

# HS®-Drainage Pipe System

Pipes, Fittings and Special Solutions DN/OD 110 to DN/OD 800











# The **HS®** Range of Pipes &





system



	kN/m²	DN/OD	Design	thickness min. mm	m	Sealing s
		110	Plain ended	3,6	0,14/0,5/1,5/3,0	FE <sup>*</sup>
		160	Plain ended	5,5	0,18/0,5/1,5/3,0/5,0	FE <sup>,</sup>
í	⋝	200	Plain ended	6,6	0,22/0,5/1,5/3,0/5,0	FE <sup>*</sup>
Š		250	Plain ended	8,2	0,5/1,5/3,0/5,0	FE <sup>*</sup>
A 10 M	12	315	Plain ended	10,0	0,5/3,0	FE <sup>*</sup>
		400	Single socket	12,6	0,5/3,0	FE
		500	Single socket	16,5	0,5/3,0	FE
Š		630	Single socket	22,0	3,0	CI
Ì		800	Single socket	25,0	3,0	CI
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#### Inner pipe marking

This is unique: the HS® drainage pipes are also marked on the inner wall continuously on the axis at an angle of 120°. The permanent engraving (embossment) enables important pipe-related data such as the manufacturer, nominal width, ring stiffness and the production date to be read even years later (available from DN 200).

	DN/OD	Design	Wall thickness min. mm	available overall length m	Sealing system
<b>3 1 1 1</b>	160	Plain ended	6,0	3,0	FE*
kN/m²	200	Plain ended	7,5	3,0	FE*
	250	Plain ended	9,3	3,0	FE*
16	315	Plain ended	11,7	3,0	FE*
	400	Single socket	14,9	3,0	FE
	500	Single socket	18,6	3,0	FE
	630	Single socket	22,0	3,0	CI

<sup>\*</sup>coupler sealing system

The HS® drainage pipes system provides the user with a complete system which has excellent technical properties and is available from DN/OD 110 to DN/OD 800. Not only do the pipes and fittings make this modern drainage pipe system what it is, but special additional components such as the VARIO coupler, the Demarcation and Control Chamber, a level invert lateral connection, a cleanout opening and diverse bends and branches also contribute to the strong performance and diversity of use. The pipes are solid wall PVC-U pipes with an increased wallthickness in the colour brown. They are manufactured as plain-ended pipes with chamfered spigots in DN/OD 110 – 315

and as single socket pipes in sizes DN/OD 400 – 800. The pipes are available in lengths of 1.5 m, 3 m and 5 m. The fittings with a secure FE® sealing ring are able to withstand heavy loads and can be installed at depths of between 0.5 m and 6 m for traffic loads of max, HA 20. The measured ring stiffness amounts to  $\geq$  12 respectively 16 kN/m². All of the fittings (SDR 34) are manufactured so that they do not form any steps on the interior. The use of the double socketed fittings enables the drainage pipe system to be installed fast and flexibly.

# 110 to 800 mm: Fittings and more





Fittings in the sizes DN/OD 110 – 800 SDR 34



The DN/OD 110 - 315 HS® drainage pipes are manufactured as plain ended with chamfered spigots. The ridge construction of the double coupler provides an additional safety benefit: the click against the coupler ridge from the spigot end can be clearly heard and is a sign of the correct installation. The pipes and fittings are pressure tested to 2.5 bar so that they can also be used in high water table



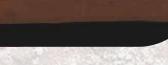
Fitting markings All fittings are clearly marked. The permanent markings include the standard, the area of use, the name of the manufacturer, the wall thickness, the nominal diameter, the material, the stiffness class and additional manufacturer data as

needed.



All of the components in the HS® drainage pipe system are fitted with an oilresistant red and black two-part seal. The FE® seal is firmly attached to the fitting so that it cannot be forgotten or forced out of place when the spigot ended pipe is being inserted.











### **Demarcation and Control Chamber**

In accordance to the UK SFA 7 document.

- Small, telescopic
- Class B 125 or class D 400



#### **VARIO** coupler

The HS®-VARIO coupler has an integrated, flexible ball socket. This allows connected pipes to pivot within a range of 0° – 11°. The fitting is available in nominal diameter of DN/OD 160 and DN/OD 200 - each of these being available as a socket/socket and a socket/spigot version. A sanded version is also available for installation in concrete structures.













Einbauempfehlungen



## The HS® Drainage Pipe System:

## The Correct Installation

Drainage pipe systems from Funke conform with the highest quality standards. The entire pipe manufacturing process – from the raw materials to each of the production steps, and the finished product, is regularly controlled and third party monitored in our own, and in external, laboratories. This effort contributes to safe, efficient and economical workflows on site. This is why adherence to the high quality standards is therefore just as important a requirement for the long serviceable life of the product – as its correct installation.

Funke Kunststoffe GmbH has developed detailed documents for this that conform with the European standard norms and guidelines. The installation instructions include information on subjects such as forming a trench, installing the pipe, suggestions on the execution of pipe installing zone, leak tests and diverse special cases. They are available in a printed form or as a PDF file and can be requested from the manufacturer. An HS® system installation video is also available at www.funkegruppe.de.

#### **Roots**

Drainage pipe systems installed in housing development areas should be able to permanently resist root intrusion. This is the only way to prevent environmental impairments and incurring restoration costs as a result of the damage caused. The analysis of a unique simulated 'in-pot' experiment conducted by Rhineland Chamber of Agriculture in the Horticultural Centre in Essen, Germany over a period of more than 10 years between 1996 and 2007, proved that HS® pipes and fittings are totally resistant to root intrusion.









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