

**PT/507/0422 (April 2022)**

**Assessment Schedule for RSM Speedy  
Liner as supplied by RSM Lining Supplies  
Global Ltd.**



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## **1. SCOPE**

This schedule specifies requirements for the UV light cured RSM Speedy Liner system as supplied by RSM Lining Supplies Global Ltd. RSM Speedy Liner is applicable to the renovation of gravity sewers and drains.

The approval is not applicable to:

- leaktightness of end seals.
- reconnection of laterals.

## **2. PRODUCT DESCRIPTION**

### **2.1 Introduction**

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

The RSM Speedy Liner has a range of internal diameters from 100mm to 300mm with an average wall thickness of 3mm.

The RSM Speedy Liner is supplied in pre-impregnated 400m lengths from which RSM will cut individual lining lengths upon request.

### **2.2 Relevant standards**

The following standard is applicable to this product:

- BS EN ISO 11296-4:2021<sup>(1)</sup>

### **2.3 Approval history**

The RSM Speedy Liner system first received WRC Approved certification in July 2019 and is concurrent with

PT/405/0417 which has been renewed to PT/496/0422.

This is the first re-approval and this Assessment Schedule supersedes the previous schedule:

- PT/441/0719-AS.

## **3. REQUIREMENTS AND TESTING**

### **3.1 Product Design**

The Speedy Liner system shall be structurally designed in accordance with DWA-A143-2<sup>(2)</sup> or ASTM F1216-22<sup>(3)</sup>.

### **3.2 Type Testing**

The Speedy Liner system shall comply with the following test requirements which are based upon:

- BS EN ISO 11296-4.

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 RSM Speedy Liner system 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.

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Table 1 Speedy Liner system mechanical characteristics

<i>Characteristic</i>	<i>Requirement</i>
Short-term flexural modulus	Declared:10,000 MPa
Long-term flexural modulus	Declared:6,800 MPa
Short-term stress at first break	Declared:150 MPa
Long-term flexural stress	Declared:105 MPa
Long term strain corrosion test	Minimum extrapolated failure strain at 50 years $> = 0.45\%$ Declared: 0.713%

Quality Control Tests

Samples are taken each day from a batch of impregnated linings and cured. The cured sample is tested in accordance with BS EN ISO 11296-4 as detailed in Table 2.

Table 2 Quality Control Tests

<i>Parameter</i>	<i>Requirement</i>
Wall Structure	Clause 8.4.2
Wall thickness	Clause 8.4.3
Initial specific ring stiffness or short-term flexural modulus	Clause 8.5 Table 5
Flexural stress at first break	Clause 8.5 Table 5

Flexural strain at first break	Clause 8.5 Table 5
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**3.3 Manufacture**

To ensure the quality and performance of the Speedy 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 lining 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<sup>(4)</sup>, the installation shall be practicable and suitable for conditions that could reasonably be expected on site.

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**4. APPROVAL**

The Speedy Liner 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 'J. Key'.

Valid until: 11<sup>th</sup> April 2027

**5. REFERENCES**

1. BS EN ISO 11296-4:2018+A1:2021 Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks. Lining with cured-in-place pipes.
2. DWA-A143-2 Rehabilitation of drainage systems outside buildings – Part 2: Static calculation for the rehabilitation of wastewater pipes and pipes with lining and assembly methods. (July 2015).
3. ASTM F1216-22 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.
4. Berolina-Liner Berolina-HF-Liner Installation Manual