

## **1. SCOPE**

This schedule specifies the requirements for the HS<sup>®</sup> drainage pipe system as manufactured by Funke Kunststoffe GmbH.

## **2. PRODUCT DESCRIPTION**

### **2.1 Introduction**

The HS<sup>®</sup> Drainage Pipe System fittings are part of the HS<sup>®</sup> Drainage Pipe System uPVC gravity sewer system and are available from DN/OD 110 to DN/OD 800. The fittings can be used in conjunction with the Funke HS<sup>®</sup> drainage pipe system and are compatible with other solid wall pipe systems.

The tables in Appendix A sets out the HS<sup>®</sup> Drainage Pipe System in component grouping that are included for the approval.

The HS<sup>®</sup> Demarcation, Control and standard DN800 chambers are not covered in this assessment schedule.

For HS<sup>®</sup> Drainage pipes see assessment schedule PT/444/0719.

### **2.2 Relevant standards**

The following relevant standards were identified that meet the requirements of the UK sewerage undertakers:

- 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.

## **2.3 Approval History**

This is the first approval of the Funke HS<sup>®</sup> drainage pipe fittings.

## **3. REQUIREMENTS AND TESTING**

### **3.1 Type Testing**

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

- None identified for fitting

### **3.2 Manufacture**

To ensure the quality and performance of the fittings of the HS<sup>®</sup> 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.
- 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 fittings of the HS<sup>®</sup> Drainage Pipe System and related Quality Control procedures shall comply with requirements to ensure the stated performance of the product is reliably achieved.

**PT/443/0719 - AS (July 2019)**

**Assessment Schedule for fittings and fabrications for the HS<sup>®</sup> Drainage Pipe System and Fittings as manufactured by Funke Kunststoffe GmbH**



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**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 fittings of the HS<sup>®</sup> 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', followed by a long horizontal line extending to the right.

Valid until 31<sup>st</sup> July 2019

**5. REFERENCES**

1. 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.
2. HS<sup>®</sup> Drainage pipe System Installation Guide.

## Appendix A

### Products of the Funke HS<sup>®</sup> Drainage Pipe System covered within the scope of this approval.

The tables below sets out the HS<sup>®</sup> drainage pipe system fittings in component grouping for the approval.

**Table 1: Schedule of HS<sup>®</sup> Drainage System bends included in approval.**

Component: Bends	Diameter (mm)
Bend 15°, 30°, 45° 1 socket	400-800
Bend 15°, 30°, 45° 2 socket	110-315
Swept 87° 2 socket	110
Short 15°, 30°, 45°	110-160

**Table 2: Schedule of HS<sup>®</sup> Drainage System couplers included in approval.**

Component: Couplers	Diameter (mm)
Double socket coupler with stop	110-630
Double socket coupler without stop	110-800

**Table 3: Schedule of HS<sup>®</sup> Drainage Pipe System ancillary fittings included in approval.**

Component: Ancillary fittings	Diameter (mm)
Vario socket	110-200
Clay adaptor	110-160
Junction 45 <sup>0</sup> 3 sockets	110-315
Junction 45 <sup>0</sup> 2 sockets	110-800
Junction 87 <sup>0</sup> 2 & 3 sockets	110-500
Vario junction equal base 90 <sup>0</sup>	315-800
Vario junction base 90 <sup>0</sup>	160-500
Junction K90 (10 variants)	160-500
Level invert reducer	160-800
Cap	250-315
Socket plug	110-800
Access pipe	250-500
Manhole socket	110-800
Vario chamber socket	160-200

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## Appendix B

### 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