

1. SCOPE

This schedule specifies requirements for the SPR™ PE 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 900 mm to 3000 mm.

It is not applicable to:

- Watertightness of end seals; or
- Reconnection of laterals.

2. PRODUCT DESCRIPTION

2.1 Introduction

SPR™ PE is a spirally wound pipe lining system.

The installed system comprises a continuous strip of steel-reinforced profiled HDPE plastic that is supplied in a variety of different profiles depending on the diameter of pipe to be rehabilitated.

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

The annulus between the liner and the host pipe is grouted.

2.2 Relevant Standards

Performance: The following standards were identified:

- ASTM F1741-18⁽¹⁾
- AS/NZS 1595⁽²⁾
- BS EN ISO 11296-7:2019⁽³⁾
- WIS 4-35-01⁽⁴⁾

Materials: Materials used shall comply with:

- ASTM F894-19⁽⁵⁾

2.3 Approval History

The SPR™ PE lining system has been awarded the following WRC Approved™ certification:

- PT/295/0710.
- PT/373/0715.

3. REQUIREMENTS AND TESTING

3.1 Requirements

Materials requirements – HDPE shall be manufactured to cell classification 334433C/D or higher in accordance with ASTM F894-19.

Steel shall be CA3SN-G to AS/NZS 1595.

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 ASTM F1741-08 for fully or partially deteriorated pipes.

3.2 Type Testing

Ring stiffness shall be not less than 0.5 MPa 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™ PE liner shall comply with the requirements for jetting resistance in accordance with WIS 4-35-01.

Watertightness – The SPR™ PE liner shall comply with the internal pressure and vacuum requirements of ASTM F1741-18.

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



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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™ PE 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 profile.
- Inspection and maintenance of extrusion line.
- QC records during extrusion.

The production of the SPR™ PE 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™ PE 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) AS/NZS 1595:1998 Cold-rolled, unalloyed, steel sheet and strip.
- 3) BS EN ISO 11296-7:2019 Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks Part 7: Lining with spirally wound pipes.
- 4) 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.
- 5) ASTM F894 - 19 Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe.
- 6) SPR™ PE lining system installation manual.