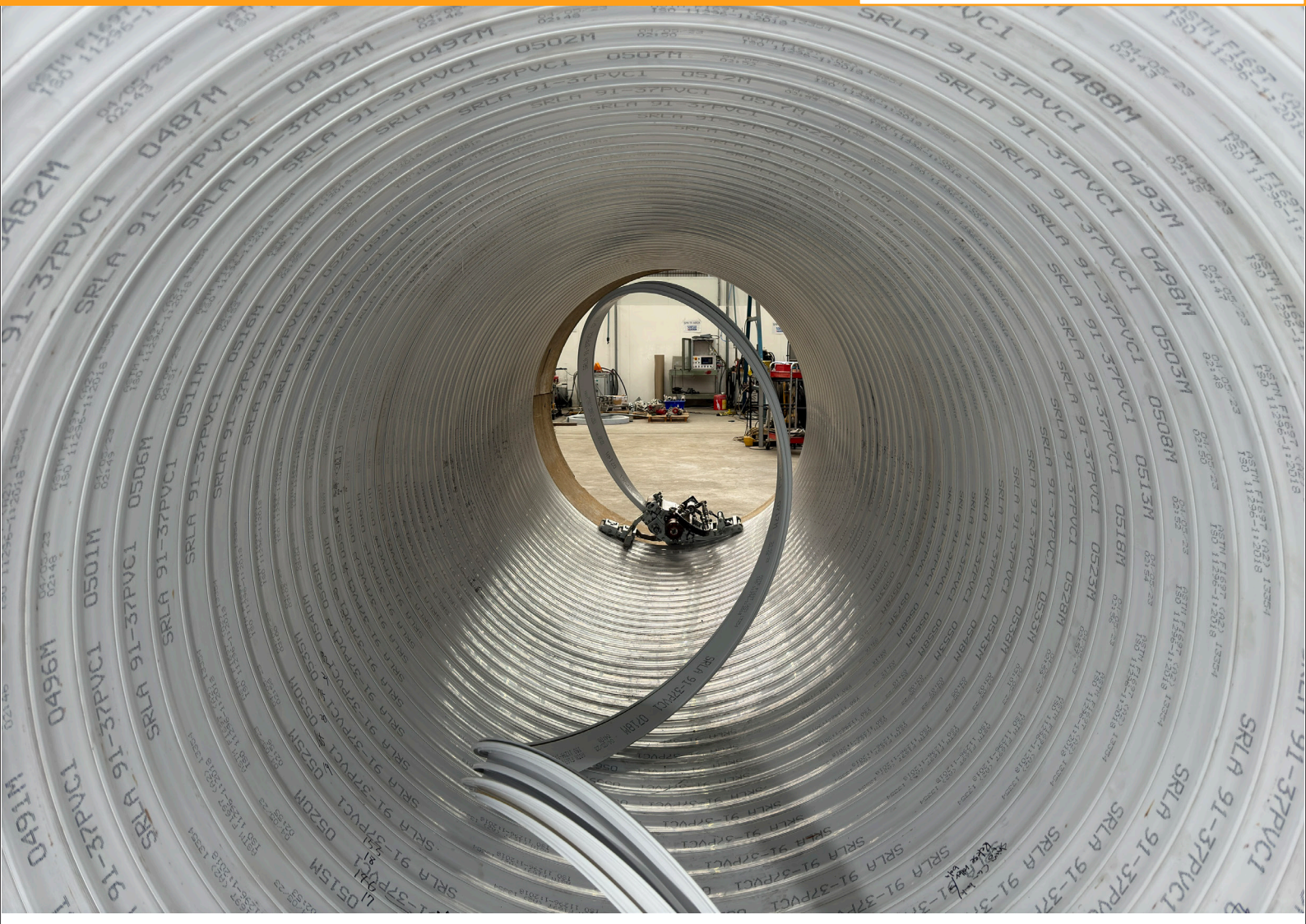
SEKISUI
SEKISUI RIB LOC

SPR®TF

CLOSE FIT LINER
WITH COMPACT MACHINERY
DN 1050 - 1650 mm (42 - 66 inch)

SPR®TF

SPR®TF technology, incorporating
spirally wound system
by RIB LOC®



SEKISUI RIB LOC AUSTRALIA'S TECHNOLOGIES AND SERVICES

SEKISUI Rib Loc Australia Pty Ltd (SRLA) is the internationally recognised inventor of RIB LOC® spirally wound technologies. Owned since 2008 by SEKISUI Chemical Co., Ltd., one of Japan's largest global plastics developers and manufacturers, SRLA develops, manufactures and supports the delivery of its spiral pipe renewal technologies through its worldwide network of distributors and installation partners.

Vision – Innovation for the Earth

SRLA's vision is to provide well-being and peace of mind to all current and future generations by contributing to the sustainability of the Earth and society by using the power of innovation that is in our people's DNA to continue opening new frontiers in social infrastructure.

Mission

With customer satisfaction as a priority, our mission is to supply, educate and support stakeholders in the use of our innovative, high-quality pipe renewal technologies for the benefit of the environment and society.

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CORE CAPABILITIES

- Profiles - Design and Manufacture
- Equipment - Design and Manufacture
- Research and Development

TECHNICAL SERVICES

- Project Management
- Engineering Support
- Training Services
- Site Support

TRENCHLESS INFRASTRUCTURE SOLUTIONS

- SPR®EX / Expanda®
- SPR®RO / Rotaloc®
- SPR®TF
- SPR®ST / Ribsteel®
- SPR®PE / Ribline®
- SPR®

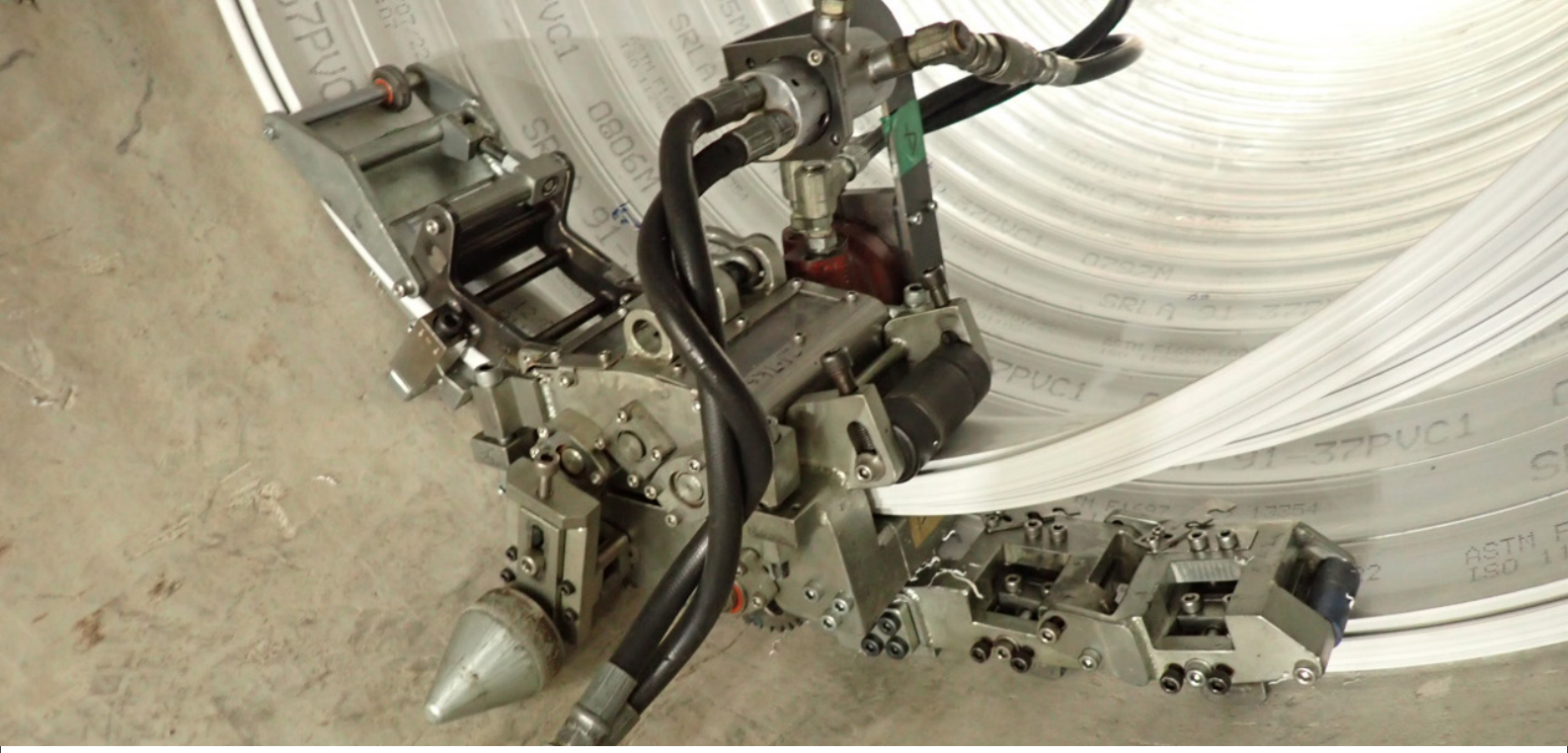
SRLA's innovative, patented and world renowned RIB LOC® spirally wound technologies are used the world over for the time and cost efficient means they offer for rehabilitating damaged pipes with minimum impact on the environment.

The spirally wound technologies for gravity pipelines are based on the principle of winding a continuous plastic strip into a liner directly within the deteriorated pipe. The plastic strip is spirally wound via a patented winding machine positioned in the base of an existing maintenance hole or access chamber. The edges of the strip interlock as it is spirally wound to form a continuous watertight liner inside the host pipe.

For the spirally wound rehabilitation of gravity pipes SRLA offers six systems:

	SPR®EX Expanda®	SPR®RO Rotaloc®	SPR®TF	SPR®ST Ribsteel®	SPR®PE Ribline®	SPR®
Diameter	150 - 1050 mm 6 - 42 inch	800 - 1800 mm 32 - 72 inch	1050 - 1650 mm 42 - 66 inch	450 - 2500 mm 18 - 100 inch	900 - 3000 mm 36 - 120 inch	800 - 5500 mm 32 - 220 inch
Material *	PVC	PVC	PVC	PVC	HDPE	PVC
Shape	Circular	Circular	Circular	Circular	Circular	Circular, non-circular, custom shape
Installation	Close fit	Close fit	Close fit	Fixed diameter	Fixed diameter	Fixed diameter

* Steel reinforcement used in selected profiles



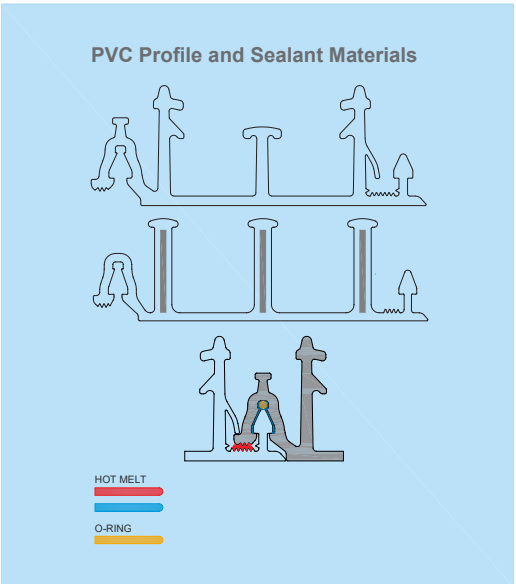
STRUCTURAL, LIGHT WEIGHT, CLOSE FIT LINER FOR GRAVITY PIPELINES

The SPR®TF technology incorporating spirally wound system by RIB LOC®, is a solution for restoring the hydraulic efficiency, reliability and integrity of aging sewers, stormwater pipes and culverts.

The SPR®TF method utilizes a lightweight compact machine to lay a single strip of reinforced or unreinforced PVC profile directly against the host pipe wall, producing a close-fit, structural watertight liner, without the need for grouting, in diameters from 1050mm (42 inch) to 1650mm (66 inch).

Project experience

SPR®TF is an exciting new technology for the rehabilitation of sewers, stormwater and culvert lines. It has already proven capable of providing a structural liner for severely deteriorated pipelines, and has been installed under difficult site conditions with minimal community disruption.



Cross-section of a typical profile, showing the mechanism that locks together successive wraps of profile

Fast installation with compact machinery

The deteriorated pipeline is first cleared of debris and obstructions, cleaned and inspected.

The SPR®TF winding machine is lowered to the base of the access chamber through a standard opening. The PVC profile is fed into the machine from an above ground spool. Winding commences as the SPR®TF machine lays the PVC profile directly against the host pipe wall as it traverses inside the deteriorated pipeline.

Winding continues as the profile is fed into the machine through the lined section of the host pipe. The position of service connections can be logged for later reconnection. The process continues until the SPR®TF winding machine reaches the end of the pipeline length to be rehabilitated.

The ends of the liner at both access chambers are sealed and rendered to make them smooth with the host pipe. Lateral connections can be cut and sealed immediately on completion of liner installation.

FEATURES AND BENEFITS

Flow advantages

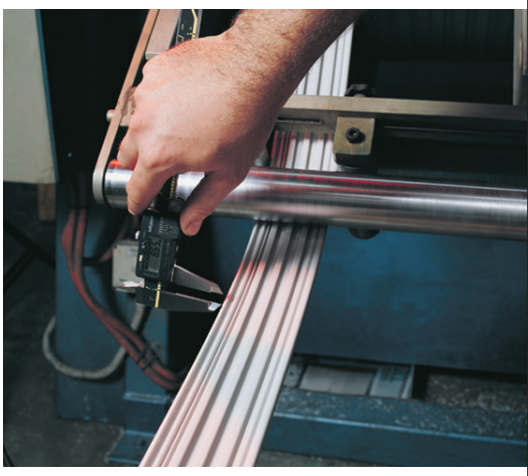
- Installed to fit tightly against the existing pipe wall - minimum loss of cross-sectional area.
- Flow efficient, smooth bore with circular cross section.
- Winds smoothly around large radius pipeline bends.
- Usually greater hydraulic capacity than the host pipe.

A strong flexible liner

- Can be designed as a structural liner, A range of PVC profiles, with or without steel reinforcement, is available to meet design requirements.
- Structurally efficient circular cross section - even when the host pipe is misaligned.
- Constant wall thickness and shape.
- Machine installed. Installation does not depend on the standard of workmanship in difficult conditions.

Fast installation with minimum community disruption

- Rapid set up, safe work sites and low noise during construction.
- Uses existing access chambers, no need to excavate launch pits.
- No on-site pipe storage required.
- Small support vehicles – less disruption of traffic.
- Can operate with some flow in the existing pipe and the line can be immediately returned to service after winding.
- Installation possible with difficult to reach access chambers – support vehicles and equipment can be placed remotely.



Quality control during the profile extrusion process

Production tested in accordance with global standards

Proven pipe material

- Made from similar grade of PVC as new sewer and drainage pipe.
- Cell Classification of 13354 in accordance with ASTM D1784.
- Profile sealing materials are tested to confirm suitability in high ambient temperature sewer environments.
- Factory manufactured, with consistent material properties.

Plastic and steel profiles

- The plastic profile that forms the liner is provided in a range of sizes, with or without steel reinforcement.
- The appropriate profile, and steel section if needed, is selected to provide a liner with sufficient stiffness to meet the design requirements for the project.

Design

Numerous industry specifications provide design methods applicable to SPR®TF, including:

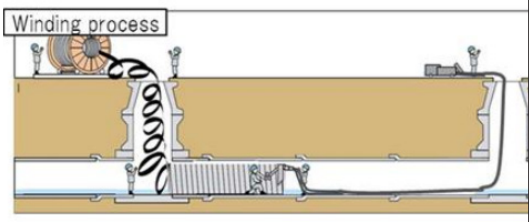
- ASTM F1741 "Standard Practice for Installation of Machine Spiral Wound Poly (Vinyl Chloride) (PVC) Liner Pipe for Rehabilitation of Existing Sewers and Conduits".
- Australian Water Authority Specifications, usually based on Australian Standard AS/NZS 2566.1 "Buried Flexible Pipelines, Part 1: Structural Design".

Section Properties of Typical SPR®TF Profiles

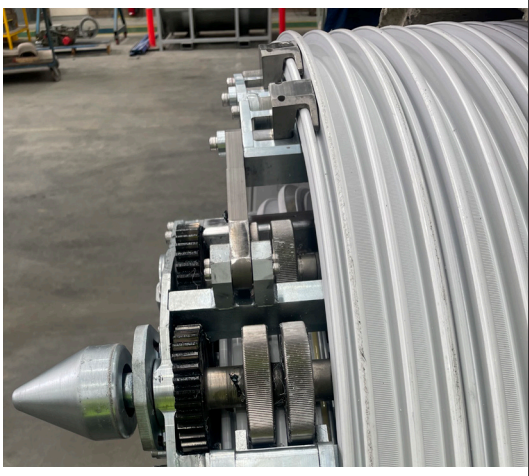
PROFILE	HEIGHT	TYPICAL PIPE DIAMETER	
91 - 37RO	37	1050 - 1650	mm
91 - 37RO	1.45	42 - 66	inch
91- 32ROS	32	1200 - 1650	mm
91 - 32ROS	1.26	48 - 66	inch

The benefits of SPR®TF at a glance

- Structural liner.
- Close fit with the host pipe.
- Diameters from 1050 - 1650 mm (42 - 66 inch) using two profile types.
- Manufactured from pipe grade PVC.
- Suitable for gravity flow sanitary sewer and stormwater pipelines.
- WRc Approved® (PT/465/0720).



On-site setup for SPR®TF installation



The SPR®TF Winding Machine

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