

Pipe Systems for Storm Water Management in Infiltration Trenches to DWA-A 138



Quality-controlled by SKZ

SIROBAU-Rw:

Perforated pipes and system components for infiltration trenches to DWA-A 138. Twin wall pipes with smooth inside and profiled outside walls to DIN 4262-1 R2. Ring stiffness $S \geq 8.0 \text{ kN/m}^2$ to EN ISO 9969.



HEGLER

Corrugated and Twin
Wall Pipes of Plastics



SIROBAU-*Rw* civil engineering drainage pipe

- Made from PE-HD, robust, stable, rupture-proof, suitable for winter construction
- Ring stiffness $S \geq 8.0 \text{ kN/m}^2$
- Suitable for SLW 60 classified roads
- Large water outlet surface ($> 200 \text{ cm}^2/\text{m}$)
- Structured-wall twin wall pipe to DIN 4262-1 type R2
- Meeting the requirements of DWA Work Sheet A 138

SIROBAU-*Rw* civil engineering drainage pipe

SIROBAU-*Rw* is a totally perforated pipe (TP) made from PE-HD in accordance with type R2 of DIN 4262-1. The twin wall pipe's smooth inner surface is green; the profiled outside is black for UV stabilisation.

The special HEGLER planetary slotting process guarantees clean-edged slots uniformly placed around the pipe's circumference. The resulting water outlet surface exceeding $200 \text{ cm}^2/\text{m}$ stands for a permanent and adequate infiltration performance.

Besides the standard nominal size, which is DN 300, SIROBAU-*Rw* totally perforated pipes are available in a range of diameters between DN 150 and DN 600.

The excellent characteristics of PE-HD ensure a permanent and reliable operation of the infiltration unit even in difficult conditions. Deposits and incrustations do not easily settle and develop because of the extremely smooth PE structure and the clean-edged slots. This is also true in adverse conditions like frequent wet-dry operation.

Pipe infiltration to DWA Work Sheet A 138

With pipe infiltration units, the distribution and temporary storage of storm water takes place underground in a perforated pipe system like SIROBAU-*Rw*.

The perforated pipes are placed in a pack of washed gravel wrapped in a non-woven fabric. The dimensioning of an infiltration unit is dependent on:

- Soil properties (k_f value $< 1 \times 10^{-6} \text{ m/s}$)
- Catchment area A_{red} , m^2
- Heavy rainfall data as defined in the KOSTRA atlas
- Local conditions

The size of an infiltration unit is fixed in accordance with the DWA-A 138 Work Sheet. While in the construction of residential buildings single pipe runs are laid, larger public or industrial construction projects use so-called "herring-bone" arrangements in which a sufficient number of inspection chambers is provided to ensure access to each pipe run for inspection and flushing.

Swale infiltration to DWA Work Sheet A 138

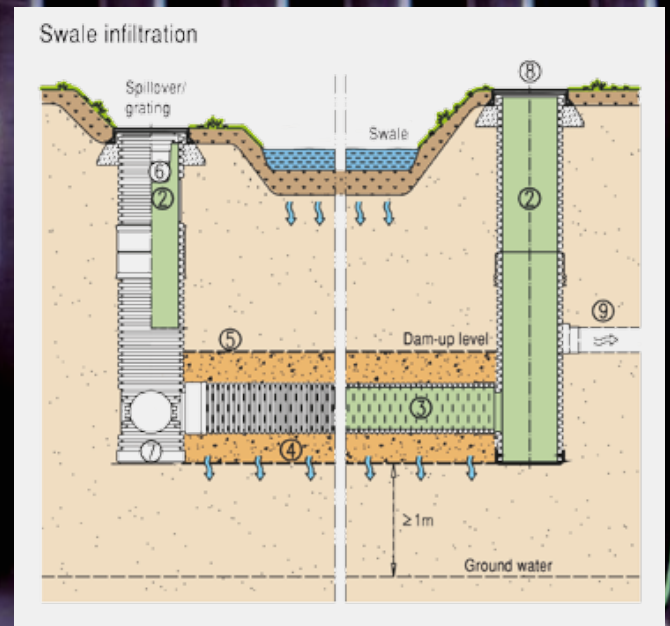
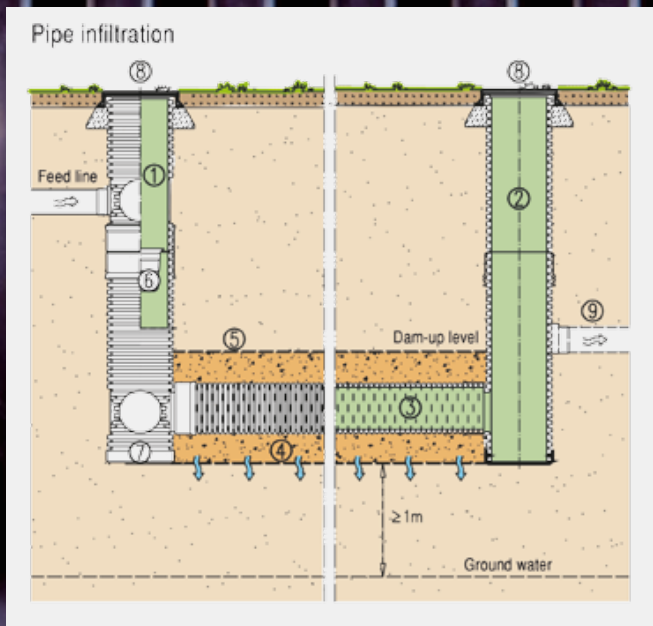
The floor space required for swale infiltration units is much larger compared to pipe infiltration as the swale is open to the surface. The basic idea of swale infiltration is the combination of retention, cleaning and infiltration within the swale and, if necessary, through a connected pipe run.

With this system, the main part of storm water infiltrates through the organic soil of the swale into the underground. In case of increased water quantities, the storm water is fed, via a spillover, into a perforated pipe provided underneath the swale. This arrangement is preferably used in less permeable soils or in areas with heavily polluted surface waters (trafficked areas or industrial grounds).

Project-specific design to DWA-A 138

Pipe/swale infiltration systems have to be designed in accordance with the DWA Work Sheet A 138. For laying, the manufacturer's installation instructions have to be observed.

Infiltration Units



- ① SIROBAU system chamber ② SIROBAU distribution chamber ③ SIROBAU-Rw perforated pipe ④ Washed gravel 8/16
 ⑤ Non-woven fabric ⑥ Filter set ⑦ Sand trap ⑧ Chamber cover ⑨ Spillover/throttle (optional)

SIROBAU S 400 Inspection chambers of PE-HD

The SIROBAU S 400 inspection and flushing chambers guarantee effective distribution of storm water within the pipe infiltration system. They are available in various designs:

- With/without sand trap
- Different geometries
- Different pre-assembled chamber outlets
- Project-specific accessories
- Covers A 15, B 125 or D 400



Parking area with swale infiltration



Large-scale pipe infiltration unit

It is important that a sufficient number of SIROBAU chamber systems be provided in the infiltration unit to ensure proper water distribution and allow for inspection and flushing in every pipe run.

By this, permanent and reliable operation of the infiltration unit and effective discharge of storm water can be guaranteed.

Quality control

HEGLER SIROBAU-Rw pipes are ensured a consistently high quality by regular factory control and a surveillance contract with the official testing laboratory, Süddeutsches Kunststoffzentrum (SKZ), Würzburg.



A 353



A 376

SIROBAU-Rw civil engineering drainage pipes comply with type R2 of DIN 4262-1 and meet the requirements for public building projects.

For the use of SIROBAU-Rw pipes the following building codes shall be observed:

- EN 1610
- DWA-A 138
- ATV-DVWK-A 127

SIROBAU-*Rw* Accessory

Important

- SIROBAU-*Rw* pipes should be transported and stored on site in the original stillages. They should always be stored on an even and smooth surface.
- The pipe material is protected against UV radiation. Storage in the open air for more than one year should be avoided.
- Continuous support at the given gradient must be provided in the pipe trench. The bedding layer should be at least 10 cm. Local depressions should be provided at joints so that the couplers do not initially rest on the support.
- To ensure permanent and reliable operation of the infiltration unit, the surrounding packing is to be made in gravel (washed, grain size 8/16).
- Chambers should be bedded on a sand/gravel layer ($d \geq 20$ cm). The bedding material should be compacted in layers.
- Compacting equipment should not be applied directly on top of the pipes. In the vicinity of the pipes only light compacting equipment is to be used.
- The pipes may be flushed by using high-pressure flushing devices with a maximum flushing pressure of 120 bar.
- The manufacturer's installation guide shall be observed.

SIROBAU-*Rw* Pipe System:

Nominal size	DN	150	200	250	300	400	500	600
Outside diameter	mm	174.8	234.9	293.5	353.4	464.0	579.5	691.9
Inside diameter	mm	153.9	198.3	252.7	304.5	396.0	497.0	595.0
Discharge area	cm ²	186	305	479	735	1232	1948	2790
Standard length (20 °C)	m	6.00						
Water outlet area	cm ² /m							
Multi-purpose pipe (MP)		≥ 50	≥ 60	≥ 70	≥ 110	≥ 120	≥ 100	≥ 90
Locally perforated pipe (LP)*		≥ 90	≥ 140	≥ 150	≥ 210	≥ 240	≥ 210	≥ 190
Totally perforated pipe (TP)		≥ 150	≥ 220	≥ 320	≥ 340	≥ 360	≥ 320	≥ 290

* no stock article

SIROBAU S 400 Chamber System:

Connectable nominal sizes	DN	150	200	250	300
Inspection and flushing chamber with 1 to 4 pre-assembled chamber outlets		○	○	○	○
System chamber with 200 mm branch and 1 to 4 pre-assembled chamber outlets		○	○	○	○
Modular chamber with 1 to 4 chamber outlets as desired		○	○	○	○
Cleaning chamber with microfilter		Layout on request			
Settling chamber including baffle					
Ventilation chamber					
Throttle chamber					
Chamber raising piece		effective length 109 cm			

SIROBAU S 400 Chamber Accessories:

Article			
Coupling DN 400		○	
Profiled seal DN 400		○	
Filter bag		○	
Dirt trap		○	
Chamber covers to DIN EN 124 cast iron, suitable for pedestrians/traffic load	Class A 15	Class B 125	Class D 400
- without ventilation openings	○	○	○
- with ventilation openings	-	○	○
- grating	-	○	○

The information given in this brochure is the most up-to-date available and is intended to provide information on our products and their possible applications. It is not a guarantee of certain features, nor of their suitability for certain specific applications. Our guarantee applies to compliance with 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. The current edition supersedes any former versions. Subject to change.

HEGLER

Corrugated and Twin Wall Pipes of Plastics

