PT/465/0720 - AS (July 2020)

Assessment Schedule for the SPR™ EX lining system for gravity pipe renovation as manufactured by Sekisui Rib Loc Australia PTY Ltd.

Independent certification of your products & services

1. SCOPE

This schedule specifies requirements for the SPR™ EX lining system as manufactured by Sekisui Rib Loc Australia PTY Ltd. It is applicable to the renovation of both fully and partially deteriorated circular gravity sewers with diameters 150 mm to 1050 mm.

It is not applicable to:

- Jetting resistance to pressures above 138 bar (2,000 psi) at the pump.
- Watertightness of end seals; or
- Reconnection of laterals.

2. PRODUCT DESCRIPTION

2.1 Introduction

SPR™ EX is a spirally wound pipe lining system, the system comprises:

- A continuous profiled strip of PVC-U plastic that is supplied in one of five different profiles depending on the diameter of pipe to be rehabilitated.
- A steel wire that is embedded in the secondary profile interlock of the profiled strip and which, upon removal, allows the interlocked tube to expand to the internal diameter of the sewer.
- A lubricant that assists in the expansion of the tube and which later sets as an adhesive to prevent further movement; and
- A silicone sealant that improves the watertightness of the primary profile interlock.

The profiled strip is fed into the gravity sewer using a machine sited in the insertion chamber. The machine winds and interlocks the strip into a tubular configuration. The liner is pushed along the host pipe to the target chamber as it is wound.

The steel wire is removed, allowing the tube to expand into place as more of the strip is wound in, and the lubricant sets to prevent further movement.

2.2 Relevant Standards

Performance: The following standards were identified:

- ASTM F1741-18(1)
- BS EN ISO 11296-7:2019(2)
- WIS 4-35-01(3)

Materials: Materials used shall comply with:

- ASTM D1784-20(4)

2.3 Approval History

The SPR™ EX lining system has been awarded the following WRc Approved™ certification:

- PT/305/0710.
- PT/372/0715.

3. REQUIREMENTS AND TESTING

3.1 Requirements

Materials requirements – PVC-U shall be manufactured to cell classification 13354 in accordance with ASTM D1784-20.

Steel wire shall be in accordance with the manufacturer's specification.

Silicone sealant shall be Silpruf Alkoxy sealant or equivalent.

Dimensions – Profiled strip shall be manufactured in accordance with ASTM F1741-18.

Mechanical resistance – Mechanical resistance shall be verified by type testing and calculation in accordance with

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ASTM F1741-18 for fully or partially deteriorated pipes.

Alternatively, as the long-term leaktightness of the helical interlock has been demonstrated the SPR™ EX lining system can be designed in accordance with the WRc Sewerage Rehabilitation Manual (SRM) Type II structural design.

3.2 Type Testing

Ring stiffness shall be not less than 0.5MPa in accordance with BS EN ISO 11296-7: 2019.

Creep ratio shall be not greater than 2.5 in accordance with BS EN ISO 11296-7: 2019.

Serviceability – The SPR™ EX liner shall comply with the requirements for jetting resistance in accordance with WIS 4-35-01 up to a pressure of 2,000psi (138bar) at the pump.

Watertightness – The SPR™ EX liner shall comply with the internal pressure and vacuum requirements of ASTM 1741-18.

The long-term leaktightness of the helical interlock shall be demonstrated in accordance with WRc requirements.

Appearance – The internal surface of the liner shall be smooth, clean and free from scoring, cavities and other surface defects.

3.3 Manufacture

To ensure the quality and performance of the SPR™ EX lining system, the manufacturing process shall include appropriate systems for:

- Verification that component materials received are to specification.
- Handling and storage of all component materials and finished units.
- Records of dimensional verification and seam profile configuration.
- Detailed drawings for profiles.
- Inspection and maintenance of extrusion line.
- QC records during extrusion.

The production of the SPR™ EX lining system 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, the installation shall be practicable and suitable for conditions that could reasonably be expected on site.

4. APPROVAL

Sekisui Rib Loc Australia PTY Ltd. has been audited and has successfully met all the requirements stated within this assessment schedule for the SPR™ EX lining system.

Signed:

KA Adams

Valid until 31st October 2025

5. REFERENCES

1. ASTM F1741 - 18 Standard Practice for Installation of Machine Spiral Wound Poly (Vinyl Chloride) (PVC) Liner Pipe for Rehabilitation of Existing Sewers and Conduits.
2. BS EN ISO 11296-7:2019 Plastics piping systems for renovation of underground non-pressure

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drainage and sewerage networks Part 7: Lining with spirally wound pipes.

3. WIS 4-35-01 Specification for thermoplastics structured wall pipes, joints and couplers with a smooth bore for gravity sewers for the size range 150-900 inclusive. Second edition October 2008.
4. ASTM D1784 - 20 Standard Classification System and Basis for Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
5. SPR™ EX lining system installation manual.

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