



## Pipe System

**Nominal Sizes** DN/OD 110mm to 500mm

**Area of Application** Permeable aggregates in trafficked areas, filter trenches, D-Rainclean channel system

**Design Versions** Fully-Drained Pipe Partly-Drained Pipe Dual-purpose Pipe

**Wall Structure** Slotted solid wall pipe

**Colour** Brown

**Standards** Compatible with BS EN 1401-1

**Technical Approval (without slots)** DIBt Z.42-1.309 and WRc PT443/0719 PT444/0719

**Pipe Length** DN/OD 110-315: 3.0 m (plain ended)

DN/OD 400-500: 3.0 m (including socket)

**Ring Stiffness** ISO 9969, SR ≥ 10.5 kN/m<sup>2</sup>

**SDR-Rating** Pipe and fittings ≤ 34

**Sealing System** FE to EN 681-2. NBR Seals available on request

**Vicat Softening Temperature** ≥ 79°C

**Longitudinal Shrinkage** ≤ 5% (test temperature 150 ±2°C, 30 minutes)

**Life Cycle** 50-80 (100) years

**Installation Depth** Designed for cover heights of 0.35 to 1.5 m

**Traffic load** Simultaneous SLW 60 / HA20 loadings

**Installation Guideline** BS EN 1610

**Quality Control** Internal QC + External QC (MPA NRW)

## General Information

**Material** PVC – U (unplasticized)

**Density**  $\rho = 1.41 \text{ g/cm}^3$

**Elastic Modulus**  $E > 3.000 \text{ N/mm}^2$

**Linear Coefficient of Thermal Expansion**  $6-8 \times 10^{-5} \text{ K}^{-1}$

**Fire Resistance** Flame retardant and self-extinguishing

**Chemical Resistance** pH 2-12

**Resistance list for PVC-U according to DIN 8061**

Resistant to most acids and bases, alcohols, oils, gasoline, hydrocarbons, detergent, firmly inserted, oil-resistant seal (FE) according to EN 681-2

	Powerslot HS®- Fully-Drained Pipe	Powerslot HS®- Partly-Drained Pipe	Powerslot HS®- Dual-Purpose Pipe
<b>According to DIN 4262-1</b>	Totally Perforated Pipe	Locally Perforated Pipe	Dual-Purpose Pipe
<b>Slot Image</b>	$\alpha = 360^\circ$ 	$\alpha = 220^\circ$ 	$\alpha = 120^\circ$ 

## Specification Clause

The slotted pipe system shall be Powerslot HS, manufactured by Funke Kunststoffe and distributed in the United Kingdom by Stormwater Management Ltd, conform to a minimum ring stiffness of 10.5 kN/m<sup>2</sup> in accordance with ISO 9969, fittings shall be SDR 34 rated or better. Pipe system to be manufactured from PVC-U, have a minimum wall thickness of 3.6 mm for 110 mm diameter and 5.5 mm for 160 mm, be manufactured to DIBt Z.42-1.309 and WRc PT-443/0719 PT-444/0719 and compatible with BS EN 1401. Flow rates to be as per manufacturers' published tables, available on request.

**Flow Tables**

Calculations based on driving head (h) over slot being equal to ¼ \* pipe diameter

$\mu = 0.5$

$$Q = \mu \cdot A \cdot \sqrt{2 \cdot g \cdot h}$$

2.5mm Slot	pipe size	slot width	slot length	space between slots	no. of slot tralis	open area	inflow / outflow volume
	DN/OD	b	l	S <sub>b</sub>	n	A <sub>s</sub>	Q*
	mm	mm	mm	mm	-	cm <sup>2</sup> /m	l/s (per metre)
HS®-fully-drained pipe	110	2.5	40	20	4	178	6.53
	160	2.5	45	20	4	200	8.86
	200	2.5	60	20	4	267	13.21
	250	2.5	50	20	6	333	18.46
	315	2.5	60	20	6	400	24.86
	400	2.5	50	20	8	444	31.13
HS®-partly-drained pipe	110	2.5	25	20	4	111	4.08
	160	2.5	40	20	4	178	7.87
	200	2.5	50	20	4	222	11.01
	250	2.5	60	20	4	267	14.76
	315	2.5	70	20	4	311	19.34
	400	2.5	50	20	6	333	23.35
HS®-dual-purpose pipe	110	2.5	40	20	2	89	3.26
	160	2.5	50	20	2	111	4.92
	200	2.5	60	20	2	133	6.60
	250	2.5	80	20	2	178	9.84
	315	2.5	60	20	2	133	8.29
	400	2.5	60	20	2	133	9.34
500	2.5	60	20	4	267	20.88	

5mm Slot	pipe size	slot width	slot length	space between slots	no. of slot tralis	open area	inflow / outflow volume
	DN/OD	b	l	S <sub>b</sub>	n	A <sub>s</sub>	Q*
	mm	mm	mm	mm	-	cm <sup>2</sup> /m	l/s (per metre)
HS®-fully-drained pipe	110	5	40	40	4	180	6.60
	160	5	45	40	4	202	8.96
	200	5	60	40	4	270	13.35
	250	5	50	40	6	337	18.66
	315	5	60	40	6	404	25.14
	400	5	50	40	8	449	31.48
	500	5	50	40	8	449	35.19
HS®-partly-drained pipe	110	5	25	40	4	112	4.13
	160	5	40	40	4	180	7.96
	200	5	50	40	4	225	11.13
	250	5	60	40	4	270	14.93
	315	5	70	40	4	315	19.55
	400	5	50	40	6	337	23.61
HS®-dual-purpose pipe	110	5	40	40	2	90	3.30
	160	5	50	40	2	112	4.98
	200	5	60	40	2	135	6.68
	250	5	80	40	2	180	9.95
	315	5	60	40	2	135	8.38
	400	5	60	40	2	135	9.44
	500	5	60	40	4	270	21.12

