

Primus Line® Rehab

Trenchless rehabilitation of pressure pipes

Delivered by Citycare Water for water and wastewater networks, the Primus Line® Rehab system is a proven and environmentally orientated technology for rehabilitating ageing pressure pipes. Strong and flexible, it is based on a high-pressure liner and a unique connection technology with AS/NZS 4020:2018 approval for liner and connectors.

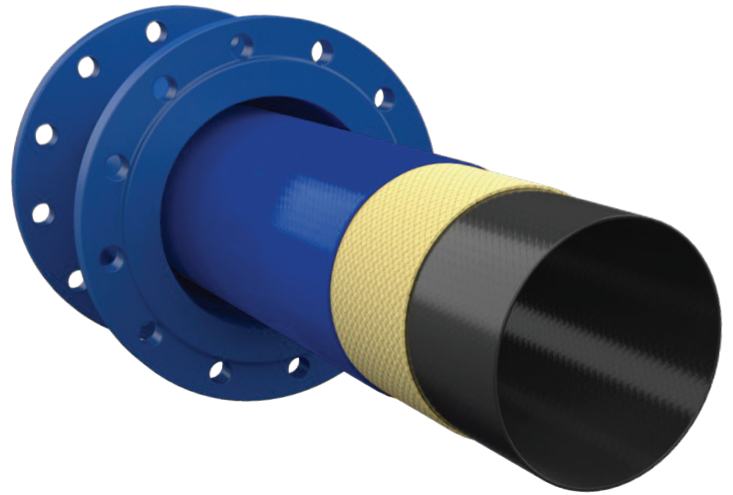
The optimised systems for diverse pressure ratings make Primus Line® Rehab a technically and economic solution with a lifetime of more than 50 years.

Safety

- Core made of seamlessly woven Kevlar® fabric. This synthetic fibre is up to ten times stronger than steel
- The burst pressure of the flexible pipe is at least 2.5 times the allowable working pressure
- No work with hazardous materials on site
- Continuously monitored production process

Cost advantage

- Installation speeds of up to 10 metres/minute
- Up to 2,500 metres per pull
- Short downtimes thanks to quick recommissioning
- Service life of more than 50 years



Efficiency

- Installation through multiple bends up to 90 degrees
- Withstands thermal expansion of the host pipe and ground movement
- Burst pressure rates up to 206 bar / 20,600kPa
- Operating pressure up to 82 bar / 8,200kPa
- Independent of host pipe
- No curing, steaming, adhesion or thermal treatment of the liner after installation required
- Independent of weather conditions during installation
- Access hard-to-reach terrain/geography

Environmentally orientated

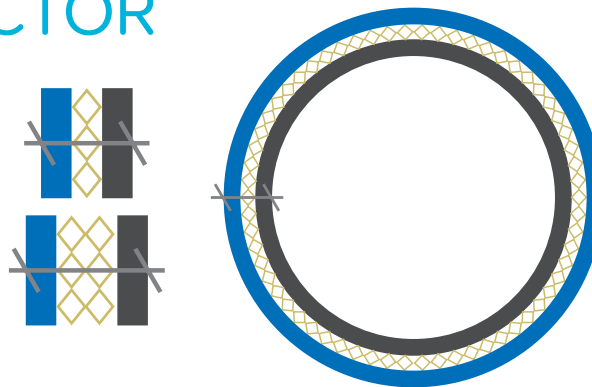
- Installation via small excavation pits, chambers and structures
- Decreased impact on traffic
- Reduction of the on-site carbon footprint by up to 90 per cent compared to dig and lay



Primus Line® FLEXIBLE PIPE = LINER + CONNECTOR

- Wall thickness = 6 mm

- Wall thickness = 8 mm



Inner layer

Polyethylene (PE)

- Hygienic
- High abrasion resistance
- High chemical resistance

Reinforcement

One- or two-layered Kevlar® fabric, depending on the required pressure rating

- Accommodates operating pressure by itself
- Up to 10 times stronger than steel of equal weight

Outer layer

Polyethylene (PE)

- High abrasion resistance, protecting the fabric during installation and operation

Technical Specifications

- Available in nominal diameters from DN 150 to DN 500
- Maximum operating pressure depending on diameter: 82 bar to 12 bar / 8,200 kpa to 1,200 kpa
- Design values for installation around bends
- Friction coefficient: $k = 0.028 \text{ mm}$

Transport

The flexible pipe is coiled in U-shape onto specialised transport reels and delivered to the customer. Depending on its diameter, a single reel can accommodate up to 4,000 metres / 4 km of pipeline, efficiently fitting onto a single truck. This approach minimises both logistics costs and the environmental impact associated with transport.

Leak-Free Connectors

An essential component of Primus Line® are the connectors manufactured from cast iron or carbon steel.

They have specifically been developed for the system and establish a leakproof force-locked connection to the host pipe or fittings.

Suitable for various fields of application, different connector types are available. The connectors gain their durable corrosion resistance through an impact resistant epoxy powder coating that satisfies the highest standards for safe media transport.

- AS/NZS 4020:2018 certified
- Available in nominal sizes from DN 150 to DN 500 with flanges according to AS4087 standards
- Project-specific solutions are available on request