

1. SCOPE

This schedule specifies the requirements for the HS[®] drainage pipe system as manufactured by Funke Kunststoffe GmbH.

2. PRODUCT DESCRIPTION

2.1 Introduction

The HS[®] Drainage Pipe System is an uPVC gravity sewer system and is available from DN/OD 110 to DN/OD 800. Pipes can be manufactured with pipe stiffness of SN12 (12 kN/m²) and SN16 (16kN/m²) up to 5m in length.

The tables in Appendix A sets out the HS[®] Drainage Pipe System in component grouping that are included for the approval.

For HS[®] Drainage pipe fittings see assessment schedule PT/436/0419.

2.2 Relevant standards

There are no current standards for pipes greater than SN8. The following relevant standard has been identified that meet the requirements of the UK sewerage undertakers for the HS[®] Drainage Pipe System:

- BS EN 1401-1:2009 Plastic piping systems for non-pressure underground drainage and sewerage. Plasticized poly(vinyl chloride) (PVC-U). Specifications for pipes, fittings and the system.

BS EN 1401-1:2009: Tables 4 & 6 of the standard do not currently include SN12 & SN16 pipes. Minimum and maximum values have been extrapolated from the requirements of the SN8 pipe. The SN12 & SN16 HS[®] drainage pipe has been

proven to be within these extrapolated values by calculation and verified by testing by Funke.

It should be noted at the time of issue of this approval, Standard BS EN 1401-1:2009 was under review with a scope increase to include SN16 pipework. Estimated issue is autumn 2019.

2.3 Approval History

This is the first approval of this pipe and associated fittings.

3. REQUIREMENTS AND TESTING

3.1 Type Testing

In addition to the standard(s) quoted in section 2.2, the HS[®] Drainage Pipe System shall comply with the test requirements detailed below.

The tests listed in WIS 4-35-01 shall be carried out on samples, as detailed below:

- Appendix A Resistance to Internal Puncture.
- Appendix B Resistance to High Pressure Water Jetting.
- Appendix C Longitudinal bending.

3.2 Manufacture

To ensure the quality and performance of the HS[®] Drainage Pipe System, the manufacturing process extruded and injection moulded pipes and fitting shall include appropriate systems for:

- Specification of component materials
- Detailed drawings for the pipe and fitting products.

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- Verification component materials received are to specification.
- Handling and storage of all component materials.
- Production of pipe lengths & fittings
- Fabrication of sections and quality of workmanship.

The production of the HS[®] Drainage Pipe System and related Quality Control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

3.3 Installation

The product and installation documentation supplied by Funke Kunststoffe GmbH. shall be complete and accurate and allow for the full benefit of the product to be achieved through clear installation procedures.

4. APPROVAL

The HS[®] Drainage pipe system has been audited and successfully met all the requirements stated within this assessment schedule.

Signed:

A handwritten signature in black ink, appearing to be 'JTB', written over a horizontal line.

Valid until 31st July 2024

2. underground drainage and sewerage. Plasticized poly(vinyl chloride) (PVC-U). Specifications for pipes, fittings and the system.
2. WIS 4-35-01: Water Industry Specification for thermoplastics structured wall pipes – supplementary test requirements, October 2008, Issue 2.
3. HS[®] Drainage pipe System Installation Guide.

5. REFERENCES

1. BS EN 1401-1:2009 Plastic piping systems for non-pressure

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Appendix A

**Products of the Funke HS[®] Drainage
Pipe System covered within the scope
of this approval.**

The tables below sets out the HS[®] drainage pipe system in component grouping for the approval.

Table 1: Schedule of HS[®] Drainage Pipe System included in approval.

Component: Pipes	Diameter (mm)
Plain ended and single socket	110-800
SN 12 & 16	400-800
Rocker pipe (400–800mm)	

**Material and Test Performance
requirements of BS EN 1401-1 2009**

- Material
- General Characteristics
- Geometrical Characteristics
- Mechanical Characteristics
- Physical Characteristics
- Performance Requirements
- Sealing rings
- Adhesives
- Markings
- General characteristics of PVC-U pipes and fittings

- Compound Characteristics
- Ring stiffness
- Creep ratio
- Chemical resistance
- Abrasion resistance
- Hydraulic Roughness
- Diametric deflection