PT/563/0925-AS (May 2026)

Assessment Schedule for the iMPREG® GL01, GL13 and GL16 full length UV-cured liner systems as manufactured by iMPREG GmbH

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1. SCOPE

This schedule specifies the requirements for the iMPREG® GL01, GL13 and GL16 full-length UV cured-in-place pipe (CIPP) liner systems as manufactured by iMPREG GmbH for the renovation of gravity drains and sewers.

It is applicable to circular and non-circular host pipes having internal diameters as follows:

Table 1 Diameter range of iMPREG® liners by system

Liner Type	Circular host pipe diameter (mm)	Non-circular host pipe major diameter (mm)
GL01	150-1,200	200-300 to 1,000-1,500
GL13	400 – 1,600	200-300 to 1,000-1,500
GL16	150 – 2,000	200-300 to 1,200-1,800

This schedule does not cover:

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

2. PRODUCT DESCRIPTION

2.1 Introduction

The iMPREG® GL01, GL13 and GL16 full-length UV cured-in-place pipe (CIPP) liner systems comprise of a glass fibre reinforced woven sleeve which is factory impregnated with an ultra-violet (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

2.2 Applicable standards

The following standard is applicable to this product:

- BS EN ISO 11296-4:2018+A1:2021(1)

2.3 Approval History

This is the third re-approval of the iMPREG® GL01, GL13 and GL16 full-length UV cured-in-place pipe (CIPP) liner systems. This approval supersedes the previous approvals:

- PT/307/0910.
- PT/367/0915.
- PT/460/0920.

3. REQUIREMENTS AND TESTING

3.1 Requirements

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 iMPREG® GL01, GL13 and GL16 full-length UV cured-in-place pipe (CIPP) liner

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systems from meeting the general fitness for purpose requirement.

3.2 Structural Design

The liner can be designed using any of the recognised international design codes dependent upon the country of installation. The iMPREG® GmbH default design for the liners is DWA-A143.2[(2)] or ASTM F1216-24[(3)].

3.3 Type Testing

Mechanical Characteristics Testing: The iMPREG® GL01, GL13 and GL16 full-length UV cured-in-place pipe (CIPP) liner systems shall comply with the following test requirements which are based upon BS EN 11296-4:2018+A1:2021.

Table 2 iMPREG® GL01 liner mechanical Characteristics

Characteristic	Declared Value
Short-term ring stiffness	11,000 MPa
Long-term ring stiffness	7,970 MPa
Short-term flexural modulus	9,500 MPa
Short-term stress at first break	180 MPa
Long-term stress at first break	130 MPa
Long-term strain corrosion	0.451% extrapolated at 50 years
Reduction factor after 10,000 hrs	1.38

Table 3 iMPREG® GL13 liner mechanical characteristics

Characteristic	Declared Value
Short-term ring stiffness	17,900 MPa
Long-term ring stiffness	14,900 MPa
Short-term flexural modulus	14,000 MPa
Short-term stress at first break	220 MPa
Long-term stress at first break	180 MPa
Long-term strain corrosion	0.451% extrapolated at 50 years
Reduction factor after 10,000 hrs	1.20

Table 4 iMPREG® GL16 liner mechanical characteristics

Characteristic	Declared Value
Short-term ring stiffness	15,600 MPa
Long-term ring stiffness	13,000 MPa
Short-term flexural modulus	14,000 MPa
Short-term stress at first break	245 MPa
Long-term stress at first break	204 MPa

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Long-term strain corrosion	0.451% extrapolated at 50 years
Reduction factor after 10,000 hrs	1.20

Leaktightness testing

When tested in accordance with the WIS 4-34-07[4] test procedure, the iMPREG® GL16 full-length UV cured-in-place pipe (CIPP) liner system utilising the RSM Pipe Aid (Fast Cure) patch repair (end seals) achieved a Class 1 pass (no infiltration) for Test 1 (Type C, liner only).

3.4 Manufacture

To ensure the quality and performance of the iMPREG® GL01, GL13 and GL16 linings, the manufacturing process shall include appropriate systems for the:

- Specification of component materials;
- Verification component materials received are to specification;
- Handling and storage of all component materials and finished linings;
- Detailed drawing / schedule for manufacture;
- Manufacture / assembly of the iMPREG® GL01, GL13 and GL16 linings; and
- Fabrication and quality control of workmanship.

The production of the iMPREG® GL01, GL13 and GL16 linings and related quality control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

3.5 Installation

When installed in accordance with the installation documentation[5,6], the iMPREG® GL01, GL13 and GL16 full-length UV cured-in-place pipe (CIPP) liner systems shall be reasonably expected to perform as described.

4. APPROVAL

The iMPREG® GL01, GL13 and GL16 full-length UV cured-in-place pipe (CIPP) liner systems has been audited and successfully met all the requirements stated within this assessment schedule

Signed:

Valid until 9th September 2030

5. REFERENCES

1. BS EN ISO 11296 Part 4:2018+A1-2021 Plastic piping systems for renovation of underground non pressure drainage and sewerage networks. Part 4 Cured-in-place-pipes.

2. DWA-A 143.2 - 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 F1216-24 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by

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the Inversion and Curing of a Resin Impregnated Tube.

4. WIS 4-34-07 Issue 1 Specification for leak tightness testing of cured-in-place-pipe lining systems for gravity sewer rehabilitation, October 2025.

5. Installation manual for the IMPREGLiner UV curing process 13.06.2025_Version6.

6. Curing parameters for the IMPREGLiner UV curing process, 13th June 2025, Version 6.

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