

SIROBAU S 300

HEGLER
SIROBAU S 300
VII/2

Drainage system with modular PE-HD inspection and flushing chamber for drainage systems in accordance with DIN 4095



Complying with DIN 4095 Quality-controlled by SKZ

- Chamber and drainage pipe made from PE-HD twin wall pipe (free of PVC)
- Chamber of ID ≥ 300 mm
- Pipe lengths of 3 m and 6 m
- No ruptures, no cracking
- Higher installation depths
- Robust twin wall pipe system
- Functional pipe connection

SIROBAU drainage system:

Special drainage system tailored to the requirements of DIN 4095 for the protection of structures, consisting of civil engineering drainage pipes, inspection and flushing chambers of ecologically compatible PE-HD, and a harmonizing range of accessories

Application:

- Drainage of structures in contact with soil in accordance with DIN 4095
- Drainage systems in gardening and landscaping
- Subsoil drainage of roads and sports fields
- Available on request: chamber system SIROBAU S 400 for special requirements

HEGLER



Corrugated and Twin
Wall Pipes of Plastics

SIROBAU S 300 Drainage System - Direct Protection of

Protection against damage caused by water

In modern architecture basements of buildings are often designed for dwelling or storing in order to make best use of the available floor space. For this purpose, basements have to be permanently protected against moisture. The main reason for damp masonry, which – besides reduced heat insulation – can cause health problems, is inadequate sealing. By a well-designed drainage system and perfect sealing of the building basements can be kept permanently dry.

DIN 4095

The protection of structures in contact with soil should be in accordance with DIN 4095 with due regard being paid to the local soil conditions and occurrence of ground water, if any. To avoid soaking of the masonry and damages to the structure, a well-designed drainage system around the building for discharge of ground and percolating water is a must, as is adequate sealing of outer walls in contact with soil. For drainage systems on ceilings and below base plates please refer to the standard.

Requirements for drainage lines near outer walls

- Nominal size: ≥ 100 mm
- Water inlet area: $\geq 20 \text{ cm}^2/\text{m}$
- Material: e.g. corrugated plastics pipes (TP or LP)
- Gradient: $\geq 0.5 \%$
- Pipe bottom at highest point: ≥ 20 cm below upper edge of base plate
- Stable filter packing like gravel 8/16 with fleece wrapping

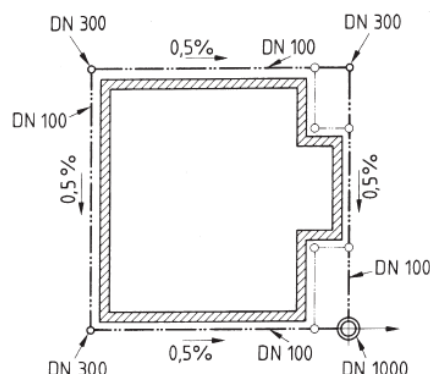
Requirements for inspection and flushing chambers

- Nominal size: ≥ 300 mm ($d_i \geq 300$ mm)
- Placement at each change in direction of drainage line

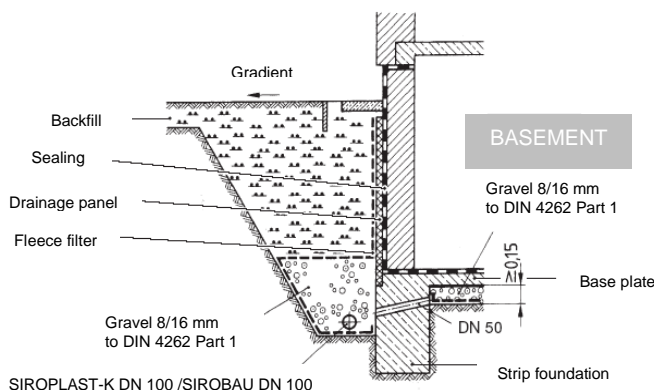
Requirements for drainage below base plates

- Up to 200 m^2 : without drain pipe
- More than 200 m^2 : with drain pipe

Standard design for a drainage system around buildings

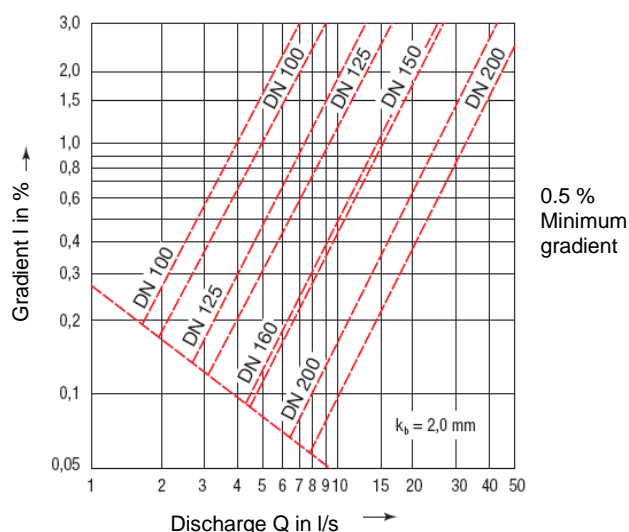


Ground plan of building with drainage system



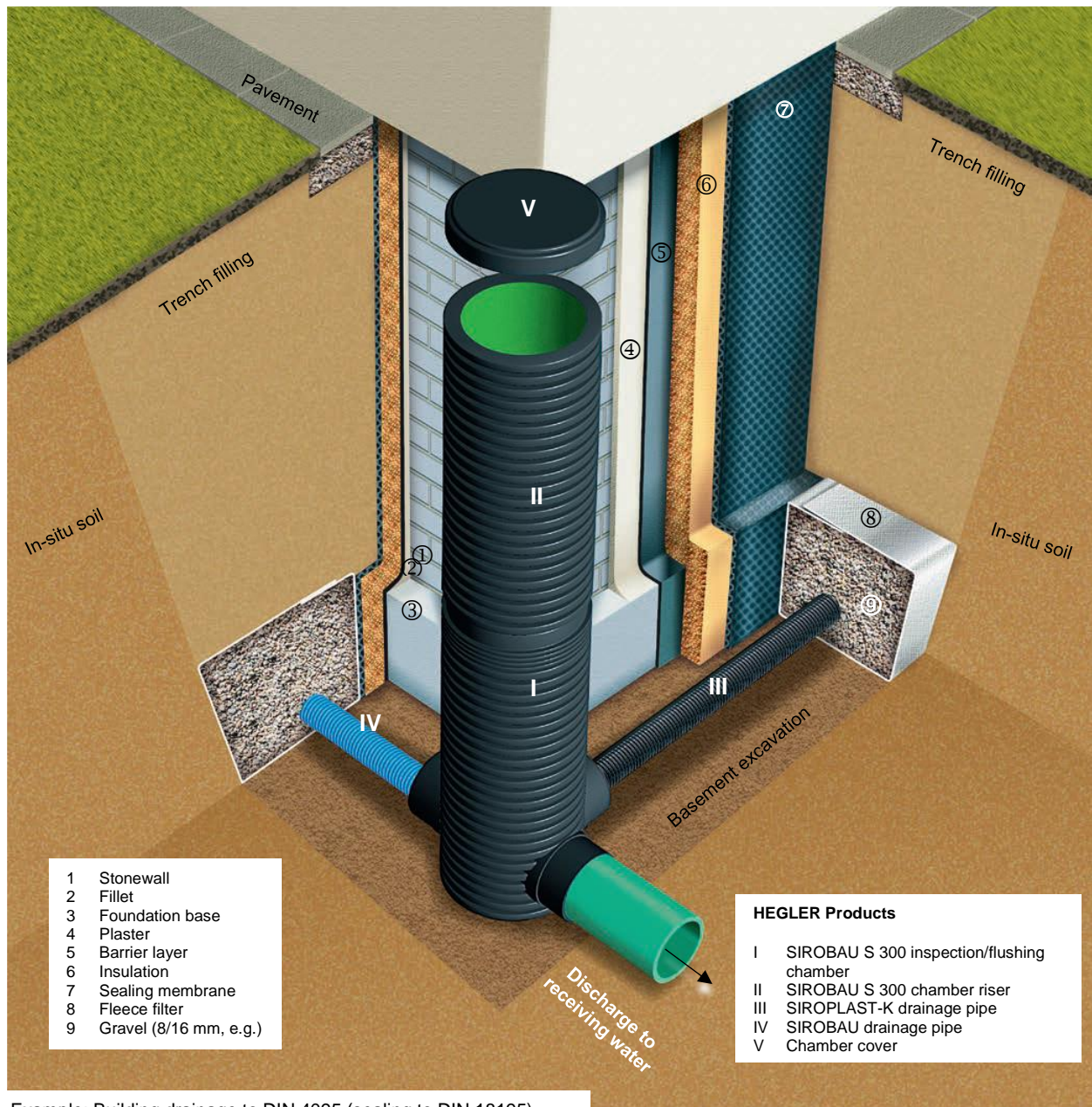
Example of drainage system with drainage elements

Design basis of DIN 4095



Design table for drainage lines with circular cross-section

Structures in Contact with Soil against Harmful Water



SIROBAU S 300 – the expert drainage system to DIN 4095

Architects, house owners and building contractors are now offered the efficient and versatile chamber and pipe system SIROBAU to ensure compliance with DIN 4095 in the drainage of structures. There is a wide range of different components among which they can choose to set up a system tailored to their needs.

- **SIROBAU S 300:** modular inspection and flushing chamber with an inside diameter $d_i = 300$ mm to inspect and service drains, including an extensive range of accessory
- **SIROPLAST-K:** PE-HD drainage pipe for increased requirements like high installation depths

SIROBAU: PVC-U drainage pipe to collect and discharge ground water

- **SIROBAU S 400:** the modular inspection and flushing chamber of PE-HD with an inside diameter of $d_i = 400$ mm allows professional use in special structural requirements like high installation depths.

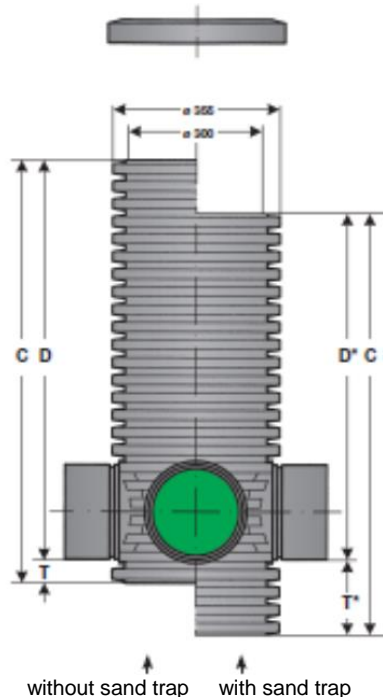
The range of pipes and fittings is fully compatible with the SIROBAU S 300 chamber system.

SIROBAU Modular Chamber Variants - for Subsoil Drainage

Modular chamber

The modular chambers SIROBAU S 300 and S 400 and the matching system of pipes and fittings are designed for applications in accordance with DIN 4095 and are exclusively available from HEGLER.

The chambers are produced in two designs: with or without sand trap. In both designs they are practical and efficient, ensuring easy handling in all applications. There are three openings around the chamber's circumference, at 90°, 180° and 270°, each ready to take up an outlet adaptor of maximum 200 mm in diameter.



**SIROBAU S 300/S 400
Modular Chamber**

Each SIROBAU modular chamber is supplied with a plug; so it can either be used with two openings for straight passage, two adjacent openings or three openings.

Outlet adaptors are designed to match the HEGLER range of pipes, some even going with several types of pipe.

Common and preferred pipes which are usually connected in nominal sizes between DN 100 and DN 200:

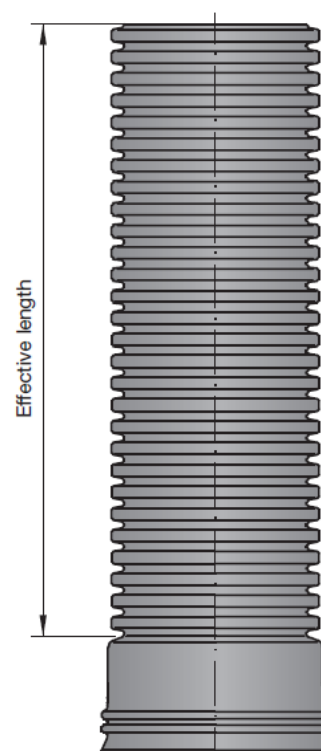
- SIROPLAST-K (R2, PE-HD)
- SIROBAU (R1, PVC-U)
- Solid-wall pipe (PP) to DIN 14758-1
- Solid-wall pipe (PVC-U) to DIN EN 1401

The PE-HD SIROBAU S 300 chamber is manufactured in twin wall design. This combination - material and geometry - lends the chamber an extraordinarily high ring stiffness ($S \geq 8.0 \text{ kN/m}^2$) and very good impact properties. So it resists rough handling on site and can be installed at low temperatures.

Handling problems during transport, storing and work on site – as often experienced with PVC systems at low temperatures – are not known with the modular SIROBAU chambers from PE-HD and SIROPLAST-K drainage pipes.

Chamber riser

Chamber raising pieces allow the system to be adapted to individual heights; the more so as they can be easily shortened by a fine-toothed saw.



Chamber riser with integral socket

(available in effective lengths:
SIROBAU S 300: 63 cm and 123 cm
SIROBAU S 400: 109 cm)

Nominal size of chamber DN 300 (ID)		With sand trap	Without sand trap
Width A	mm	500	500
Width B	mm	430	430
Overall height C	mm	900	900
Effective height D/D*	mm	700	820
Sand trap/section T/T*	mm	200	80

Nominal size of chamber DN 400 (ID)		With sand trap	Without sand trap
Width A	mm	600	6500
Width B	mm	540	540
Overall height C	mm	1520	1520
Effective height D/D*	mm	1300	1400
Sand trap/section T/T*	mm	220	120

Systems in Accordance with DIN 4095

Assembly of outlet adaptors

Position the adaptor element towards the outlet of the modular chamber such that detent ① is opposite to recess ② on the chamber.

Now alternate pressure to push the adaptor into the outlet until all locking elements (snap locks) ③ have engaged.

Plugs are mounted in the same way on the free and unused outlets.



Fully in accordance with DIN 4095

Additional quality control by independent testing institute
Süddeutsches Kunststoffzentrum,
Würzburg

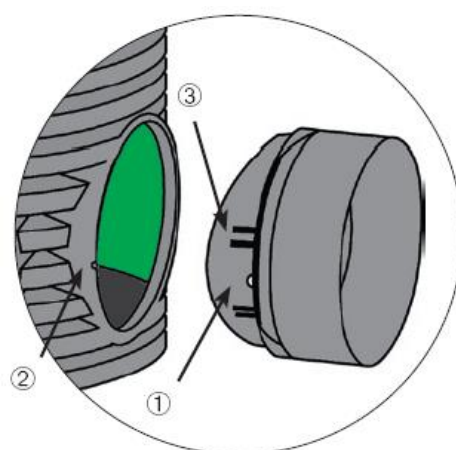


Outlet adaptors for modular chamber SIROBAU S 300*

Nominal size	DN	110 (110)	160 (150)	200
SIROPLAST-K packing unit item No.	pcs. 7881..	24 910	12 916	1 920
SIROBAU packing unit item No.	pcs. 7881..	24 110	12 116	12 120
Solid-wall pipe to DIN 14758-1 packing unit item No.	pcs. 7881..	24 111	12 115	12 120
Solid-wall pipe to DIN EN 1401 packing unit item No.	pcs. 7881..	24 110	12 115	12 120

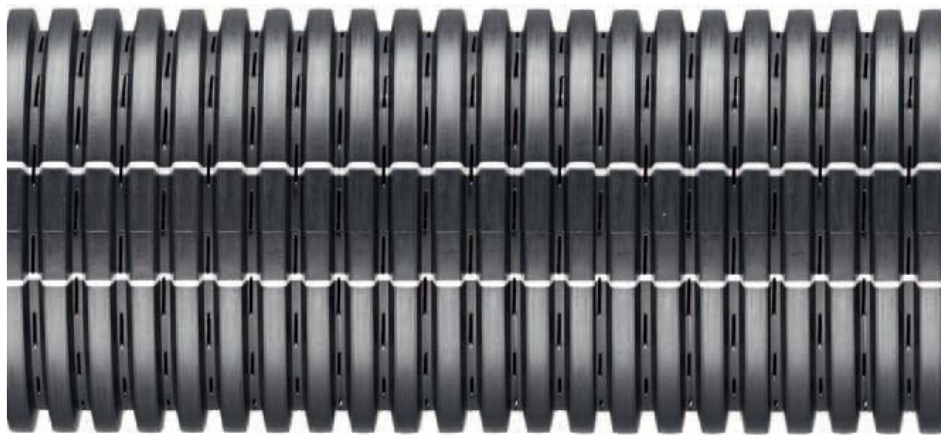
* compatible with SIROBAU S 400 (plateau P 200)

The multi-functional design of SIROBAU outlet adaptors sometimes even allows direct connection of various pipe systems (for further details refer to current price list).



- ① Detent (protection against twisting)
- ② Recess (protection against twisting)
- ③ Locking elements (snap locks)

Single and Twin Wall Drainage Pipes



SIROPLAST-K civil engineering drainage pipe

- Special twin wall pipe of PE-HD
- Optimum water influx as a result of a water inlet area $> 50 \text{ cm}^2/\text{m}$
- High load-bearing capacity by optimized twin wall profile
- Excellent hydraulic properties
- Product length DN 100: 3.00 m and 6.00 m
- Quality-controlled

SIROPLAST-K civil engineering drainage pipes for the drainage of structures with multi-storey cellars

SIROPLAST-K civil engineering drainage pipes meet the requirements of DIN 4262-1 as to:

Type: R2
Raw material: PE-HD
Slotting: TP/LP

The twin wall design in PE-HD ensures extraordinarily high ring stiffness which allows installation in multi-storey structures like industrial plants where high installation depths are required.

Technical details

Nominal size	DN	100	150	200
Outside diameter	mm	118.5	174.9	234.9
Inside diameter	mm	102.0	154.5	198.0
Width of slots	mm	to DIN 4262-1 ≥ 50		
Water inlet area	cm^2/m			
Ring stiffness	kN/m^2	≥ 8	≥ 4	
Effective length	m	3.00/6.00	6.00	

SIROPLAST-K civil engineering drainage pipe is available in unslotted design for the conveyance of drainage water.



SIROBAU drainage pipe

- Special flexible corrugated pipe of PVC-U
- Optimum water influx as a result of a water inlet area $> 50 \text{ cm}^2/\text{m}$
- Easy to install because of handy, straight lengths of 2.5 m
- With mounted coupler
- Quality-controlled

SIROBAU drainage pipes for the drainage of structures with single-storey cellars

SIROBAU drainage pipes meet the requirements of DIN 4262-1 as to:

Type: R1
Raw material: PVC-U
Slotting: TP

Compared to drainage pipe to DIN 1187, the SIROBAU pipe has an optimized water inlet area of $\geq 50 \text{ cm}^2/\text{m}$.

Technical details

Nominal size	DN	100	125	160	200
Outside diameter	mm	100.0	125.5	159.5	199.5
Inside diameter	mm	91.0	115.0	144.0	182.0
Width of slots	mm	to DIN 4262-1 ≥ 50			
Water inlet area	cm^2/m				
Ring stiffness	kN/m^2	≥ 5			
Effective length	m	2.50			

SIROBAU drainage pipe is available in unslotted design for the conveyance of drainage water.

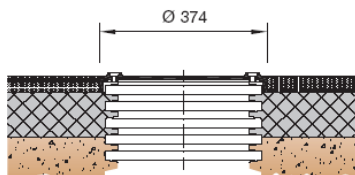
Additional Components

Chamber covers

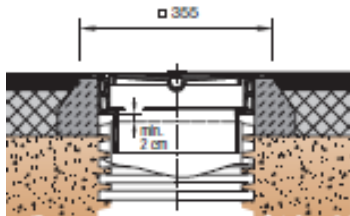
Each modular chamber is supplied with a PP chamber cover (passable) with safety lock.

Besides, there are cast iron covers available, matching the load classes A 15, B 125 and D 400. Covers of classes B and D can be chosen with or without vent openings. For class B 125 there is an inlet grating in addition.

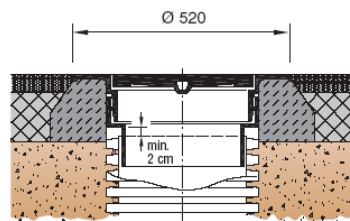
The cast-iron frames of class B and D covers provide for load transfer to the adjacent base layers.



Class A 15, suitable for pedestrian traffic



Class B 125, suitable for automobile traffic



Class D 400, suitable for automobile traffic

Cast iron chambers

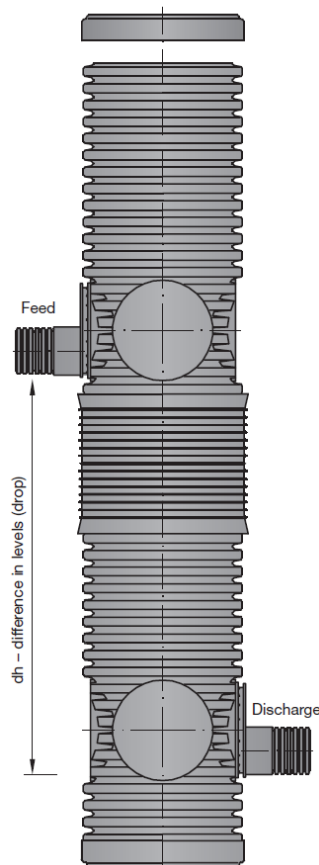
(Here: available options)

Drop chamber

In large-scale building projects one often has to get over differences in level between the individual building sections.

Connection of drainage pipes from different levels to the chamber is easily possible by mounting a modular chamber with sand trap and a coupling in between. This way, so-called drop chambers, allowing nearly any height of bed drop, can be realised.

A great variety of chamber elements and combination options permit practical designs tailored to the requirements of the building project (drainage of terraces, parking lots, etc.).



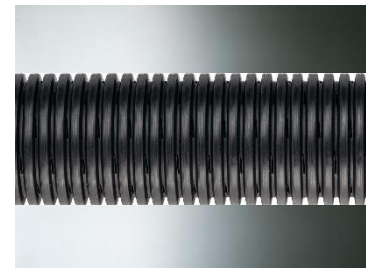
Drop chamber

(dh = between 37 cm and 90 cm)

Special pipes

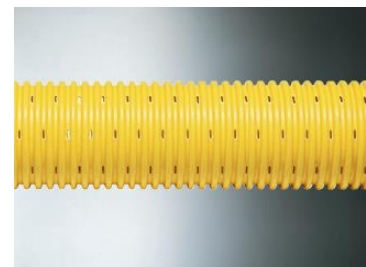
For certain fields of application the use of a special type of drainage pipe may be recommendable.

HEGLER offers an efficient range of adaptors for use with the special drainage pipes/civil engineering drainage pipes shown below.



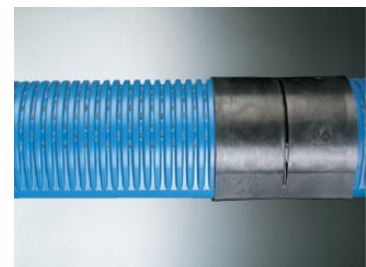
EURODRAIN®

drainage pipe of PE in accordance with DIN 1187



EURODRAIN®

drainage pipe of PVC-U in accordance with DIN 1187



SIROWELL®

civil engineering drainage pipe of PVC-U, type C1 in accordance with DIN 4262-1

Important

- DIN 4095 specifies for the pipe invert to be positioned 20 cm below the bottom edge of structures and for the ditch to be always above the main foundation or outside of foundations' pressure cones.
- The filter layer surrounding the pipe should be installed and compacted manually or by using light equipment. The minimum gradient for locally or totally perforated pipes is 5 ‰.
- The chambers should be levelled on an equalising sand layer of no less than 10 cm and installed in a well compactable soil (pre-screened) up to 10 cm below the final level of the surface layer. Chamber covers withstanding traffic loads should be installed and levelled right before the roadway surface is laid.
- Sealing of structures in contact with soil against moisture should be in accordance with DIN 18195.

The information give in this leaflet is the most up-to-date available and is intended to provide information about our products and their applications. It is not a guarantee of certain features of the products nor of their suitability for certain specific applications. Our guarantee applies to a perfect quality according to our specifications within the scope of our General Terms and Conditions. The schematic drawings (pipe/accessories) are indicative only. They are not binding as to product geometry. Subject to changes.

SIROBAU Drainage System and Accessories

SIROBAU chamber system S 300/S 400						
Modular chamber S 300 without outlets packing unit item no.	pcs. 7884..	with sand trap 12 ..120		without sand trap 12 ..020		
Chamber riser S 300 (effective length) packing unit item no.	pcs. 7881..	l = 63 cm 12 ..210		l = 123 cm 6 ..215		
Modular chamber S 400 without outlets packing unit item no.	pcs. 7859..	with sand trap 1 ..001		without sand trap 1 ..000		
Chamber riser S 400 (effective length) packing unit item no.	pcs. 7859..	l = 109 cm 1 ..704				
Outlet adaptors for above modular chambers for connection of:						
SIROPLAST-K drainage pipe, type R2 packing unit item no.	pcs. 7881..	DN 100 24 ..910		DN 150 12 ..916		DN 200 1 ..920
SIROBAU drainage pipe, type R1 packing unit item no.	DN pcs. 7881..	80 24 ..108	100 24 ..110	125 12 ..112	160 12 ..115	200 12 ..120
Solid-wall pipe to DIN EN 1401 or DIN 14758-1, resp. packing unit item no.	pcs. 7881..	DN 110 24 ..111		DN 160 12 ..115		DN 200 12 ..120
Plug for above modular chambers packing unit item no.	pcs. 7881..	24 ..450				
Chamber cover S 300 of plastics with safety lock packing unit item no.	pcs. 7881..	standard 12 ..310			with seal 1 ..320	
Chamber cover S 300 to DIN EN 124* (for vehicular areas, cast iron, without vents) packing unit item no.	pcs) 7881..	class A 15 1 ..430		class B 125 1 ..410		class D 400 1 ..420
Coupling packing unit item no.	pcs. .	S 300 1 7881200			S 400 1 7859500	
Profiled sealing ring packing unit item no.	pcs.	S 300 40 7881600			S 400 20 7859501	

SIROPLAST-K (locally perforated)	DN	100	150	200
packing unit	m	702	324	192
item No.	7600..	..310	..316	..320

SIROBAU drainage pipe (slotted)	DN	100	125	160	200
packing unit	m	220	150	115	75
item no.	7576..	..100	..125	..160	..200

* Chamber covers for SIROBAU S 400 on request.

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Corrugated and Twin Wall Pipes of Plastics

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