ACTFLEX 900S.

Technical Data Sheet SELF ADHESIVE EPDM SHEET MEMBRANE

Description

ACTFLEX 900S Self-Adhesive Fleece Back and Front EPDM Roll, a versatile solution designed to meet your waterproofing needs with ease and efficiency. This 1m x 20m roll boasts a self-adhesive fleece backing, ensuring quick and secure installation without the need for additional adhesives, making it ideal for direct stick tiles applications. With its front EPDM layer, it offers exceptional resistance to weathering, UV exposure, and chemical degradation, ensuring long-lasting performance in various environmental conditions. Featuring a 60mm overlap requirement that must be welded to the overlapping sheet, this EPDM roll provides enhanced protection against water ingress and ensures seamless integration between adjacent sheets. Whether you're waterproofing roofs, decks, balconies, or below-grade areas or seeking under-tile waterproofing.

	Colour	Packaging
Self-Adhesive Weldable Membrane	Grey, fabric	1m x 20m x 1.2mm

Standards Compliance

- Compliance with AS4654 and AS4858 standards ensures quality and reliability.
- Compliant with AS2904 for Damp-proof Course and Flashings, providing versatility in waterproofing applications.

ACTFLEX 900S is suitable for the following applications:

- ACTFLEX 900S offers versatility for internal and external applications, including under adhered tiled surfaces, raised pavers, and decking systems.
- Ideal for a variety of substrates such as concrete, brick, plywood, CFC sheet, timber, and paper-faced plasterboard.
- Provides reliable waterproofing solutions for critical areas such as external corners, pipe penetrations, and drainage waste outlets.
- Compatible with various accessories and systems, offering flexibility in waterproofing designs.
- Ensures peace of mind in diverse environments, protecting against water ingress and damage.
- Facilitates quick and efficient installation with its self-adhesive properties, reducing labour time and costs.
- Offers excellent flexibility and elongation, accommodating structural movements without compromising integrity.
- Manufactured with high-quality EPDM material, ensuring consistent performance and reliability.
- Can be installed in conjunction with green roof systems to enhance sustainability and environmental performance.
- Suitable for use in areas prone to chemical exposure, providing robust protection against corrosive substances.
- Compatible with FORSPEC Waterproofing systems such as ACTFLEX 988 CWP, ACTFLEX EP250, ACTFLEX 906 WPU, and ACTFLEX 101 UV, providing versatility and flexibility in waterproofing designs.
- Suitable for both new construction and renovation projects, providing versatile solutions for different scenarios.

Advantages

- Enhanced Adhesion: The self-adhesive feature eliminates the need for additional bonding agents, ensuring easy and secure installation directly onto various substrates.
- Versatile Application: Suitable for direct stick tiles and pedestal systems, providing flexibility for different tiling methods and designs.
- Seamless Integration: The fabric on both top and bottom surfaces ensures excellent adhesion to the substrate and the tile adhesive, resulting in a seamless and robust bond
- Durability: The EPDM material offers exceptional resistance to tearing, cracking, and abrasion, ensuring long-term durability even in high-traffic areas.

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- Waterproofing Properties: Acts as an effective waterproofing membrane, preventing water ingress and protecting the underlying structure from moisture damage.
- Compatibility with Renders: Compatible with various rendering materials such as acrylic or polymer renders, allowing for easy application directly onto the membrane surface.
- Quick Installation: The self-adhesive nature and fabric reinforcement streamline the installation process, saving time and labor on the job site.
- Longevity: Provides a reliable and long-lasting waterproofing solution, minimizing the risk of leaks and water damage over time.
- Adaptable: Suitable for both new construction and renovation projects, offering versatility in application and design options.

ACTFLEX 925 SFPU PROPERTIES

Membrane Classification	Class 11	**No Fatigue Cracking**	Pass
Colour	Grey	**Peel Strength (N/mm)**	1.2
Breaking tensile strength (MPa)≥	7.5	**Tack free time at 25°C 50% RH**	12 Hours in an Aerated Area
Elongation at break % ≥	450	**Full cure time at 25°C 50% RH**	24 Hours
Tear Strength kN/m ≥	25	**Application temperature**	10 - 35°C
Low temperature bending	-40°C No Crack	**Appearance**	EPDM Sheet Membrane
Impermeability, 0.3Mpa, 30 minutes	No Leakage	**Size**	1m x 20m
Shore Hardness A	65	**Thickness**	1.2mm
		Shelf Life	36 months in unopened containers

Chemical Resistance

ACTFLEX 925 SFPU is resistant to a wide range of, alkalis, waterborne salts, household detergents and household bleach-based cleaning products and is resistant to biodegradation.

Application Instructions

Internal wet areas should be waterproofed in accordance with AS3740. External wet areas should be waterproofed in accordance with AS4654. ACTFLEX 925 SFPU must be applied to totally dry surfaces. Use a moisture reading if doubt exists.

Limitations

- ACTFLEX 900S self-adhesive EPDM sheet membrane may have temperature limitations, making it unsuitable for extreme temperature environments.
- Surface preparation requirements: Proper surface preparation is crucial for the adhesion of the membrane, and deviations from recommended procedures may affect performance.
- Compatibility concerns: It may not be compatible with certain substrates or coatings, necessitating compatibility testing before application.
- UV resistance: The membrane may have limited UV resistance, requiring additional protection in exposed applications.
- Joint and seam integrity: While self-adhesive, proper installation techniques are necessary to ensure reliable joint and seam integrity over time.
- Chemical resistance: The membrane may have limitations in resisting certain chemicals or environmental exposures, requiring additional protective measures in specific applications.
- Application complexity: While self-adhesive, complex application scenarios may require skilled labor and meticulous attention to detail for optimal performance.
- Not designed to withstand vapor barrier applications, necessitating the use of separate vapor barrier systems where required.
- Vulnerable to changes in environmental conditions: Rain or dusty environments may affect the tackiness of the self-adhesive backing, potentially compromising adhesion.
- Unsuitable for vehicular traffic: The membrane is not designed to withstand the weight and traffic associated with vehicles, limiting its use to pedestrian or light-duty applications.

Preparations

- Good preparation is Essential. Allow all prep work to dry/cure before proceeding.
  All surfaces must be installed according to manufacturer's instructions and relevant Australian Standard(s) and be structurally sound
  Surface must be clean, dry, smooth and free of oils, grease, wax, mould, dust, curing compounds, release agents, coatings, adhesive residues, loose particles, rust, paints, efflorescence and are uncontaminated by preceding trade activities to leave a sound, clean surface.

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- Remove any high points and protrusions from the surface that may pierce the membrane.
  Make good any defects such as, blowholes and surface imperfections using an appropriately high strength non-shrink mortar.
  Ensure all applied surfaces including screeds are solid and not crumbly.

Falls to Drains

We recommend that ACTFLEX 900S be laid on floors that provide positive falls to drainage outlets to eliminate water ponding

The slope of this fall should be:

- For internal wet areas - 1:80 – which equates to a 12.5mm fall over 1m.
- For external balconies, rooftops etc. 1:100 – which equates to a 10mm fall over 1m.

Cracks

Allow all pre-treated crack areas to dry/cure.
Cracks under 1mm in width – Can be primed then covered with a self-adhesive butynol tape.

- Cracks greater than 1mm and up to 2mm in width i.e., cracks that do not move or continue to grow, must be chased out to a minimum 2mm width and cleaned by vacuuming to remove all dust and residues. After cleaning, prime surface and allow to dry. Fill all static cracks with a bead of ACTFLEX CRACKPRO 1200 PS and cover with a self-adhesive butynol tape. Use a roller to ensure that a secure bond is made between the tape and substrate.
- Cracks greater than 2mm or subject to movement or growth must be referred to the builder or engineer for structure assessment.

Priming

- Effective Application on Absorbent Surfaces: When dealing with absorbent surfaces, like porous concrete or sand/cement screeds, the priming systems must be diligently worked into these substrates. This action serves to effectively seal pin holes and mitigate excessive absorption of ACTFLEX 900S.
- Indicators of Adequate Priming: The adequacy of priming will be discerned by the presence of pin holes becoming apparent through the waterproofing membrane.
- Interior and Dry Sound Surfaces: For internal surfaces that are in good, dry, and stable condition, the application entails using 1 coat of ACTFLEX 600 Primer.
- External or Textured Surfaces: In scenarios where the surfaces are external or exhibit a rough texture, the protocol necessitates the application of 2 coats of ACTFLEX EP 250 Primer.
- When the moisture content of masonry or concrete substrate exceeds 80% relative humidity (according to ASTM F2170) or surpasses 15gm/m²/24hrs (per ASTM F1869, as tested in accordance with AS 1884 or AS 3740), the use of ACTFLEX EP 250 as the designated primer before installing ACTFLEX 900S is mandated. Typically, this corresponds to a moisture content of 5% or higher as measured by a digital non-destructive moisture meter, but adherence to Australian Standards is paramount.
- Application involves applying two coats of ACTFLEX EP250S at a rate of 3m²/litre per coat and allowing it to dry for at least 24 hours. Drying times may vary based on substrate temperatures and ambient air conditions. Once ACTFLEX EP 250 has fully cured, ACTFLEX 900S can be installed.
- Metal Substrates: When dealing with metal surfaces, use ACTFLEX SUPER BOND 007.
  Wood or PVC Surfaces: The use of ACTFLEX SUPER BOND 007 or ACTFLEX 500 NP PRIMER
- Treatment of Rusty Metal Surfaces: Rusty metal surfaces warrant specific attention. Loose rust and paint particles are to be eliminated via wire brushing. Sound regions retaining paint must be roughened to establish a robust mechanical key. Any loosened flakes or corroded metal segments should be removed. In a two-step process: commence with a rust converter application, followed by priming using an anti-corrosive primer.

Application

- Begin by preparing the substrate according to manufacturer guidelines, ensuring it is clean, dry, and free of dust, debris, and contaminants.
  Unroll the ACTFLEX 900S membrane onto the prepared substrate, aligning it as necessary for proper coverage.
- For damaged concrete ranging between 2mm to 30mm, ACTFLEX POLYCRETE liquid serves as an effective treatment. It is mixed with sand and cement in a ratio of 3:1. However, spalling concrete requires specialized treatment from the FORSPEC SPALLING RANGE. We advise consulting with a technician before application to ensure proper treatment.
- Ensure that each roll of ACTFLEX 900S membrane is aligned correctly with the allocated 60mm overlap, which does not have self-adhesive backing, adjacent to each other roll.
- Begin installation by lining up the first roll from the drainage point, ensuring proper alignment.
- Subsequent rolls should be aligned towards the drainage point, ensuring that each roll falls correctly in line with the previous one.

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- The 60mm overlap refers to the portion of the membrane that extends beyond the edge of the adjacent roll. This overlap is crucial for creating a watertight seal and ensuring continuity in waterproofing.
- Remove the release liner gradually, exposing the self-adhesive backing of the membrane.
- Press the membrane firmly onto the substrate, ensuring proper adhesion and minimizing air pockets or wrinkles.
- Use a roller or hand pressure to firmly apply the membrane and ensure good contact between the adhesive and substrate.
- For seams and overlaps, ensure they are tightly sealed to prevent water ingress, using heat welding or recommended seam tapes as necessary.
- Use a welding heat gun to fuse the minimum 60mm overlap of ACTFLEX 900S membrane to the next roll, ensuring uniform heating and seamless fusion for a watertight seal. Use a seam probe tester to verify weld integrity and an HDPE pressure roller to ensure proper adhesion and seal along the weld.
- For corner junctions or detail pieces, utilize either the ACTFLEX 900S roll or the ACTFLEX 900SD, a versatile roll measuring 250mm wide and 20m long, which can be cut as needed. ACTFLEX 900SD is suitable for use as capping sheets, detail pieces, or for repairs on top of existing ACTFLEX 900S membrane.
- Cut the ACTFLEX 900S membrane or ACTFLEX 900SD roll to fit the corner dimensions precisely. Additionally, apply circular pieces over each corner to provide extra reinforcement and ensure durability.
- Continue this process until the entire area is covered with the ACTFLEX 900S membrane, ensuring all edges are properly sealed and secured.
- Inspect the installation for any defects, air pockets, or areas of poor adhesion, and address them promptly.
- Once installed, the membrane may require additional curing time depending on ambient conditions before it can be subjected to further construction activities.

Application - Pedastals

- Paver pads (tiling pedestals) should be installed according to the manufacturer's instructions. When positioning them on the waterproofing membrane, it's strongly advised to use rubber matting beneath each paver pad. This precaution significantly reduces the risk of damage to the waterproofing membrane and extends its lifespan.

Application – Liquid Installation

- Prime the substrate above the upturned ACTFLEX 900S using ACTFLEX EP 250.
- Position the ACTFLEX SA TAPE centrally along the top edge of the upturned ACTFLEX 900S.
- Heat weld the ACTFLEX SA TAPE directly onto the ACTFLEX 900S membrane, removing the fleece layer in the process.
- Ensure smooth adhesion to the ACTFLEX 900S and prepared substrate using the FORSPEC Brass Roller and FORSPEC Small Hand Roller.
- Alternatively, prime the substrate above the upturned ACTFLEX 900S with ACTFLEX EP 250.
- Remove the fleece layer from the ACTFLEX 900S using welding equipment, ensuring all loose fleece is removed.
- Remove the fleece layer from the ACTFLEX 900S using welding equipment, ensuring all loose fleece is removed.
- Place the ACTFLEX SA TAPE centrally along the top edge of the upturned ACTFLEX 900S.
- Again, ensure smooth adhesion using the FORSPEC Brass Roller and FORSPEC Small Hand Roller.
- Once correctly installed, apply the chosen FORSPEC water-based liquid membrane to encapsulate the ACTFLEX SA TAPE and overlap onto the ACTFLEX 900S.
- Maintain a minimum overlap of 25mm when overlapping tape to tape (FORSPEC SA TAPE).
- Approved FORSPEC Water-Based Liquid Applied Membranes:
  ACTFLEX 906 WPU
  ACTFLEX 988 CWP
  ARDEX EP 250
  ACTFLEX 101 UV

Tiling – Direct Stick

- Apply tile adhesive directly onto the surface of the ACTFLEX 900S membrane. This adhesive should be compatible with both the membrane and the type of tiles being used.
- Use the appropriate size and type of trowel to spread the adhesive evenly over the membrane surface, ensuring full coverage.
- Carefully place each tile onto the adhesive, pressing down firmly to ensure proper adhesion and eliminating any air pockets beneath the tiles.
- Pay close attention to proper alignment and spacing between tiles, using tile spacers if necessary to maintain consistent grout lines.
- Work in small sections at a time to prevent the adhesive from drying out before tiles can be placed, and adjust tiles as needed to achieve the desired pattern or layout.

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- Continuously monitor the adhesive for any signs of skinning or drying, and reapply fresh adhesive as needed to maintain proper bonding.
- Once all tiles are in place, use a tile roller or similar tool to ensure that they are fully embedded in the adhesive and securely bonded to the membrane.
- Allow the adhesive to cure fully according to the manufacturer's recommendations before grouting or subjecting the tiled surface to any stress or traffic.
- Following these steps will ensure a successful installation of tiles directly onto the ACTFLEX 900S membrane, providing a durable and waterproof finish for your project.

Screeding Application

- Prepare the substrate by ensuring it is clean, level, and free from any debris or contaminants.
- Mix the traditional screed at the desired ratio of either 3 parts sand to 1 part cement or 4 parts sand to 1 part cement, ensuring thorough blending of the materials.
- Apply the mixed screed evenly over the substrate, using a steel float or similar tool to level and smooth the surface.
- For screed thicknesses under 25mm, incorporate ACTFLEX POLYCRETE ADDITIVE into the screed mix as per manufacturer's instructions. This additive allows for screed thicknesses ranging from 1mm to 80mm and enhances the flexibility and durability of the screed.
- Ensure proper curing of the screed according to recommended curing times and conditions.
- Once the screed has cured, the surface can be tiled directly onto the ACTFLEX 900S membrane.
- Prior to tiling, ensure the screed surface is clean, dry, and free from any loose particles or contaminants.
- Apply tile adhesive directly onto the screed surface, following manufacturer's instructions for proper application and coverage.
- Press tiles firmly into the adhesive, ensuring proper alignment and spacing.
- Allow adhesive to set and cure fully before grouting or subjecting the tiled surface to any stress or traffic.
- Regularly inspect and maintain the tiled surface as per manufacturer's recommendations to ensure longevity and durability.

Membrane Terminations

Vertical Termination Finishing:

Option 1:

- Attach a Pressure Seal Strip onto the wall using appropriate mechanical fixings, spaced at maximum 150mm centres.
- Apply an approved sealant along the top edge of the VTECH MS to the waterproof wall.
  Ensure membrane termination height complies with AS 4654 Appendix A.

Option 2:

- Seal an Over-Flashing into the waterproof wall via a minimum 15mm x 15mm reglet.
  Fix the Over-Flashing in place with either FORSPEC PROBOND 1100PS OR VTECH MS.
- Ensure membrane termination height complies with AS 4654 Appendix A.

Option 3:

- Terminate the membrane directly into a minimum 15mm x 15mm reglet.
- Remove the fleece on the upper face of ACTFLEX 900S using hot air welding equipment.
- Fill the termination (reglet) with either FORSPEC PROBOND 1100PS or VTECH MS, based on specific application.
- Ensure membrane termination height complies with AS 4654 Appendix A.

Underground/Landscaping Areas

Always cover cured membrane with HIFLOW drainage cell prior to clean fill. The installation of ballast, such as back filler, river pebbles or similar loose laid unbound coverings must be isolated from the cured membrane by a compatible drainage cell and filter fabric system or protection board.

Flood Test

It is recommended that after curing and prior to placement of protection or screeding, flood to a minimum depth of 50 mm of water for 24 hours. Drains should be plugged and barriers placed to contain the water.
NOTE: Ensure ACTFLEX 925 SFPU is protected from sunlight after full cure.

Cleaning

Clean up immediately while still wet. Wipe down with solvent to clean tools & equipment. Once dry, is difficult to remove and mechanical means may be necessary.
No.1. Observe all OH&S and MSDS information pertaining to safe usage and handling of solvents.
DO NOT discharge product or water from cleaning into sewer or waterways.
DO NOT touch the spill material.

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Storage

12ON months in the original unopened containers stored in cool, dry conditions 10-22°C. Protect the material against moisture and direct sunlight. Storage above this temperature may reduce storage life. Uncured product is combustible so keep all sources of ignition away from product and its vapours and DO NOT store in pits, depressions, basements or areas where vapours may be trapped. ACTFLEX 929 SPU is sensitive to airborne moisture. It is preferable to use all contents of the container after opening.

SAFETY - When handling DO NOT eat, drink or smoke.

ACTFLEX 929 SPU is hazardous and may cause skin and/or eye irritations. Always use in a well-ventilated area and wear PPE gloves, safety boots and protective eyewear (against splashes). Use breathing respirators at all times. Organic vapour respirators with particulate pre- filters and powered, air-purifying respirators are NOT suitable. Change soiled work clothes and wash hands before breaks and after finishing work. In case of eye contact, rinse with plenty of water: If inhaled, remove to fresh air, if discomfort persists, if any breathing difficulties occur or if swallowed (do NOT induce vomiting), immediately contact the Poisons Information centre and seek medical attention. KEEP OUT OF REACH OF CHILDREN. Uncured product is combustible so keep all sources of ignition away from product and its vapours. In emergency, contact any Poisons Information Centre (phone 13 11 26 within Australia) or 0800 764 766 (NZ). or a doctor for advice. IN TRANSPORT EMERGENCY DIAL 000 – POLICE-FIRE BRIGADE. Local regulations as well as health and safety advice on packaging labels must be observed.

For more information, please download a copy of the SDS from www.thewaterproofingshop.com.au

Data Sheet

This Technical Data Sheet and the Material Safety Data Sheet (SDS) may be revised at any time to comply with relevant changes to the Australian Standards or to include changes to current technology. Always read the current SDS and TDS carefully prior to use as application and performance data may change from time to time. It is always best to request a copy of the latest technical data from FORSPEC Protective Coatings by calling 02 8021 3517 or emailing info@forspec.com.au.

Data provided is typical but does not constitute a full specification. This should be sighted from the company for specific projects.

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