

1. SCOPE

This schedule specifies requirements for the Inpipe Sweden AB UV cured liner system as manufactured by Inpipe Sweden AB. It is applicable to the renovation of gravity sewers and drains.

The Inpipe liner has a range of internal diameters from 150mm to 1800mm and egg-shaped pipes between 200mm by 300mm (DN 252mm equivalent) and 1400mm x 2100mm (DN 1770mm equivalent).

The schedule is not applicable to:

- The installation or reconnection of the laterals.
- Performance of the liner end seals.

2. PRODUCT DESCRIPTION

2.1 Introduction

The system comprises a glass fibre reinforcement woven sleeve which is factory impregnated with an ultra violet (UV) light curing polyester or vinyl ester resin. When installed and cured this forms a full length cured-in-place structural liner within the host pipe.

Installation is either by air inversion for diameters up to 500mm or winched-in for diameters up to 1800mm.

2.2 Relevant Standards

The following relevant standard was identified for cured-in-place pipe liners:

- BS EN ISO 11296-4:2018+A1: 2021⁽¹⁾.

2.3 Approval History

This is the first re-approval of the Inpipe Sweden AB liner system, the previous approval was:

- PT/408/1017.

This approval supersedes the previous issue.

3. REQUIREMENTS AND TESTING

3.1 Structural Design

The Inpipe Sweden AB liner system shall be designed in accordance with either:

- Swedish P101 Schaktfritt byggande av markförlagda VA-ledningar av plast⁽²⁾.
- DWA-A 143-2: 2015⁽³⁾ or ASTM F1216-21⁽⁴⁾.

3.2 Type Testing

Appearance: The internal surface of the liner shall be smooth, clean and free from scoring, cavities, wrinkling and other surface defects that would prevent the liner from meeting the general fitness for purpose requirement.

Mechanical Characteristics Testing: Mechanical testing requirements of BS EN ISO 11296-4 are listed in Table 1.

Table 1 Mechanical characteristics

Parameter	Requirement
Short-term flexural modulus ISO EN 1228 (full ring)	Declared: 9,500 MPa
ISO EN 178 (3 point bend)	Declared: 9,000 MPa
Long-term flexural modulus ISO EN 1228	Declared: 6,800 MPa
Short-term stress at first break	Declared 220 MPa
Long-term flexural stress	Declared: 156 MPa
Long-term strain corrosion	Minimum $\geq 0.45\%$ Declared 1.33%

Quality control tests: A quality control test regime shall be based upon ISO-9001 and DIBt certification requirements.

3.3 Manufacture

To ensure the quality and performance of the Inpipe Sweden AB UV cured liner 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 linings;
- Records of manufacture;
- Inspection and maintenance of manufacturing equipment.

The production of the Inpipe Sweden AB 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 Inpipe Sweden AB liner installation manual⁽⁵⁾, the installation shall be practicable and suitable for conditions that could reasonably be expected on site.

4. APPROVAL

The Inpipe Sweden AB liner system has been audited and has successfully met all of the requirements stated within this assessment schedule.

Signed:



Valid until 10th October 2027

5. REFERENCES

1. BS EN ISO 11296-4 Plastic piping systems for renovation of underground non-pressure drainage and sewerage networks. Lining with cured-in-place pipes, 2018+A1:2021.
2. Swedish P101 Schaktfritt byggande av markförlagda VA-ledningar av plast.
3. DWA-A 143-2: 2015. Rehabilitation of dewatering systems outside buildings Part 2: Static calculation for the rehabilitation of sewage pipes and pipes using lining and assembly methods.
4. ASTM F1216 – 21 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.

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**Assessment Schedule for the Inpipe
Sweden AB UV cured liner system**



Independent certification of your products & services

5. Inpipe Sweden AB liner installation manual, Version 2021:05.