

ACTFLEX PU300.

Technical Data Sheet | **Two-Component Hydrophobic Polyurethane Injection Resin** | **Issue date: 12 August 2026**

Description

ACTFLEX PU300 is a two-component, hydrophobic polyurethane injection resin consisting of a base resin and an accelerator, mixed at 10:1 by weight (22 kg set: 20 kg resin + 2 kg accelerator). The separate accelerator component gives precise control of the reaction time, allowing adjustment to site conditions such as ambient temperature, water flow rate and substrate characteristics. On contact with water, the mixed resin expands to a rapidly curing, closed-cell hydrophobic foam that seals cracks, construction joints and voids against water ingress. The cured foam is dimensionally stable, does not shrink, and does not require permanent water contact to remain stable. For a single-component alternative, use ACTFLEX PU200.

Advantages

- Adjustable reaction time via accelerator dosage — tuned to ambient temperature and water flow.
- Effective in flowing-water and high-moisture conditions, and in dry substrates when pre-wetted.
- High expansion — fills voids, cavities and construction joints; free-foam magnification above 15 times.
- Hydrophobic closed-cell foam — long-term sealing that does not depend on permanent water contact.
- Strong adhesion to concrete — bond strength greater than 2.28 MPa.
- Rapid cure — active leaks sealed within minutes at high accelerator dosage.
- No shrinkage — dimensionally stable after curing.
- Flexible cured foam — elongation greater than 100% (thick sections) and greater than 250% (thin sections).
- Resistant to commonly encountered chemicals in below-grade environments.

Uses

- Sealing active leaks in concrete — ceilings, walls, floors and construction joints.
- Basements, tunnels, underground structures and retaining walls.
- Filling voids, cracks and cavities in concrete (non-structural void filling).
- Stopping active water leaks in dams, reservoirs, wastewater structures and pipelines.
- Void filling and stabilisation behind structures, and in soils and rock formations, subject to geotechnical assessment and trial injection.
- Wet and dry conditions — dry cracks are pre-wetted through the packers before injection.

ACTFLEX PU300 is a water-stopping injection resin. For structural crack bonding and load-transferring repairs, use the FORSPEC structural injection range (PROBOND 1100, CRACK PRO 1200PS, CRACKLOCK E400L) per their TDS.

Compliance Status

No Australian Standard specifically governs polyurethane injection resins for water-stopping. The performance values in this document are Forspec R&D characteristic values determined on standard production material. Certified third-party test reports, where available, can be requested from Forspec Protective Coatings. This product is not certified for contact with drinking water (AS/NZS 4020); do not use in potable water storage or supply structures unless certification is confirmed in writing by Forspec.

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Technical Data

PROPERTY	VALUE	BASIS
Composition	Two-component hydrophobic polyurethane resin (base resin + accelerator)	—
Mix ratio (resin : accelerator)	10 : 1 by weight (standard)	—
Colour / form	Light brown, low-viscosity liquid (mixed)	—
Density at 25°C	1.12–1.20 g/cm³	R&D typical *
Viscosity at 25°C (mixed)	450–600 mPa·s	R&D typical *
Foaming magnification	Above 15 times (free foam)	R&D typical *
Foaming time (at 25°C, 50% RH)	Approx. 150–600 seconds, accelerator-dependent	R&D typical *
Pot life (mixed, at 25°C, 50% RH)	20–30 minutes	R&D typical *
Bond strength to concrete	Greater than 2.28 MPa	R&D typical *
Elongation — thick sections	Greater than 100%	R&D typical *
Elongation — thin sections	Greater than 250%	R&D typical *
Application temperature	Greater than 10°C (substrate and material)	—
Packaging	22 kg set (20 kg resin + 2 kg accelerator)	—
Shelf life	12 months, unopened, 5–30°C, protected from moisture	—

* Typical characteristic values determined by Forspec R&D on standard production material; not subject to third-party certification. Values will vary with temperature and the volume of water contacted.

Reaction Data

The accelerator dosage controls the reaction time. Select the dosage to suit ambient temperature, water flow rate and the required set speed, using the indicative values below at 25°C. Foaming magnification per dosage ratio is available from Forspec R&D on request.

RESIN : ACCELERATOR RATIO	REACTION TIME AT 25°C
2 : 1	150–200 seconds
5 : 1	320–340 seconds
10 : 1 (standard)	340–360 seconds
15 : 1	330–370 seconds

Sufficient water in the substrate is necessary for the mixed resin to foam. In dry cracks, introduce water through the packers before injection. In areas of very low water content and low counter-pressure the material will expand as a foam.

Limitations

- Pot life is 20–30 minutes once mixed at 25°C and 50% RH — mix only the quantity that can be injected within this time.
- Requires water to foam — dry cracks must be pre-wetted through the packers before injection.
- Water-stopping and void-filling product only — not a structural repair; use the FORSPEC structural injection range for load-transferring crack repair.
- Do not apply below 10°C substrate or material temperature; cold conditions slow the reaction and reduce expansion.
- Not certified for contact with drinking water (AS/NZS 4020) — do not use in potable water structures unless confirmed in writing by Forspec.

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Limitations (continued)

- Moisture-sensitive components — the resin reacts with atmospheric humidity; keep containers sealed, and keep equipment and lines dry.
- Not UV stable — for buried and internal concealed applications; not for exposed finishes.
- Live movement joints require a purpose-designed movement joint system; injected foam alone must not be relied on across joints subject to ongoing movement.
- Injection into voids of unknown volume can consume large resin quantities — probe and assess before injecting.
- Soil and rock stabilisation applications are subject to geotechnical assessment and trial injection.

Mixing

Mix the base resin and accelerator at 10:1 by weight (a full set: 20 kg resin + 2 kg accelerator), or at the accelerator dosage selected from the Reaction Data for the site conditions. Mix only the quantity that can be injected within the pot life of 20–30 minutes at 25°C and 50% RH. Stir with a low-speed mixer to a uniform consistency without entraining air. All mixing containers, equipment and lines must be dry — the mixed material reacts with moisture. If mixed material has stood in the container or the machine for longer than 20–30 minutes, flush the machine with cleaning alcohol before restarting injection.

Injection Equipment

Apply with single-component, high-pressure polyurethane injection equipment. Required: single-component injection pump rated for polyurethane resins; 10 mm mechanical injection packers with non-return valves; 10 mm drill bit; T-handle wrench (10 mm); urethane thinner and pump cleaning oil. Do not use equipment or lines containing residual water — flush with thinner before charging with resin.

Application Procedure

- **1. Drilling**
  Drill 10 mm holes at maximum 200 mm intervals along the crack, offset from the crack line and angled at 45° to intersect the crack at a depth of 60–100 mm. Alternate sides of the crack where access allows.
- **2. Installing packers**
  Blow or vacuum all dust from the drilled holes. Insert 10 mm packers, leaving approximately 20 mm of the packer proud of the surface for connection and removal. Tighten each packer firmly with the T-handle wrench to seal against injection pressure.
- **3. Pre-wetting (dry cracks)**
  Where the crack is dry or water content is low, inject clean water through the packers before resin injection to activate the reaction.
- **4. Injection**
  Mix the resin and accelerator as described in the Mixing section. Charge the pump — fill approximately two-thirds of the pump reservoir before sealing the lid. Begin injection at low pressure and increase gradually. Vertical cracks: inject from the bottom packer upward. Horizontal cracks: inject from the ends toward the centre. Continue at each packer until resin extrudes from the crack approximately 100 mm either side of the packer, then move to the next packer. Do not over-inject.
- **5. Packer removal and finishing**
  The non-return packers retain the resin under pressure while it cures. After the resin has fully reacted, remove the packers, and patch the drill holes flush with a FORSPEC repair mortar (FORBUILD 100 or FORCRETE 100 per its TDS).
- **6. Equipment cleaning**
  Flush the pump and lines with urethane thinner immediately after use. For short-term reuse within a few days, clean with pump cleaning oil only. For long-term storage, flush with thinner followed by cleaning oil, and leave approximately one-third of the pump charged with cleaning oil (or engine oil as an alternative) to prevent moisture ingress and clogging. If mixed material has stood in the machine for longer than 20–30 minutes at 25°C and 50% RH, flush with cleaning alcohol before restarting injection.

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Coverage and Yield

Consumption depends on crack width, depth and the volume of voids encountered, and cannot be stated as a fixed rate per metre. As a guide, estimate from the crack volume plus an allowance for porous zones and expansion, and confirm by trial injection on the first section. Record actual consumption per packer as part of the project quality records.

Drying, Curing and Testing Times

All times below are measured at 25°C and 50% RH. Low temperature, high humidity, poor ventilation and increased thickness extend every stage — verify on site before proceeding.

STAGE (AT 25°C, 50% RH)	TIME
Mixing	Blend resin and accelerator thoroughly before injection
Pot life (mixed)	20–30 minutes *
Reaction time	Refer to the reaction data table — accelerator dose dependent
Re-injection window at the same port	After the previous injection has fully reacted *
Cured foam — trim and dress	Once the foam is firm and no longer expanding *
Full reaction and stable seal	24 hours *
Packer removal and hole reinstatement	After full reaction — reinstate with a FORSPEC repair mortar *

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

Clean Up

Clean equipment immediately after use as described in the application procedure, handling urethane thinner and cleaning oils in accordance with the Work Health and Safety Regulations and the relevant SDS. Cured foam can only be removed mechanically. Resin, thinners and washings must not be discharged to sewers, stormwater systems or waterways; manage and dispose of all washings in accordance with the relevant State or Territory environment protection legislation and local council requirements.

Container and Waste Disposal

Dispose of product and containers in accordance with the WHS Regulations, the relevant State or Territory EPA requirements and local council regulations. Uncured (liquid) resin is classified waste — do not dispose of to landfill, sewers, stormwater or waterways; deliver to an authorised hazardous or special waste collection point in accordance with local regulation. Small residual quantities may be reacted with water in a ventilated area away from ignition sources and, once fully cured, disposed of as solid waste where permitted by local regulation. Fully drained, dry, empty containers may be recycled through approved container recycling programs — do not reuse containers, and do not burn containers or residue. Refer to Section 13 of the SDS for detailed disposal requirements.

Quality Records

Record the batch numbers of all FORSPEC products used, together with injection dates, packer locations and spacing, injection pressures, mix ratios and accelerator dosages used, accelerator batch numbers, resin consumption per packer and post-injection leak observations, as part of the project quality assurance records. Batch numbers are printed on the container and provide full manufacturing traceability.

Storage

Store at 5–30°C in original unopened containers, in a cool, dry place away from direct sunlight and all sources of moisture — the resin reacts with water, including atmospheric humidity. The uncured product is combustible:

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Storage (continued)

keep away from ignition sources and do not store in pits, depressions, basements or unventilated spaces where vapours can accumulate. Shelf life is 12 months from the date of manufacture when stored as above, unopened. Use opened containers promptly and do not reseal for extended storage.

Safety Precautions and First Aid

ACTFLEX PU300 is classified as hazardous. Handle with chemical-resistant gloves, safety eyewear, protective clothing and, in areas with limited ventilation, suitable respiratory protection. Ensure adequate ventilation during injection works, particularly in confined below-grade spaces — confined space entry requirements under the WHS Regulations apply where relevant. Change contaminated clothing immediately and wash hands before breaks and after work.

First aid — Skin: wash immediately with soap and water; avoid prolonged exposure. Eyes: rinse thoroughly with clean water for at least 15 minutes and seek medical attention. Inhalation: move to fresh air; seek medical attention if breathing difficulty occurs. Spills: contain and absorb with inert material such as sand; prevent entry to drains and waterways. The uncured product is combustible — keep away from ignition sources and vapours. 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 PU300 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.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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 12/08/2026 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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