

SANIVAR



>> **Contact Us**

01670 700498
www.sanivar.co.uk

Sanivar
Unit 6, Easter Park,
Nelson Park West,
Cramlington,
NE23 1WQ



Client Yorkshire Water
Project Agbrigg Bridge, Calderdale
Completion December 2020

OVERVIEW

Sanivar have recently completed a challenging refurbishment of a rising main feeding Calder Treatment Works in Wakefield.

Working with Peter Duffy Ltd the job involved relining a 300mm Cast Iron main, a section of which ran via a pipe bridge under a mainline railway.

The Rising Main was badly corroded and previous temporary repairs using clamps had been unsuccessful necessitating the refurbishment of a 250m section.

The pipe bridge crossed the River Calder and there were pollution concerns arising from the condition of the exposed section particularly when pressurized.

CHALLENGES

The project posed a number of significant challenges:

- Access to the Rising Main was restricted due to the proximity of the mainline railway and all work had to be conducted under Network Rail supervision.
- Access points were excavated at a safe working distance from the railway but this meant navigating a series of bends, changes in diameter and a 25m change in gradient over the railway embankment.
- The liner also had to navigate a redundant chamber that because of its location on the embankment could not be accessed. From this point the main effectively became a gravity sewer feeding into a manhole before feeding the Treatment Works.

OUTCOME

Working with **Peter Duffys Sanivar** proposed the use of their innovative **Sanitube** pressure pipe liner to re-line the main.

Using 300mm **Sanitube** meant that the change of diameter upto 350mm could be accommodated and that connections to the larger diameter host pipe could be achieved through the use of flanged tapers and a bespoke **Sanigrip** fitting.

Using the 300mm diameter liner allowed us to navigate a complex arrangement of 45 degree bends including 'swan necks' which were present in the 350mm diameter section taking the main down the railway embankment on the Southern section.

To mitigate the risk in navigating the bends the liner was supplied pre taped reducing the diameter to 160mm and a lubricant was applied to reduce friction when winching. The liner was also pulled from the Southern section meaning that only the final 30m of lining had to pass through the bends.

The installation of the liner was completed in under an hour and after pressuring the liner to ensure that it had fully inflated through bends and the chamber the installation was left overnight.

Sanivar revisited the site the following day to complete the installation after allowing the liner to relax through the gravity section. Having established the final position the liner was reconnected to the host pipe and backfilled.



OUTCOME...

Sanitube provided the only viable solution for this project due to:

- Durability – through a pressure rating in excess of 16 bar, accommodating both pressure and gravity sections of pipeline
- Efficiency – rapid installation enabled by lack of curing or wetting out processes
- The ability to install safely from a remote point without accessing the railway
- Flexibility allowing for navigation of bends and chambers
- **Sanivar's** commitment to collaborative working and on site support

TESTIMONIAL



“ Thank you for your support with this project, prior, during and after and all in all it was a great success and really pleased with how its gone and can again see the benefits and speed of this repair method ”

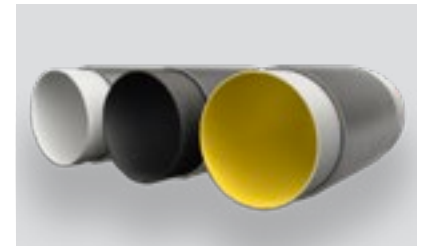
Ben McLuskey- Lining Manager, Peter Duffy Ltd.

DATA SHEET

Sanitube®

Sanitube®, the next generation CIPP pressure linings is a well proven technology that is ideally suited for the trenchless rehabilitation of pipelines across multiple sectors including water, gas, energy and industry.

Most pipe materials can be accommodated including cast-iron, ductile iron, steel, PVC and asbestos-cement pipes in diameters from DN25 to DN400.



KEY BENEFITS OF SANITUBE®

- A lining solution for pressurised pipelines (uti 16 bar).
- Can be used to navigate bends of up to 45 degrees.
- 100% chemical-free installation process (no adhesives, resins such as epoxy, etc.).
- Minimises customer disruption through rapid installation.
- A 'no dig' solution that mitigates health and safety risks associated with civil works.
- Durable lining solution with a 50-year product guarantee.
- Cost efficiency with install lengths up to 1500 m.
- Regulation 31 for potable water use (pending).

TECHNICAL SPECIFICATIONS

Temperature	Water, petrol, oil and heating	Up to 70°C / Gas: up to 80°C
Material	Liner	Circular-woven hose made from 100% polyester fibers
	Coating	Extruded, thermoplastic polyurethane and polyethylene

TECHNICAL CHARACTERISTICS

Tensile strength, longitudinal	1000-1500 N/cm	Wall thickness	2.6 - 3.5 mm
Tensile strength, radial	800-2000 N/cm	Diameter	80 - 400 mm
Elongation at break, longitudinal	20-25%	Max. installation length	up to 1500 m
Elongation at break, radial	40-50%		

Exact characteristics dependant on pipe material and diameters

