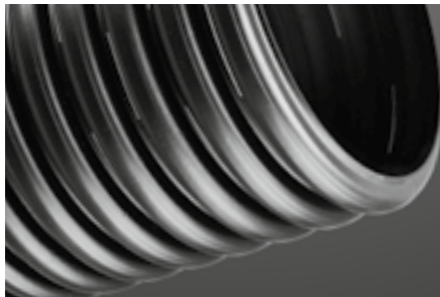
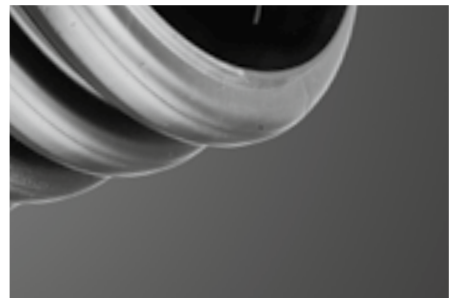


**Strabusil® – StormPipe – Strasil®**

**Installation instructions for drainage pipes**



EN | Last modified: June 2018

**DRAINAGE SYSTEMS**  
**ELECTRICAL SYSTEMS**  
**BUILDING TECHNOLOGY**  
**INDUSTRIAL PRODUCTS**

# 1. Transport and storage of pipes

- The pipes should not be dropped or thrown from vehicles and impacts should be avoided! In addition, DIN EN 1610 (Section 8) also applies.
- The storage time should be restricted to a maximum of one year to prevent harmful effects of UV exposure on material properties.
- During extreme summer heat, pipes should be protected against overheating.
- It is recommended that the pipes should be stored in the shade or covered with brightly coloured, UV resistant tarpaulin.
- Store the pipes on even ground that is sufficiently hard to prevent deformations.

# 2. Creating the trench

DIN EN 1610 (Section 6) applies as regards dimensioning and design, trench width, trench stability, trench bottom and drainage.

In addition, the dimensions of the pipe static calculation according to DWA-A 127 "Directive for the static calculation of drains and sewers" (*Richtlinie für die*

*statische Berechnung von Entwässerungskanälen und -leitungen*) must be observed.

# 3. Bedding, embedding and support

Bedding design and embedding of the pipes considerably affect the load and stress distribution on the pipe circumference and are very important for the static strength and the resulting deformation of pipes. The execution must comply with DIN EN 1610 (Section 7) and DWA-A 139.

The bedding area must be **level and free of stones**. Use **non-cohesive or slightly cohesive, compactable material** to create the bedding area only.

Likewise, use **stoneless, non-cohesive, compactable material** in the embedding area only for reasons of pipe statics. This generally applies to all permeable layers. Use compactable material containing fine fraction to create a permeable base (trench bottom up to perforations). We recommend using soils of the **G2 group (slightly cohesive soils – GU, GT, SU, ST)**. **These both comply with the requirements of pipe statics and hydraulic**

**requirements for permeable bases.**

This guarantees sufficient hydraulic performance in combination with the overlying permeable layer which is made of material of the G1 group.

## ATTENTION!

For hydraulic reasons, frequently installations are selected which do not comply with the general installation conditions for pliable pipes:

### Note on creating the permeable base using clay

This installation is contrary to the above installation instructions. For reasons of pipe statics, in particular if greater demands are placed, it is very difficult to achieve the required degree of compaction and bedding stiffness (plasticity and instability), because cohesive materials gradually soften in contact with water and are carried out.

**It is therefore not recommended to use clay!**

### Note on creating the permeable base using concrete

It is frequently planned that the pipes are installed in concrete from the bedding to the perforations. This installation is also contrary to the above installation instructions. A solid concrete bedding has a very negative static effect on flexible pipes (all plastic pipes), because the surrounding soil is part of the static system of these pipes. Loads (soil loads, traffic loads) are transferred to the embedding via the material. With a "solid bedding" (concrete bedding), the loads cannot be transferred which may cause high tension and deformation.

**For reasons of pipe statics, it is therefore not recommended that concrete is used.**

## 4. Installation

Adhere to the provisions of DIN EN 1610 (Section 8).

Place the pipes on the prepared bedding. With Strabusil and StormPipe locally perforated (LP) and multi-purpose (MP) pipes, the white crown marking must be observed to position the perforations correctly.

Use couplings to connect the pipes to each other. Sealing rings produce water-tight connections between multi-purpose pipes.

For Strabusil MP and StormPipe MP, this is achieved by mounting a profile sealing ring onto the second corrugation trough. (Please note: Apply a sufficient amount of lubricant to the inside of the coupling and the profile sealing ring!)

The sealing ring is mounted onto Strasil MP as follows:

DN 200 – 7th corrugation trough

DN 250 – 6th corrugation trough

DN 350 – 5th corrugation trough

Insert pipes in the coupling until they reach the limit stop.

Use a fine-toothed saw or circular saw to cut pipes. Cuts in corrugation troughs must be at right angles! Use grater, planer or file to remove rough edges and burrs on the cutting surfaces. Use couplings to reuse remaining pieces. Pipe lengths must be secured to prevent shifting or upthrust of pipes while creating the embedding.

## 5. Backfilling and compacting

The provisions of DIN EN 1610 and DWA-A 139 generally apply. Carry out backfilling according to design specifications. It includes side filling, covering within the embedding area, and main backfilling.

Create the embedding of the pipe in the embedding area with stoneless, compactable material (see Section 3). Backfill the bedding material evenly on both sides of the pipe above the pipe crown in layers of approx. 15 cm, and compact using light compaction equipment only or, if required, even by hand.

Any in-situ soil must be prevented from entering the embedding or the displacement of material from the embedding to the in-situ soil (filter stability!). This might require the integration of suitable filter gravel or dimensioning and installing a filter fabric around the dry packing (gravel).

Further filling (as of approx. 15 cm above the pipe crown) must be made in layers with constant compaction of the filling material.

Mechanical compaction of main backfilling using light to medium compaction equipment directly above the pipe should only be performed starting from a minimum thickness of 30 cm above the pipe crown.

Use heavy compaction equipment only starting from a depth of cover of 1.0 m above the pipe crown.

Choose compaction equipment, the number of compaction runs and the thickness of layers subject to compaction depending on the material to be compacted and the pipe system to be installed.

To avoid load concentration on the pipe, consistent compaction throughout the

entire embedding area must be ensured. In addition, the pipes must not come in contact with compaction equipment. Preferably secure the pipes from lateral and vertical forces during installation.

### Please note:

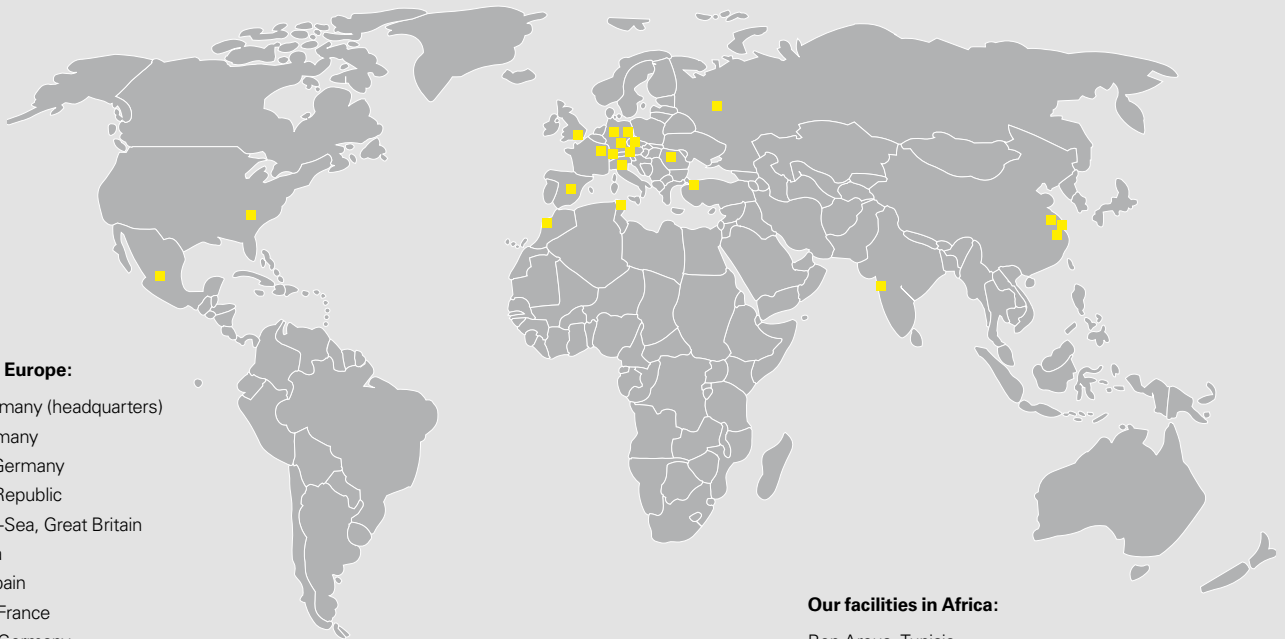
**The use of heavy construction gear and vehicles and storing excavated material in the area over covered pipes are not admissible unless relevant load conditions have been considered in the static calculation. This holds true particularly for pipe systems with low depths of cover.**

### NB:

**The suitability of our products for the specific purposes must be verified.**

Applicable standards and regulations, in particular **DIN EN 1610 “Construction and testing of drains and sewers”** (*Verlegung und Prüfung von Abwasserleitungen und -kanälen*) and **DWA-A 139 “Directive for the construction of drains and sewers”** (*Richtlinie für die Herstellung von Entwässerungskanälen und -leitungen*), must be observed.

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FRÄNKISCHE is an innovative, growth-oriented, medium-sized family-owned enterprise and industry leader in the design, manufacturing and marketing of technically superior corrugated pipe systems for drainage, electrical, building technology and industrial applications.

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