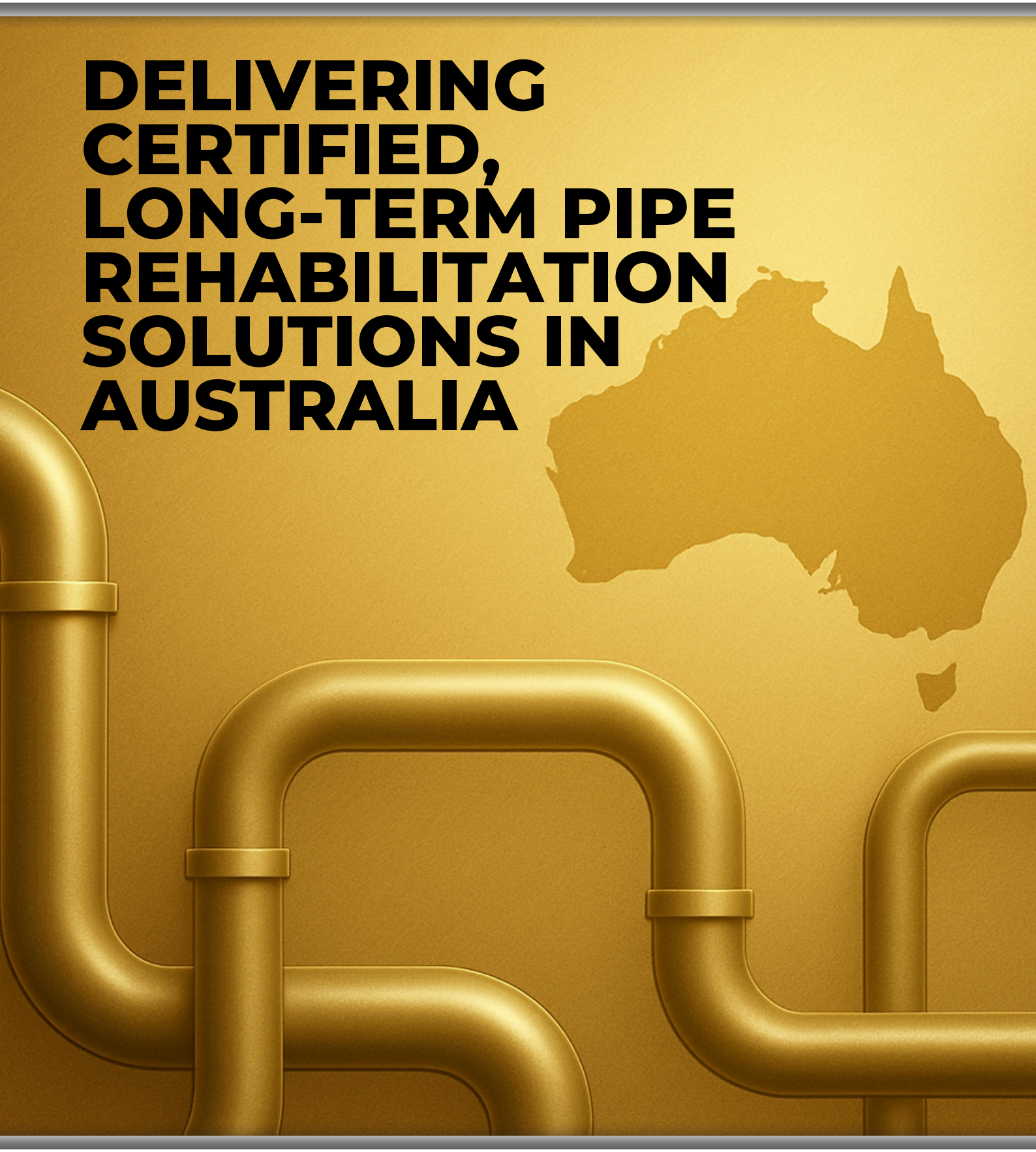
SECA

THE FUTURE IN PIPELINE TECHNOLOGY

DELIVERING CERTIFIED, LONG-TERM PIPE REHABILITATION SOLUTIONS IN AUSTRALIA



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INTRODUCTION

Australia's underground sewer and stormwater networks are reaching critical age. Many assets have exceeded their original design life, prompting councils and utilities to seek cost-effective and durable rehabilitation options that avoid disruptive excavation.

Sectional or point repair systems - which restore localised pipe defects from within the host pipe - are increasingly used as part of trenchless asset management programs.

For these systems to deliver reliable long-term results, they must demonstrate verified structural performance, quality assurance, and compliance with recognised water industry standards such as those established by the Water Services Association of Australia (WSAA) and Melbourne Retail Water Agencies (MRWA).

Australia's Sewer Asset Snapshot (WSAA, 2022)

Statistic	Detail
Total wastewater pipelines in service	Over 280,000 km nationwide
Percentage of assets >50 years old	30% of pipelines exceed half a century
Estimated renewal backlog	9–12 billion by 2030 (Infrastructure Australia)
Average renewal cost (open trench)	$1,000–$2,500 per metre
Potential savings with trenchless repair	Up to 60% cost reduction compared to replacement

1. National and Industry Standards

Trenchless repair products operating in Australia are typically assessed against international and local benchmarks, including:

- ISO 9001 – Quality management and production control
- ASTM F1216 – Structural rehabilitation standard for cured-in-place methods
- DIBt Approvals (Germany) – Long-term mechanical and chemical performance testing
- WSAA Product Appraisals – Independent technical evaluation for water industry use
- MRWA Approvals – Compliance with Victorian water agency requirements

These frameworks establish the criteria for quality, testing, training, warranty, and field performance required for national acceptance of rehabilitation products.

Australian Water Industry by the Numbers

Category	Metric
WSAA membership	95% of the urban water industry
Customers served by WSAA utilities	Over 20 million Australians
Water utilities employing trenchless methods	70%+ (WSAA 2021 Benchmarking Report)
Forecast trenchless market growth	CAGR 6.2% to 2030 (IBISWorld, 2024)

2. Sectional Rehabilitation: Process Overview

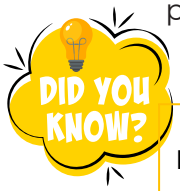
Sectional or point repair methods address isolated defects such as cracks, corrosion, or joint infiltration.

A typical process involves:

1. Inspection and Cleaning – CCTV identifies defects; jetting removes debris.
2. Installation – A resin-impregnated fibreglass mat is wrapped around an inflatable packer and positioned at the fault site. The packer expands to bond the Perhaps "resin impregnated fibreglass matting to the host pipe.
3. Curing and Verification – The resin cures in place. CCTV and documentation confirm thickness, cure, and alignment. How much fibreglass and resin required is based on engineering requirements.

These methods are suitable for pipes made of concrete, vitrified clay, asbestos cement, cast or ductile iron, GRP, PVC, or PE, and for diameters typically ranging from DN 100 to DN 1200.

Defects that can be fixed with this method include radial cracks, longitudinal cracks, displaced joints, pipe penetrations. Typical patch length can be from 1m to 5m in length depending on pipe size and problem being addressed.



Environmental Impact of Trenchless vs Open Cut

Impact Category	Open Trench Excavation	Trenchless Rehabilitation
Surface disruption	High (roads, footpaths, driveways)	Minimal
Carbon footprint	~80 kg CO_2 per metre	~25 kg CO_2 per metre
Waste generated	~2 tonnes soil per 10 m	Negligible
Average reinstatement time	1–2 weeks	1–2 days

(Source: Australasian Society for Trenchless Technology, 2023)

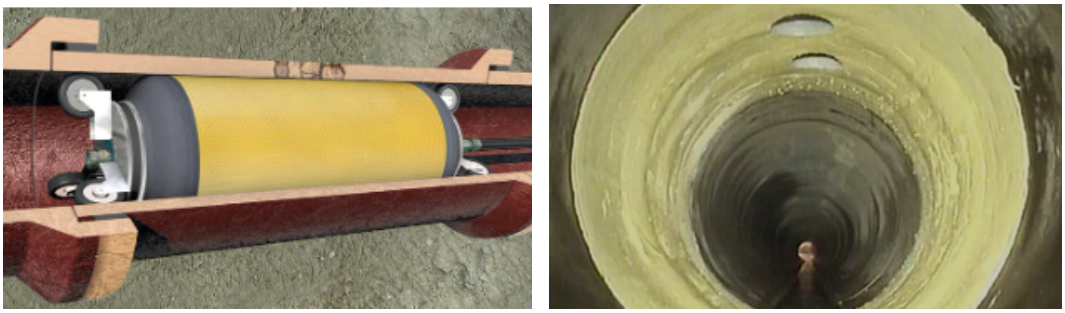
3. The Role of WSAA and MRWA Appraisals

WSAA Product Appraisal (PA 1918)
In February 2020, WSAA completed a Product Appraisal (PA 1918) for the Trelleborg DrainPacker System submitted by Sewer Equipment Company Australia (SECA).

The appraisal confirmed that the system met WSAA's Quality Assurance and Performance Requirements, including:

- Manufacture under an ISO 9001:2015 certified Quality Management System (Bureau Veritas Certificate NL016252-1)
- Compliance with DIBt approval for construction products (DIN 1259-1, 61853-1, 61853-2, 61854-1)
- Verified use for non-pressure gravity drains and sewers across DN 100–DN 1200, with repair lengths from 0.5 m to 5 m
- Availability of detailed installation manuals and training support for water-agency staff

The WSAA appraisal recommended that members consider acceptance or authorisation of the DrainPacker System for localised non-pressure sewer repairs.



Trelleborg DrainPacker System Repair Patches

MRWA Approval (2025)
In 2025, the Melbourne Retail Water Agencies (MRWA) granted formal approval for the same system after reviewing compliance with ISO 9001, DIBt, and ASTM F1216 standards.

This represented the first MRWA approval of a sectional repair system in Australia, aligning national appraisal (WSAA) with local regulatory acceptance.

Click here to view the approval.

WSAA Product Appraisal System

Appraisal Metric	Value / Insight
Typical appraisal duration	6–12 months
Technical reviewers per product	3–5 independent specialists
Focus areas	QA systems · Materials · Performance · Installation · Warranty
Validity of approval	5 years (subject to review)

4. Training and Implementation

Consistent installation quality is critical for maintaining certification. Training programs aligned with WSAA and MRWA expectations are available through Registered Training Organisations (RTOs).

In Australia, SECA Academy (delivered by Asset Training RTO No. 91255) delivers technical instruction for installers, covering resin handling, packer selection, curing processes and field documentation in accordance with Trelleborg APAC specifications.

Trelleborg DrainPacker Training at SECA

5. Introducing the Solution: Trelleborg DrainPacker

The Trelleborg DrainPacker System serves as an example of a sectional rehabilitation product that integrates international testing with Australian approvals.

Key Features:

- 100-Year Design Life (DIBt Z-42.3-385) verified through long-term creep testing (flexural modulus 4,598 N/mm²)
- Compatibility: Pipes of multiple materials and diameters DN 100–DN 1200
- Resin Options: Type S (Summer), Type W (Winter), Type W01 (Sub-Arctic)
- Mat Options: Two fibreglass grades – 1,050 g/m² and 1,400 g/m²
- Repair Range: 0.5 m to 5 m lengths using short, long, flex, or lateral packers
- Independent Testing: DIBt, WSAA PA 1918, MRWA 2025

Training Summary

Code	Duration	Cost (ex GST)	Location	Audience
TRE-TRAIN	1 day	$395	SECA Academy (NSW) / Onsite	Contractors, Engineers, Asset Managers

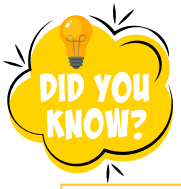
6. Ensuring Authenticity and Compliance

The increasing demand for trenchless repair solutions has led to imitation or untested systems entering the market.

Authorities recommend verifying that sectional repair products carry recognised DIBt, WSAA, and MRWA approvals, and that installers hold certification from authorised training providers.

Failure to comply may result in:

- Non-compliance with tender specifications
- Structural or chemical failure of the repair
- Loss of warranty or manufacturer support



Common Causes of Sewer Failure (WSAA Asset Performance Report 2023)

Cause of Defect	Percentage of Reported Failures
Root intrusion	28%
Joint displacement	22%
Pipe cracking or corrosion	19%
Infiltration & inflow	17%
Construction damage / debris	8%
Other	6%

7. Outlook for the Australian Water Sector

With WSAA and MRWA frameworks now in place, Australian councils and utilities have a stronger basis for evaluating and adopting certified sectional repair systems.

This alignment supports national goals for asset longevity, environmental sustainability, and public safety.

The growing focus on carbon reduction, recycled materials, and skills accreditation suggests that verified systems like DrainPacker will continue to shape Australia's trenchless future.

Conclusion

Australia's sewer rehabilitation sector is shifting toward evidence-based, certified technologies that ensure performance over decades.

The combination of WSAA Product Appraisal PA 1918 and MRWA Approval (2025) demonstrates how the industry is strengthening its compliance and quality assurance frameworks.
Among the available options, the Trelleborg DrainPacker System exemplifies how internationally proven designs can meet Australia's local regulatory and training requirements - providing a model for future best practice in trenchless pipeline renewal.