

**Assessment Schedule for the Quick-Lock™  
Liner End Sleeve for the sealing of the end  
face of installed CIPP as manufactured by  
UHRIG Kanaltechnik GmbH.**



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## 1. SCOPE

This schedule specifies characteristics for the UHRIG Quick-Lock™ LINER END SLEEVE system as manufactured by UHRIG Kanaltechnik GmbH.. The UHRIG Quick-Lock™ LINER END SLEEVE system is installed at the end of an trimmed back installed cured-in-place-liner to prevent any ground water that may track along any annulus between the liner and host pipe.

## 2. PRODUCT DESCRIPTION

### 2.1 Introduction

The UHRIG Quick-Lock™ LINER END SLEEVE system is a mechanical end seal. The LINER END SLEEVE consists of a rolled grade 1.4571 stainless steel mechanical sleeve, with an EPDM rubber gasket which has integral circumferential seals at either end, with different diameters to account for sealing of the host pipe and cured liner.

The mechanical sleeve is poisoned then over a defect and then expanded by use of inflatable packer until the locking mechanism has engaged, thereby compressing the rubber seal between the sleeve and host pipe to form a leak tight structural repair.

The UHRIG Quick-Lock™ LINER END SLEEVE system is available in host pipe diameter 150mm to 800mm liner wall thickness up to 12mm. The UHRIG Quick-Lock™ LINER END SLEEVE system diameter range and liner wall thickness are summarized in Table 1.

**Table1: Quick Lock LINER END SLEEVE dimensional tolerances**

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

### 2.2 Relevant Standards

Performance: the following relevant standards were identified for:

- Drain Repair Book 4<sup>th</sup> edition 2017<sup>(4)</sup>
- BS EN 476:2011<sup>(5)</sup>
- BS EN 1610:1998<sup>(6)</sup>
- Sewers for Adoption 7<sup>th</sup> edition<sup>(7)</sup>
- WIS-35-01 2002 Appendix C<sup>(8)</sup>
- WIS 4-34-06 November 2008<sup>(9)</sup>

Materials: Materials used shall comply with:

- EN 10088-1:Part 1:2014<sup>(1)</sup> (steel sleeve)
- EN 10088-4:2009<sup>(2)</sup> (technical delivery conditions for steel)
- BS EN 681-1:1996<sup>(3)</sup> (rubber gasket)

### 2.3 Approval History

This is the first approval of the UHRIG Quick-Lock™ LINER END SLEEVE system

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### 3. TESTING AND REQUIREMENTS

#### 3.1 Type Testing

The UHRIG Quick-Lock™ LINER END SLEEVE system shall comply with the following test requirements:

Materials: The materials shall meet the requirements of:

Steel sleeve and locking mechanism: Stainless steel grade 1.4571 to BS EN 10088-1:2014 and BS EN 10088-4:2009

Rubber gasket: BS EN 681-1:1996) Elastomeric seals. Material requirements for pipe seals used in water and drainage applications. Vulcanised rubber.

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

Serviceability:

- When the UHRIG Quick-Lock™ LINER END SLEEVE system cuff is installed in a pipe, the invert of the repaired and adjacent unrepaired sections shall be continuous in accordance with BS EN 476:2011 Clause 6.4.
- 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 2002: Appendix C.

Mechanical resistance: The structural design shall demonstrate that the UHRIG Quick-Lock™ LINER END SLEEVE system

can resist the imposed loads without structural failure.

Leak-tightness: When tested in accordance with Appendix D of WIS 4-34-06: 2008 or Appendix D of The Drain Repair Book at a test pressure of 50 kPa, the infiltration rate shall meet the requirements of BS EN 1610:1998.

#### 3.2 Manufacture

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

- Verification of component materials received are to specification
- Handling and storage of all component materials and finished units
- Records of manufacture
- Detailed drawings for product range

The production of UHRIG Quick-Lock™ LINER END SLEEVE and related Quality Control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

#### 3.3 Installation

When installed in accordance with the installation documentation, the installation shall be practicable and suitable for conditions that could reasonably be expected on site.

**PT/448/1119 - AS (November 2019)**

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#### **4. APPROVAL**

UHRIG Quick-Lock™ LINER END SLEEVE system has been audited and has successfully met all the requirements stated within this assessment schedule.

Signed:

A handwritten signature in black ink, appearing to read 'A J Budge'.

Valid until 4<sup>th</sup> November 2014

8) WIS-35-01 2008 Specification For Thermoplastics Structured Wall Pipes – Supplementary Test Requirements

9) WIS 4-34-06 November 2008 Specification for localised sewer repairs using cured-in-place systems with or without rerounding.

#### **5. REFERENCES**

1) EN 10088-1:2014 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) Drain Repair Book 4th edition, 2017

5) BS EN 476:2011 General requirements for components used in drains and sewers

6) BS EN 1610:1998 Construction and testing of drains and sewers

7) Sewers for Adoption 7th edition