

1. SCOPE

This schedule specifies the characteristics for the Quick-Lock™ repair and rehabilitation systems listed below, as manufactured by UHRIG Kanaltechnik GmbH for the rehabilitation of gravity drains and sewers.

The Quick-Lock™ systems are available in 3 variants:

- Quick-Lock™ Standard system.
- Quick-Lock™ Flex system.
- Quick-Lock™ LinerEnd Sleeve system.

2. PRODUCT DESCRIPTION

2.1 Introduction

The Quick-Lock™ repair systems are an internal local mechanical repair system consisting of a rolled grade 1.4404/316L or 1.4539/904L stainless steel mechanical sleeve, with an EPDM/NBR rubber gasket which has integral circumferential silicone seals at either end.

The mechanical sleeve is positioned over a defect and then expanded with an inflatable packer until the locking mechanism has engaged, thereby compressing the rubber seal between the stainless steel sleeve and host pipe to form a leak-tight structural repair.

2.2 Quick-Lock™ Standard system

The Quick-Lock™ Standard system is for the rehabilitation of gravity drains and sewers of diameters between 100mm and 800mm at depths up to 5m, where the host pipe is still stable and has a deformation less than 3%.

2.3 Quick-Lock™ Flex system

The Quick-Lock™ Flex system is a variation of the Quick-Lock™ Standard system for the repair of misaligned and offset joints. The system is available in sizes outlined in Table 1 at depths up to 5m.

Table 1: Quick-Lock™ Flex dimensional tolerances

Pipe diameter (mm)	Body length (mm)	Max radial offset (mm)
200-250	360	20
300-450	360	25
500-600	460	25
700-800	460	25

The Quick-Lock™ Flex system can be used for radial displacement up to a maximum 10% without on-going preliminary preparations. The sleeve between the two locking mechanisms contains a corrugated section of steel that allows the sleeve to negotiate and repair misaligned pipes.

2.4 Quick-Lock™ LinerEnd Sleeve system

The Quick-Lock™ LinerEnd Sleeve system is installed at the end of a trimmed back installed CIPP liner to prevent any ground water tracking along any annulus between the liner and host pipe.

The Quick-Lock™ LinerEnd Sleeve has integral circumferential seals at either end that are different diameters to account for sealing of the host pipe and cured liner.

The mechanical sleeve is positioned over the end of the liner and then expanded by

use of an inflatable packer until the locking mechanism has engaged, thereby compressing the rubber seal between the stainless steel sleeve and host pipe/sleeve and liner to form a leak-tight seal between the host pipe and cured liner. The end of the liner is therefore positioned between the sealing nubs, preventing any liquid from entering.

The Quick-Lock™ LinerEnd Sleeve system is available in host pipe diameters 100mm to 800mm and liner wall thicknesses up to 12mm, at depths up to 5m. The Quick-Lock™ LinerEnd Sleeve system diameter ranges and liner wall thicknesses are summarised in Table 2.

Table 2: Quick-Lock™ LinerEnd Sleeve dimensional tolerances

Pipe Diameter (mm)	Body length (mm)	Liner thickness (mm)
100-125	149	2-3
150-175	250	2-8
200-400	250	3-9
450-500	300	3-11
600-700	300	4-12
800	400	4-12

2.5 Applicable standards

No British, European or International Standards have been identified that are applicable to this product.

2.6 Approval History

For the 2024 renewal, the Quick-Lock™ and Quick-Lock™ Mini have been incorporated as the Quick-Lock™ Standard.

Quick-Lock™ Standard system

The Quick-Lock™ Standard system has been WRc Approved since 2009.

- PT/283/0609.
- PT/364/0614.
- PT/446/0619.

Quick-Lock™ Mini system

The Quick-Lock™ Mini system has been WRc Approved since 2009. The Quick-Lock™ Mini was an extension of the UHRIG Quick-Lock™ range.

- PT/283/0609.
- PT/364/0614.
- PT/449/1119.

Quick-Lock™ Flex system

This is the first reapproval of the Quick-Lock™ Flex system which was originally approved under certificate PT/447/1119 in November 2019.

Quick-Lock™ LinerEnd Sleeve system

This is the first reapproval of the Quick-Lock™ LinerEnd Sleeve system since the original approval PT/448/1119 in November 2019.

3. REQUIREMENTS AND TESTING

3.1 Materials and components

The materials shall meet the requirements of:

- Steel sleeve and locking mechanism: Stainless steel grade 1.4404/316L or 1.4539/904L to BS EN 10088-1:2023⁽¹⁾ and BS EN 10088-4:2009⁽²⁾.
- Rubber gasket: BS EN 681-1:1996⁽³⁾ Elastomeric seals. Material requirements for pipe seals used in water and drainage applications. Vulcanised rubber.

3.2 Type Testing

Appearance: The internal surface of the Quick-Lock™ repair systems shall be smooth, clean and free from scoring, and other surface defects that would prevent the Quick-Lock™ repair systems from meeting the general fitness for purpose requirement.

Serviceability:

- When the Quick-Lock™ repair system is installed in a pipe, the invert of the repaired and adjacent unrepaired sections shall be continuous in accordance with BS EN 476:2022⁽⁴⁾ Clause 6.5.
- The locking mechanism shall be wholly contained in the upper quarter of the circumference of the pipe.
- The repair shall remain in the installed position when subjected to maintenance operations WIS 4-35-01 2008⁽⁵⁾: Appendix B.

Mechanical resistance: The structural design shall demonstrate that the Quick-

Lock™ repair system can resist the imposed loads without structural failure.

Leak-tightness: When tested in accordance with Appendix B of WIS 4-34-06⁽⁶⁾: 2010 or Appendix F of The Drain Repair Book⁽⁷⁾ at a test pressure of 50 kPa, the infiltration rate shall meet the requirements of BS EN 1610:2015⁽⁸⁾.

3.3 Manufacture

To ensure the quality and performance of the Quick-Lock™ repair systems, the manufacturing process shall include appropriate systems for the:

- Specification of component materials;
- Verification component materials received are to specification;
- Handling and storage of all component materials and finished units;
- Detailed drawing / schedule for manufacture;
- Manufacture / assembly of the UHRIG Quick-Lock™ repair system, and;
- Fabrication and quality control of workmanship.

The production of the Quick-Lock™ repair systems and related quality control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

3.4 Installation

When installed in accordance with the installation documentation⁽⁹⁾, the Quick-Lock™ repair systems shall be reasonably expected to perform as described.

PT/589/1124 (November 2024)

Assessment Schedule for the Quick-Lock™ repair systems as manufactured by UHRIG Kanaltechnik GmbH



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4. APPROVAL

The UHRIG Quick-Lock™ repair systems have been audited and successfully met all the requirements stated within this assessment schedule.

Signed:

Valid until 5th November 2029

7. Drain Repair Book 4th edition, 2017.

8. BS EN 1610:2015 Construction and testing of drains and sewers.

9. Quick Lock Pipe repair/Liner connection manual Standard (Version 2024-11).

Quick Lock Pipe repair/Liner connection manual Quick-Lock FLEX (Version 2024-11).

Quick Lock Pipe repair/Liner connection manual Quick Lock LinerEnd (Version 2024-11).

5. REFERENCES

1. EN 10088-1:2023 List of stainless steels (Steel sleeve).
2. EN 10088-4:2009: Stainless steels. Technical delivery conditions for sheet/plate and strip of corrosion resisting steels for construction purposes.
3. BS EN 681-1:1996 Elastomeric seals. Material requirements for pipe seals used in water and drainage applications. Vulcanised rubber (Rubber gasket).
4. BS EN 476:2022 General requirements for components used in drains and sewers.
5. WIS-4-35-01 2008 Specification for Thermoplastics Structured Wall Pipes – Supplementary Test Requirements.
6. WIS 4-34-06 Issue 3 August 2010 Specification for localised sewer repairs using cured-in-place systems with or without rerounding.