

GALAXIE PU FLEX

Semi-Elastic Hydrophobic Polyurethane Injection Resin

PRODUCT OVERVIEW

Galaxie PU Flex is a single-component, hydrophobic, moisture-reactive polyurethane injection resin formulated from MDI-based isocyanate prepolymers in combination with proprietary polyether polyols. The system is designed to provide controlled expansion and durable long-term water sealing performance in civil infrastructure, mining and specialist remediation applications throughout Australia.

Upon contact with moisture, the resin undergoes polymerisation, generating carbon dioxide gas that produces controlled expansion to displace water and fill voids. Simultaneously, urethane linkages form, creating a robust cross-linked polymer network with a closed-cell hydrophobic structure.

Catalyst dosage (2–10%) enables regulation of cream time and gel time to accommodate varying site temperatures and water flow conditions.



Typical Application of Galaxie PU Flex



TYPICAL APPLICATIONS

- Active water leak sealing in concrete structures.
- Basement and underground carpark crack injection.
- Civil infrastructure remediation (bridges, tunnels, culverts)
- Lift pits, service penetrations and retaining walls.
- Ground stabilisation and soil consolidation.

PERFORMANCE CHARACTERISTICS

- Solvent-free and TDI-free formulation.
- Designed for sustained hydrostatic pressure conditions.
- Accommodates minor structural movement (>3%)
- Closed-cell hydrophobic foam structure.
- Controlled expansion up to approximately 30x (water dependent)..
- Adjustable catalyst-controlled reaction (2–10%)
- Excellent adhesion to damp concrete and masonry.
- Formulated for coastal saline groundwater and mild chemical exposure.
- Suitable for high-pressure injection systems 50-200 bar.



HYDROSTATIC PERFORMANCE

Galaxie PU Flex is designed for sealing active water ingress under sustained hydrostatic pressure conditions. Performance is dependent upon crack geometry, degree of confinement and correct installation methodology. When confined within a crack or joint, expansion is restricted and compressive resistance increases.

TECHNICAL PROPERTIES

Resin Component – Galaxie PU Flex

Property	Value
Appearance	Brown Liquid
Density @ 25°C	1.18 g/cm ³
Viscosity @ 25°C	200–350 mPa·s

Catalyst Component – Galaxie FlexCat

Property	Value
Appearance	Yellowish Liquid
Density @ 25°C	0.98 g/cm ³
Viscosity @ 25°C	25–45 mPa·s

REACTION CHARACTERISTICS

Reaction performance is influenced by catalyst dosage, water availability, and substrate temperature.

FlexCat Dosage	Cream Time	Approx. Final Set
2%	35 sec	30 min
5%	25 sec	15 min
10%	20 sec	3 min

All reaction data is based on laboratory testing at 25°C with 10% water addition. Reaction speed will vary under site conditions.

APPLICATION GUIDELINES

Surface Preparation: Identify and map crack patterns. Install mechanical injection packers at appropriate spacing based on crack width and depth.

Injection Procedure: Inject using a single-component high-pressure injection pump. Commence at the lowest point and progress upward to ensure full water displacement and crack saturation.

Catalyst Adjustment: Adjust catalyst between 2–10% by weight to regulate reaction speed based on substrate temperature and water ingress rate.

TECHNICAL SUPPORT & TRIALS

Galaxie can provide on-site validation trials, and injection methodology support across Australia.



LIMITATIONS

- Not suitable for large unconfined structural void filling — use Galaxie Spray Foam.
- Not intended for active dynamic joints or high-movement cracks — use Galaxie PU SF injection resin.
- Substrate temperatures below 10°C require assessment prior to application.
- Prolonged UV exposure may cause surface degradation.

PACKAGING

Galaxie PU Flex is supplied in 20 kg pails.

Galaxie FlexCat catalyst is supplied in 2 kg bottles

STORAGE & SHELF LIFE

Store between 10°C and 35°C in dry conditions away from direct sunlight. Shelf life: 12 months in unopened original packaging.

DISCLAIMER

All technical data is based on laboratory testing and field experience. Performance may vary depending on site conditions, workmanship and environmental factors. Users are responsible for verifying product suitability under specific project conditions

