

Enhanced

LinerGrip

Pipeline Rehabilitation System
For use with Polyethylene Pipe Liners



PIONEERS IN PIPE SOLUTIONS

CRANE

BUILDING SERVICES & UTILITIES



A Bespoke Solution to Enhance Pipeline Rehabilitation

In an attempt to improve water quality and flow in existing pipelines, water companies use a process which involves scraping the pipe and then re-lining it, often with a polyethylene (PE) liner. Whilst this is a tried and tested technique, worries of water leakage at the termination point remain - Viking Johnson has the ultimate solution.

Simple Connection

LinerGrip is specifically designed as a termination method for existing pipework that has been re-lined with PE pipes that are not self-supporting in buried applications and therefore rely on the host main for pressure retention. One end of the fitting is a simple flange connection which allows attachment of other flanged equipment.

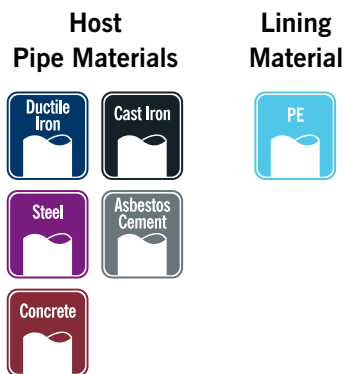


Gripping & Sealing

The other end of the fitting seals onto the outside of the existing pipe, preventing the ingress of ground water between the host pipe and liner. It also has an in-built gripping mechanism that attaches to the internal PE liner to prevent it from retracting inside the host main, either under tension or internal pressure. The mechanical fitting locally supports the PE liner from the force that it may experience, creating a seal which eradicates potential leak paths which are common where the liner ends.

Versatile

Extremely versatile, water companies can use LinerGrip with any cast iron, ductile iron, steel, asbestos cement and concrete pipes that have PE lining. Viking Johnson has a standard LinerGrip range of 50mm to 1000mm but is able to manufacture bespoke fittings to suit almost any specific site conditions.

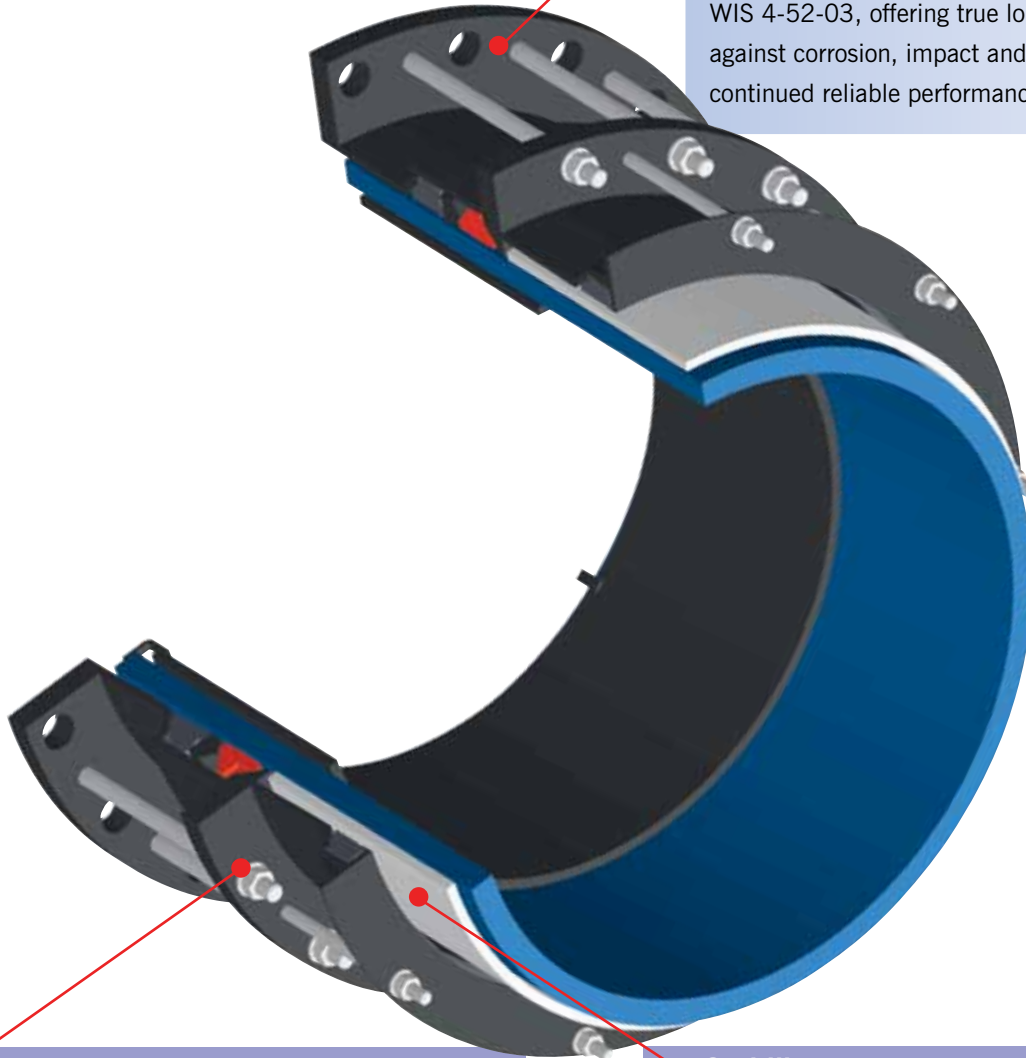


LinerGrip Pipeline Rehabilitation Technology

Product Design Benefits

Corrosion Protection

Metal components are coated with Rilsan Nylon 11 which is WRAS approved for use with potable water. The nuts and bolts are Sheraplex coated to WIS 4-52-03, offering true long term protection against corrosion, impact and abrasion to ensure continued reliable performance.



Easy Installation

LinerGrip is a mechanical connection, and as such requires no specialist equipment, other than a torque wrench.

Stability

LinerGrip seals onto the outside of the host main, which stabilises the entire fitting, as well as preventing the possibility of ingress of ground water into the gap between host and liner pipes.

Customer Benefits

- LinerGrip can be produced to suit almost any combination of configurations, specific to site requirements.
- Supports the PE pipe as it exits the host main.
- Prevents the PE pipe from retracting into the host pipe and seals the gap between the two pipes to ensure no leaks or ingress of ground water.
- Uses MaxiFit components for connection to the host main and therefore benefits from the tolerance of the MaxiFit range.

LinerGrip Pipeline Rehabilitation Technology

Easy to Install

Step 1

The polyethylene pipe is cut to length, after ensuring pipe is fully relaxed.

Step 2

After cutting to length, the centre sleeve is placed over the host pipe, and a coated insert is installed into the polyethylene pipe.

The gripper bracelet, gasket divider and gasket are installed onto the polyethylene pipe end.

Step 3

The main flange body is installed over the polyethylene pipe, locating the studs into the centre sleeve. This encloses the gasket and gripper. Use of mechanical handling will aid on large diameter products.

Step 4

The flange body studs are tightened, compressing the gasket and engaging the gripping teeth. The host main end ring is tightened. Installation is now complete.

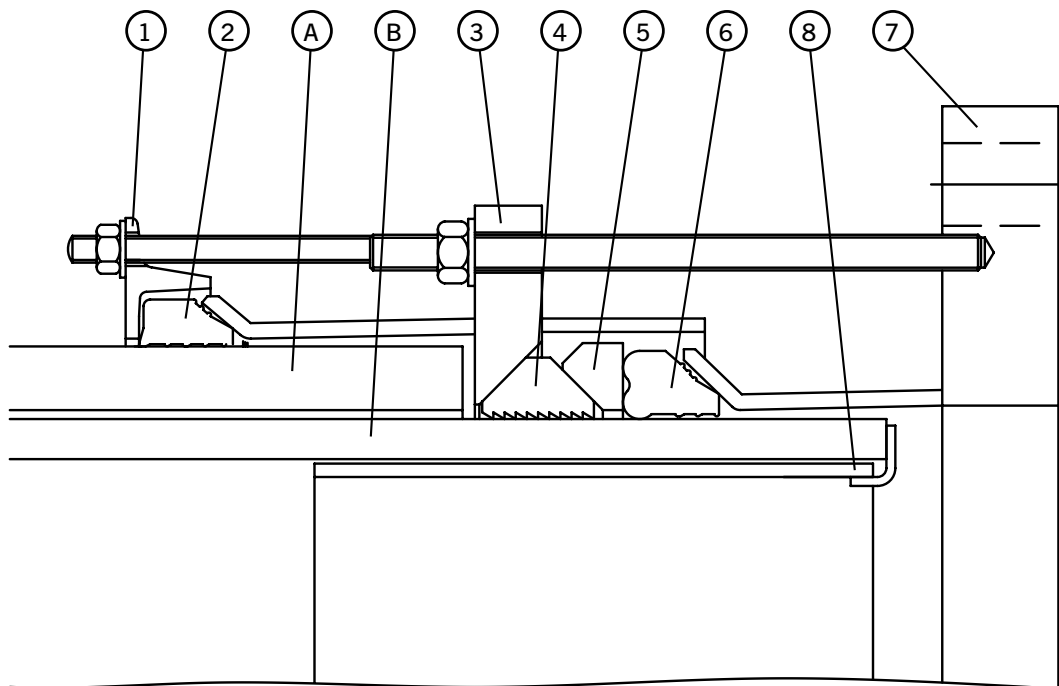


LinerGrip Standard Range 50mm to 1000mm

Specifications

LinerGrip Cross Section

- | | |
|--------------------|---------------------|
| 1) Host End Ring | 5) Gasket Divider |
| 2) Host Gasket | 6) LinerGrip Gasket |
| 3) Main Body | 7) Main Flange Body |
| 4) Gripper Segment | 8) Coated Insert |
- A) Host Pipe
B) Polyethylene Liner Pipe



Materials and Relevant Standards

Centre Sleeve/End Rings/Flange Adaptor Body

Rolled Steel to BS EN 10025 Grade S275JR or Equivalent

Gripper Links

Acetal Copolymer Grade M90 or equivalent

Bolts/Studs/Nuts/Washers

Bolts and Studs - Steel to BS EN ISO 898-1 Property Class 4.8

Nuts - Mild Steel to BS 4190 Grade 4

Washers - Stainless Steel to BS1449:Part 2: Grade 304S15

Gasket

Compound to suit application. Contact Viking Johnson for advice

Coating

Body, Sleeve and End Rings - Coated in Rilsan Nylon 11 to WIS 4-52-01 (Part 1)

Bolts and Nuts - Sheraplex to WIS 4-52-03

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United Kingdom - Oswestry

Vyrnwy Aqueduct - Relining

LinerGrip - DN1000



Project

A relining project using a thin wall SDR51 PE pipe inserted into the existing cast iron pipeline.

The 80km pipeline supplies drinking water taken from Lake Vyrnwy in North Wales to Liverpool.

Client

United Utilities

Contractor

Daniel Contractors Ltd & Subterra

LinerGrip Check List

LinerGrip is a bespoke product and Viking Johnson requires the following information to assist with the quotation process. This page can be copied from the brochure or a form is available on the website or directly from the Marketing Department.

Please fax back to: +44 (0)1462 443311 or email to: info@vikingjohnson.com

Company Name	<input type="text"/>	Date	<input type="text"/>
Contact Name	<input type="text"/>	Email	<input type="text"/>
Customer Address	<input type="text"/>		
	<input type="text"/>		
	<input type="text"/>		
	<input type="text"/>		
	<input type="text"/>		
	<input type="text"/>		
	<input type="text"/>		
	<input type="text"/>		

Host Pipe Details

Pipe Material <small>(Please tick)</small>	Cast Iron <input type="checkbox"/>	Steel <input type="checkbox"/>	Concrete <input type="checkbox"/>	Asbestos Concrete <input type="checkbox"/>	PVC <input type="checkbox"/>	Other <small>(Please specify)</small> <input type="text"/>	
Nominal	<input type="text"/>					Outside Diameter	<input type="text"/>
Tolerance range required on OD	<input type="text"/>					Inside Diameter	<input type="text"/>

Note: For sizes up to DN1000, the connection to the host main is normally in the form of the Viking Johnson MaxiFit. The MaxiFit has a tolerance range of 17mm, and this can be applied to suit the Host pipe. i.e. for a 610mm Steel host pipe the MaxiFit could be specified as having a range of 605mm to 622mm, giving a range to cover oversize conditions.

Note: For sizes DN1100 & over, the connection to the host main is normally in the form of the Viking Johnson High Tol LD Product, which will have a tolerance of 10mm.

PE Liner Details

Virgin PE pipe parameters before manipulation to install in host pipe

Liner Material <small>(Please tick)</small>	PE80 <input type="checkbox"/>	PE100 <input type="checkbox"/>
Specification <small>(WIS 4-32-03 etc)</small>	<input type="text"/>	
Virgin PE Pipe Diameter <small>(before reversion)</small>	<input type="text"/>	
SDR Rating of PE	<input type="text"/>	
Max PE Pipe OD	<input type="text"/>	
Min PE Pipe OD	<input type="text"/>	
Max PE THK	<input type="text"/>	Min PE THK <input type="text"/>

PE pipe diameter after installation in host pipe

Method of Installation of PE Liner	<input type="text"/>
Exit Diameter PE Pipe <small>(after reversion)</small>	<input type="text"/>

Note: This is the diameter of PE pipe that will be used for the LinerGrip fitting.

Note: The section in yellow are required if the PE specification is not to WIS 4-32-03.

Flange Drilling Details

Nominal Size	<input type="text"/>	Drilling Pattern	<input type="text"/>
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Note: Certain Drillings/configurations may require the upsizing of the flange or the use of special wrenches. In this case, we advise using the next flange size up as the preferred option. Small Diameter LinerGrip products use flanges with multiple flange drillings. Care should be exercised in ensuring the fit of the mating flange.

Application

Fluid in Relined Pipe <small>(Please tick)</small>	Water <input type="checkbox"/>	Wastewater <input type="checkbox"/>	Sewer <input type="checkbox"/>	Gas <input type="checkbox"/>	Other <small>(Please specify)</small> <input type="text"/>
Working Pressure	<input type="text"/>	Liner Primary Seal <small>(between PE liner and LinerGrip)</small>	<input type="text"/>		

Note: 1) Any quotation for LinerGrip is given based on technical details provided by the Customer, and may include assumptions where full details are not provided. Under these circumstances, both Viking Johnson and the Customer will need to establish the correctness of any datasheet or drawing prior to order. Viking Johnson reserves the right to re-quote at any time if new or complete technical dimensions are provided which materially alter the design of the product. 2) Manufacture cannot commence until ALL information has been provided.

Other Comments	<input type="text"/>
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46-48 WILBURY WAY
HITCHIN, HERTFORDSHIRE
SG4 0UD. UNITED KINGDOM
TELEPHONE: +44 (0)1462 443322
FAX: +44 (0)1462 443311
EMAIL: info@vikingjohnson.com

www.vikingjohnson.com

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ISO 14001 • EMS 51874



ISO 9001 • FM 00311



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