used with the sheet.

Quality Records

Record the batch numbers and roll identifiers of all ACTFLEX 5000S used, substrate preparation method, sheet layout and orientation of the reactive sand face, lap widths achieved, pressure-rolling confirmation, corner and penetration detailing, protection method and duration before the pour, the condition of the reactive sand surface at pre-pour inspection, pre-pour release sign-off, the date and time of the topping pour, and inspection results, as part of the project quality assurance records.

Storage

Store rolls upright on their cores in original packaging in a cool, dry, covered environment, protected from direct sunlight, heat, moisture and point loading. Do not stack rolls beyond the manufacturer stacking limit. Shelf life: 24 months from the date of manufacture, unopened, when stored as specified.*

Safety Precautions and First Aid

Refer to the current Safety Data Sheet before use. The product is supplied in a cured, non-reactive form and is not classified as hazardous in normal handling. The principal hazards in installation arise from cutting tools, from working at height and in confined below-ground spaces, and from the primers, adhesives and membranes used alongside it. Wear protective gloves, eye protection and protective clothing. Use a sharp blade with a cutting board and cut away from the body. Where work is below ground or in a confined

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Safety Precautions and First Aid (continued)

space, apply the site confined-space entry procedure — test the atmosphere, provide mechanical ventilation and maintain a standby observer. Do not eat, drink or smoke when handling; wash hands before breaks and after work.

First aid — Eyes: rinse cautiously with water for several minutes; remove contact lenses if easy to do; continue rinsing and seek medical attention if irritation persists. Skin: wash with soap and water; for primer or membrane contact follow the first aid directions in that product SDS. Inhaled: move to fresh air and keep comfortable. Swallowed: rinse mouth and seek medical advice. Cuts from cutting tools: clean the wound, apply a dressing and seek medical attention where the wound is deep or contaminated. POISONS INFORMATION CENTRE: 13 11 26 (Australia-wide, 24 hours). In an emergency, dial 000. KEEP OUT OF REACH OF CHILDREN. Read the Safety Data Sheet (SDS) before use — available at www.forspec.com.au.

Warranty

Standard Product and Performance Warranty: Forspec Protective Coatings Pty Ltd as Trustee for Forspec Protective Coatings (ABN 11 204 033 631) warrants that ACTFLEX 5000S will be free from manufacturing defects and will not fail under normal usage for a period of ten (10) years from the date of purchase, when installed and used strictly in accordance with this Technical Data Sheet and Forspec's written instructions. This warranty covers the supply of the product only; it does not cover installation, application or workmanship. Remedies are limited, at Forspec's discretion, to replacement of the defective product (or defective portion) or a refund of the purchase price. The full terms, conditions and exclusions are set out in the Forspec Standard Product and Performance Warranty, available at www.forspec.com.au — key conditions include application by a suitably qualified and, where required by law, licensed applicator; use within shelf life; and installation as part of a Forspec approved system without non-approved third-party products.

Project and system warranties: extended project-specific warranties are available at the request of the applicator and must be applied for using the Forspec Warranty Request Form prior to commencement of works. Issue is subject to Forspec approval and is conditional on the use of the complete specified FORSPEC system, application in strict accordance with the current TDS by suitably qualified applicators, and completion of the project quality records described above. The warranty period and terms are as stated in the issued warranty certificate.

Claims: notify Forspec in writing within thirty (30) days of discovery of the alleged defect and within the warranty period, by post to 22/872 Canterbury Road, Roselands NSW 2196 or by email to info@forspec.com.au, including proof of purchase, installation details (date, location, installer), a description of the defect with supporting evidence, and your contact details. Forspec may inspect the site, perform testing and collect samples before determining a claim.

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Data Sheet Currency

This Technical Data Sheet (TDS) and the corresponding Safety Data Sheet (SDS) are subject to revision as necessary to ensure compliance with relevant Australian Standards and to incorporate technological advancement. Read the most current versions before use, as application and performance data may be updated. For the latest technical information, contact Forspec Protective Coatings on (02) 8021 3517 or info@forspec.com.au. The information provided is representative and does not serve as a comprehensive specification. For specific projects, consult directly with Forspec Protective Coatings for tailored specifications. This data sheet was issued on 09/11/2026 and is valid for three years from the date of issue unless superseded by a later revision — always confirm the current version at www.forspec.com.au before use.

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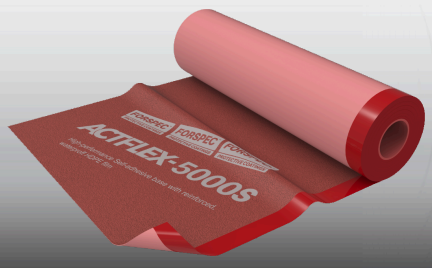
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