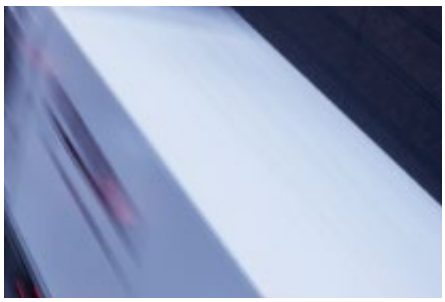
FRÄNKISCHE

Drainage systems for road and track construction

with perfectly matched components



EN | Last modified: February 2017

DRAINAGE SYSTEMS

ELECTRICAL SYSTEMS

BUILDING TECHNOLOGY

INDUSTRIAL PRODUCTS

4 challenges – 1 solution

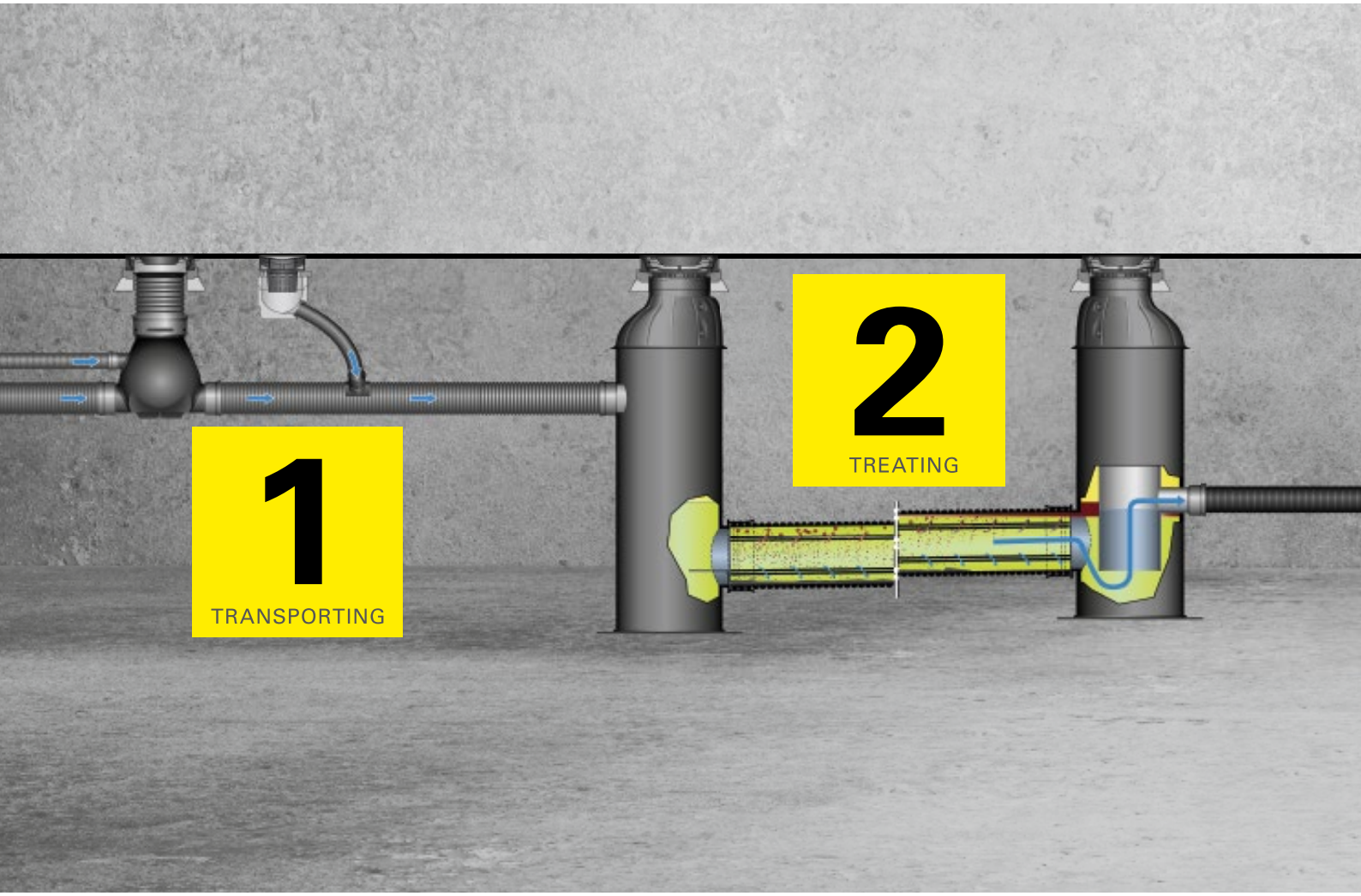
Stormwater: our competency

Rain falls on roads, squares, roofs, airports, stadiums and many other paved surfaces. Wherever it cannot be treated, stored and discharged naturally, our competencies are needed: **re-establishing the natural water cycle where it has been interrupted and re-channelling water back to natural storage areas - economically, ecologically and wisely.**

We have been working in the fields of **stormwater management, urban drainage, as well as road and track drainage** for more than 30 years. We know today that every task related to stormwater requires integrated, systems thinking.

Our solutions are characterised by:

- 100 % physical, functional and systematic reliability of all components,
- 100 % compatibility of all components and systems in the functional chain,
- long durability and excellent maintenance-friendliness across all areas of operation.



We provide full service, i.e. all system components including all steps before or after construction can be provided from a single source, if necessary.

On the one hand, this makes project realisation highly efficient and, on the other hand, this guarantees an efficient system maintenance. In this context, we focus on protecting our customers' investments.

All our drainage systems always meet the four fundamental tasks in handling stormwater:

- Transport
- Treatment
- Storage
- Discharge

Depending on the project-specific framework conditions, we combine our well-matched product components to create a complete system, thus providing an integrated system solution to your drainage needs. Our focus is on meeting all requirements under public law in accordance with the needs of the operators. Finally, the natural water cycle is re-established.

Challenge of road drainage

Stormwater runoff from roads is considered wastewater according to Section 54 of the Federal Water Act *(Wasserhaushaltsgesetz)* and must be collected, reliably discharged and treated. Our drainage systems reliably and sustainably meet all the requirements in handling polluted surface water and infiltration water in road drainage. We have a suitable solution whatever the challenge may be!

Where surface water cannot be discharged naturally, it needs to be reliably collected and then discharged. Properly functioning drainage is one of the crucial requirements for reliable usability and long service life of roads and tracks. Water is often a hindrance on the road, and it can cause danger to road users due to aquaplaning or icing. Even the pavement itself can be damaged due to washing-out or frost. These hazards can be eliminated by means of road drainage with appropriate pipe systems. Drainage systems help to collect and discharge surface water, water from the soil and/or road superstructure, and water coming from external sources. Drainage and transport pipes are used to collect, channel or discharge the different types and amounts of water.
Flushing and inspection shafts are essential to guarantee that drainage systems work reliably.

Table of contents

Surface water in road drainage 6 – 13

AquaPipe – transport pipe SN 8 (PE-HD) 8 – 11
AquaDock – 90° connection 12
AquaFlex – flexible connection pipe 13

Infiltration water in road drainage 14 – 27

Strabusil – drainage pipe SN 4 (PE-HD) 16 – 19
StormPipe – drainage pipe SN 8 (PE-HD) 20 – 23
Strasil – drainage pipe SN 4 (PVC-U) 24 – 27

Flushing and inspection shafts in road drainage 28 – 41

General information on flushing and inspection shafts 30 – 31
Overview of shafts 32 – 33
StrabuControl / StrabuControl HP 34
StrabuControl 600 / StrabuControl 600 HP 35
StrabuControl 600 V / StrabuControl 600 V HP 36
AquaTrafficControl / AquaTrafficControl HP 37
AquaTrafficControl V / AquaTrafficControl V HP 38
Shaft covers 39
Installation situations 40 – 41

Product range overview 42 – 65

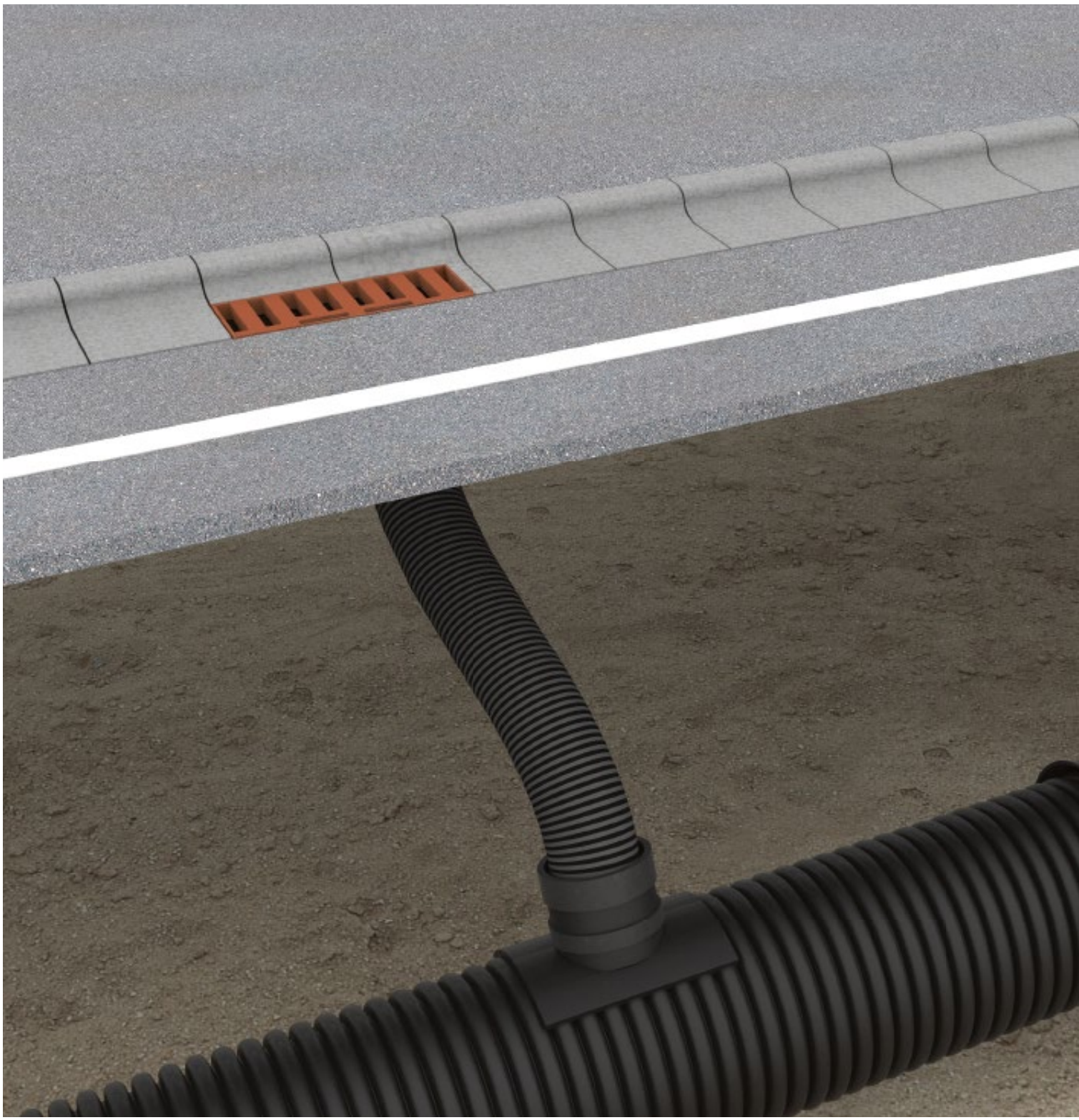
AquaPipe and accessories 44 – 47
Strabusil and accessories 48 – 51
StormPipe and accessories 52 – 55
Strasil and accessories 56 – 59
StrabuControl and accessories 60 – 61
StrabuControl 600 and accessories 62 – 63
AquaTrafficControl and accessories 64 – 65

Information concerning DIN 4262-1 66

Your connection to us 67

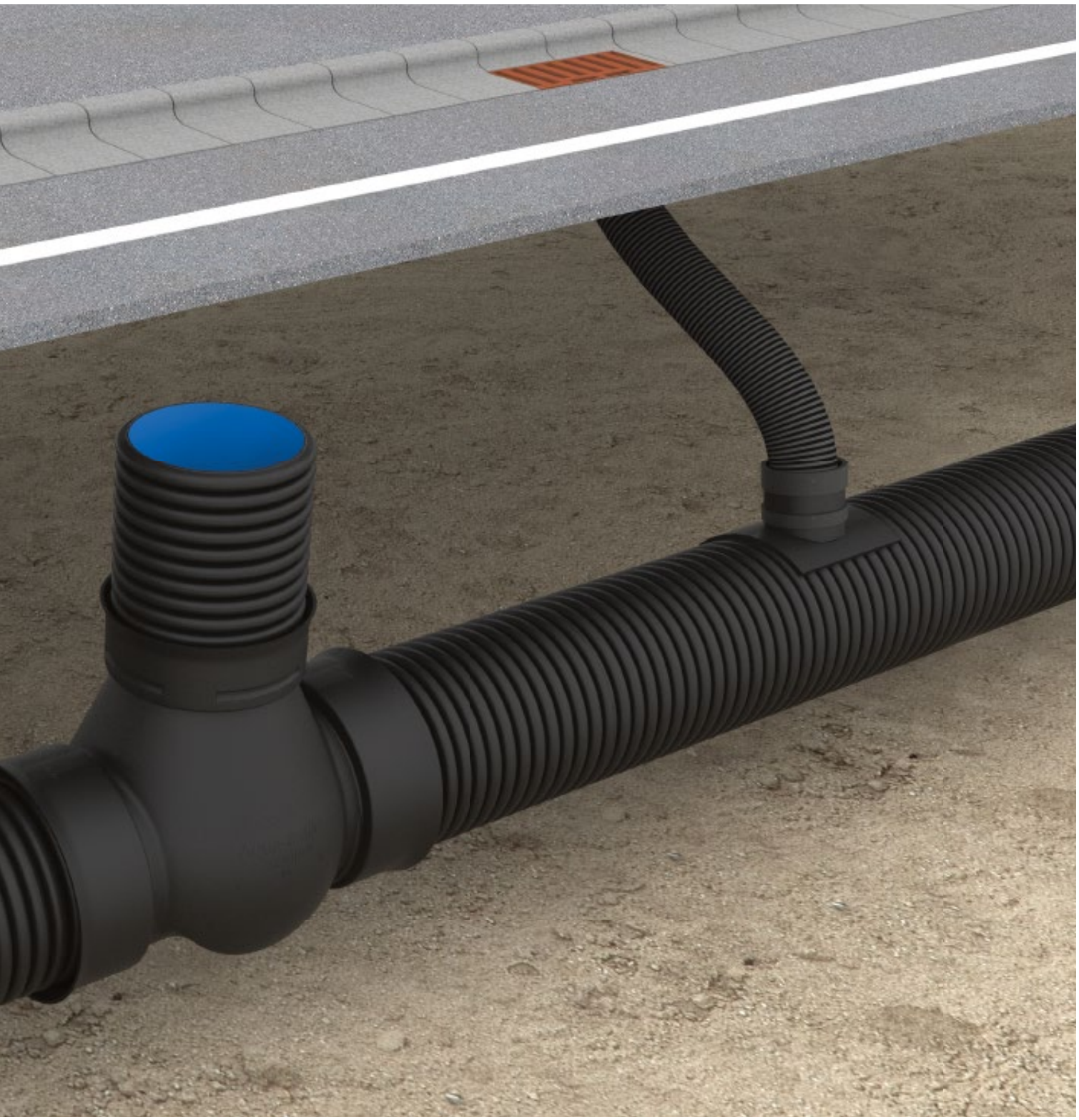
Surface water in road drainage

Impervious road surfaces prevent the groundwater that accrues in rainfall events from infiltrating, thus jeopardising road traffic, and must therefore be discharged in a controlled and reliable manner.



Products

AquaPipe – transport pipe SN 8 (PE-HD)	8–11
AquaDock – 90° connection	12
AquaFlex – flexible connection pipe	13



AquaPipe® – transport pipe SN 8 made of PE-HD

AquaPipe® – straightforward installation

AquaPipe, the transport pipe to discharge polluted surface water from **roads and highways** and municipal surface water from **residential, commercial and industrial areas,** and to **discharge stormwater into receiving waters**.

Collected road surface water must be discharged into leak-tight pipe systems according to the "Directive relating to road construction (RAS) – Part: Drainage" (RAS-Ew) (*Richtlinien für die Anlage von Straßen (RAS), Teil: Entwässerung*). With its proof of leak tightness according to DIN EN 1277, AquaPipe complies with all leak tightness requirements of RAS-Ew, DIN EN 13476-3 and DIN EN 1610.

AquaPipe is made of polyethylene (PE-HD) in tried-and-tested twin-wall design as described in DIN EN 13476. The twin-wall design leads to a high ring stiffness of SN 8 according to DIN EN ISO 9969 and pipe profile class 5 according to DIN 16961. AquaPipe complies with DIN 4262-1.

This covers virtually any application in the drainage of trafficked areas.

The PE pipe material features a very high chemical resistance against nearly any compound, even in high concentrations.

AquaPipe features a corrugated black outside and a smooth blue inside. Inside and outside are homogeneously welded along the corrugation troughs.

AquaPipe is available in lengths of 1 m, 3 m and 6 m, and in nominal diameters from DN 150 to DN 800.

The AquaDock retrofit connection and the AquaFlex flexible connection pipe complete the range of accessories.

The low weight of AquaPipe has many advantages for on-site transportation and installation.

The most important advantages at a glance:

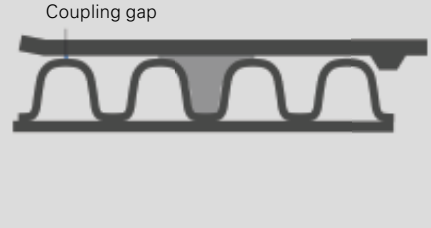
- lengths of 1, 3 and 6 m
- DN 150 – DN 800
- PE-HD twin-wall pipe according to DIN 16961
- ring stiffness SN 8 according to DIN EN ISO 9969
- pipe profile class 5 according to DIN 16961
- proof of leak tightness according to DIN EN 1277 for at least 0.5 bar; complies with leak tightness requirements of DIN EN 1610 and DIN EN 13476-3
- easy handling thanks to low weight
- complete range of accessories
- inspection-friendly thanks to blue inside
- very high chemical resistance
- proof of jetting resistance according to DIN 19523
- suited for SLW 60 / HGV 60

Sealing ring with enhanced safety

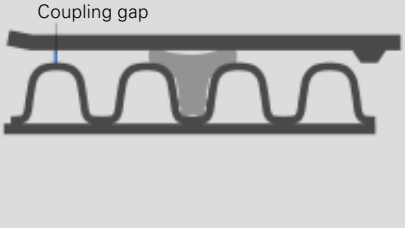
The leak tightness of the pipe system has been tested externally according to DIN EN 1277 for at least 0.5 bar.
The EPDM sealing ring has very large sealing lips.

This is hardly needed for proper installations with normal coupling gaps.

If, however, due to misinstallation or e.g. settling of the ground in the area of the shaft connection, a wide coupling gap shows, the sealing system still remains leaktight.



Proper installation resulting in a normal coupling gap.



Installation resulting in a large gap width.
The sealing ring still remains leaktight.

NB

With its proof of leak tightness according to DIN EN 1277, AquaPipe complies with all leak tightness requirements of RAS-Ew, DIN EN 13476-3 and DIN EN 1610.

Impressing with excellent hydraulics ...

Hydraulic properties

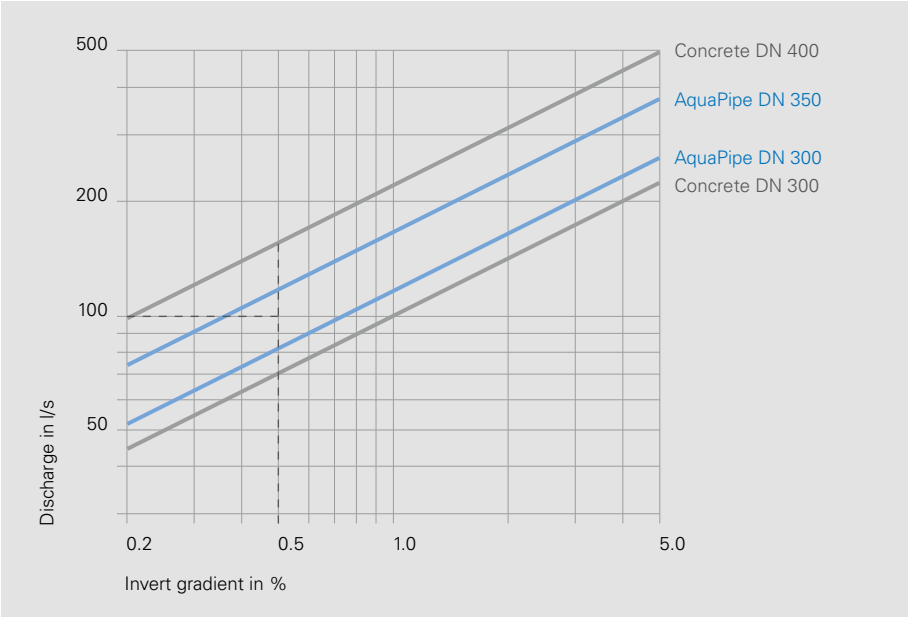
The following limit values referring to the inside diameter (d) of the pipe are used as reference for the selection of the slope I:

max. I = 1 : d (d in cm)
min. I = 1 : d (d in mm)
(I greater than or equal to 0.3 % recommended according to RAS-Ew)
The flow velocity with reference to the calculated water amount should not fall below 0.5 m/s.

Flow velocities of 6 to 8 m/s can be permitted depending on the selection of the pipe material.

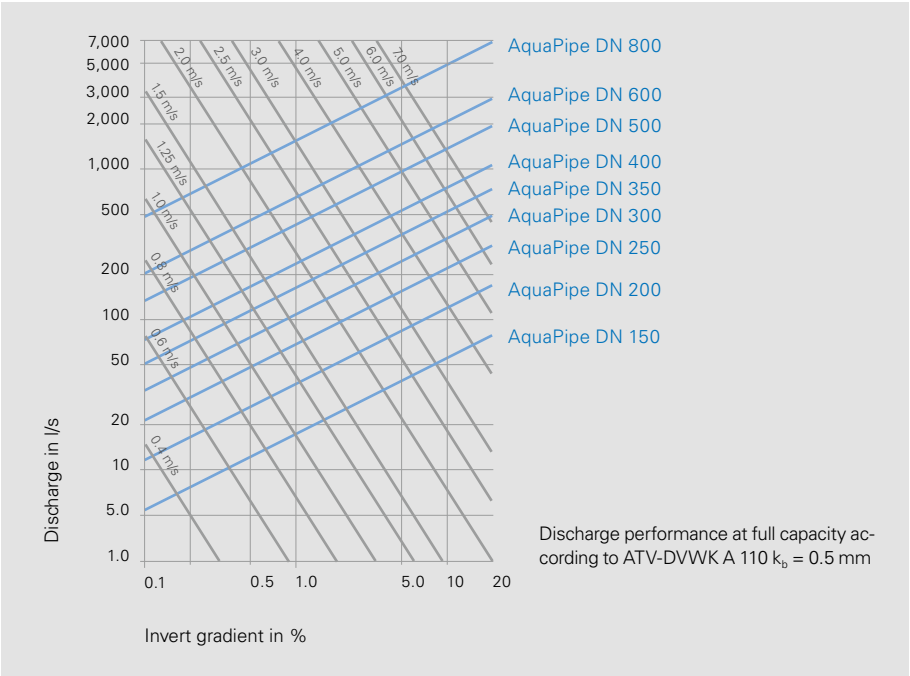
The hydraulic chart can be used to determine the discharge performance (at full capacity).

The hydraulics were determined using the ATV-DVWK regulation A 110 based on the operative roughness (k_b = 0.5 mm).



Example: AquaPipe DN 350 is appropriate for 100 l/s discharge with a slope of 0.5 %. DN 400 would be required in concrete.

The chart shows the discharge (l/s) and flow velocity (m/s) depending on nominal diameter (DN) and invert gradient (%).



The discharge (l/s) and flow velocity (m/s) depending on nominal diameter (DN) and invert gradient (%)

… and proven stability

Loading

The high ring stiffness of AquaPipe ensures a high degree of reliability. If installed correctly (DIN EN 1610, DWA-A 139), – for standard installations as described below with high traffic loads – the deflection value is significantly below the admissible deflection value of 6.0 % according to DWA-A 127.

However, the deflection chart does not replace the project-specific pipe stress analysis according to DWA-A 127.

In addition to the deflection analysis, the static verification includes stress and stability analysis.

The validity range of the chart complies with the safety factors of 2.5.

NB

Please refer to the applicable standards DIN EN 1610, DWA-A 139, DWA-A 127 and our installation manual for detailed installation information.

The following installation conditions apply to the deflection chart on the right (average of all nominal diameters):

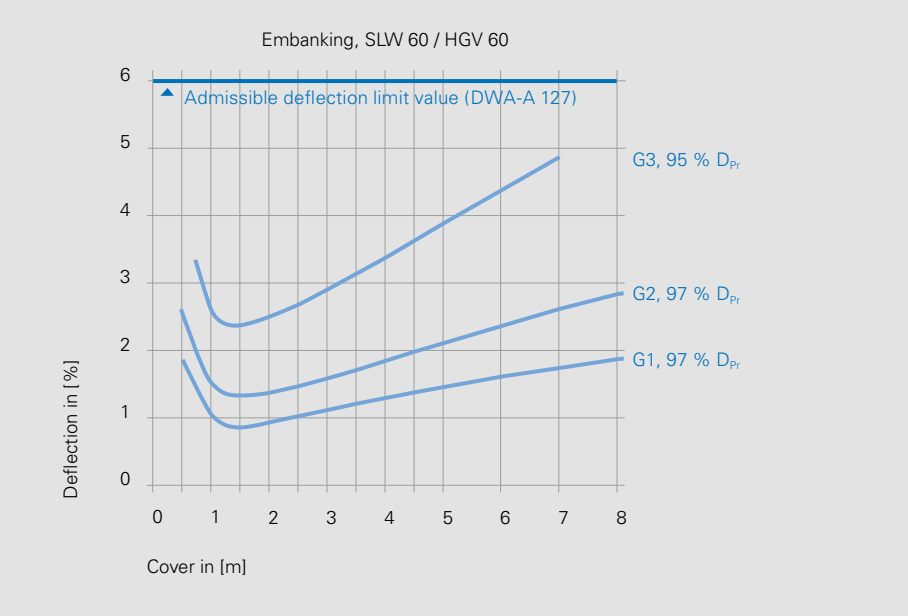
- AquaPipe DN 150 – DN 800
- embanking
- soil cover 0.5 – 8.0 m
- SLW 60 / HGV 60 traffic loads
- piping zone – soil of the groups:

  G3 / cohesive mixed soils and slit (topmost curve)

  G2 / slightly cohesive soils (middle curve)

  G1 / non-cohesive soils (bottommost curve)

  See also soil class 3 according to DIN 18300; bedding angle 180°, loose bedding.
- native soil and backfill G3 with 95% D_{Pr}



Only applies to the installation conditions on the left!

AquaDock®/saddle – watertight and reliable 90° connections

AquaDock allows the watertight and reliable connection of lateral inlets of AquaFlex DN 150 to AquaPipe. AquaDock has been designed as 90° connection for AquaPipe DN 300 to DN 600. The set includes AquaDock, a profile sealing ring DN 150 and an installation manual.

Both new and existing pipe systems can be connected. It offers high reliability as compared to push-fit solutions with, e.g. sealing collars.

Use the AquaDock hole saw (Ø 178.5 mm) to cut a hole into the collector.

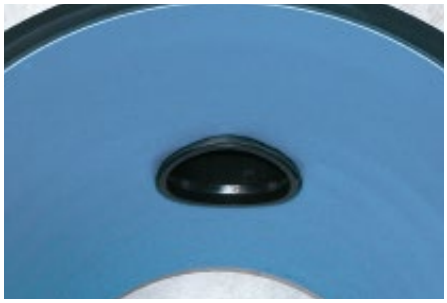
The drill stand helps to cut a clean hole.

Hole saw and drill stand are part of our range of products. AquaDock can be easily installed using the installation wrench.

NB

Please see our detailed installation manual for more detailed installation information.

Readily installed AquaDock



Interior view

Advantages

- watertight 90° connection
- suitable for both new and retrofit installations
- for DN 300 – DN 600
- no heavy drilling equipment required
- easy, uncomplicated installation
- only minimum reduction in the cross-sectional area of the collector pipe

Saddle

The saddle allows the watertight and reliable connection of AquaPipe/AquaFlex DN 200 to AquaPipe DN 300 and higher, and AquaPipe/AquaFlex DN 150 to AquaPipe DN 800. Both new and existing pipe systems can be connected.

The set comprises the saddle, a profile sealing ring DN 150 and/or DN 200, a KG adapter DN 150 and/or DN 200 and installation instructions.

Use our saddle hole saw (standard drilling machine greater than or equal to 1,000 watts required) to cut a hole (Ø 214.5 mm or Ø 220 mm) into the collection pipe.

We recommend using our drill stand.

AquaFlex® – flexible connection pipe

AquaFlex is a flexible PE pipe in nominal diameters of DN 150 and DN 200 designed for use as a connecting pipe between road gully and drainage pipe.

AquaFlex, manufactured in twin-wall design, is a R2 pipe type according to DIN 4262-1. The corrugated pipe design provides a high ring stiffness.

A DN 150 shaft coupling is available for factory-provided installation in the bottom of the road gully (1a) according to DIN 4052.

It allows AquaFlex to be directly connected to the road gully.

Thanks to its flexibility, no accessories such as bends are required in general. Its flexibility ensures tension-free installation.

Small obstacles can be bypassed without any problems if the required slope and the smallest bend radius are observed.

NB

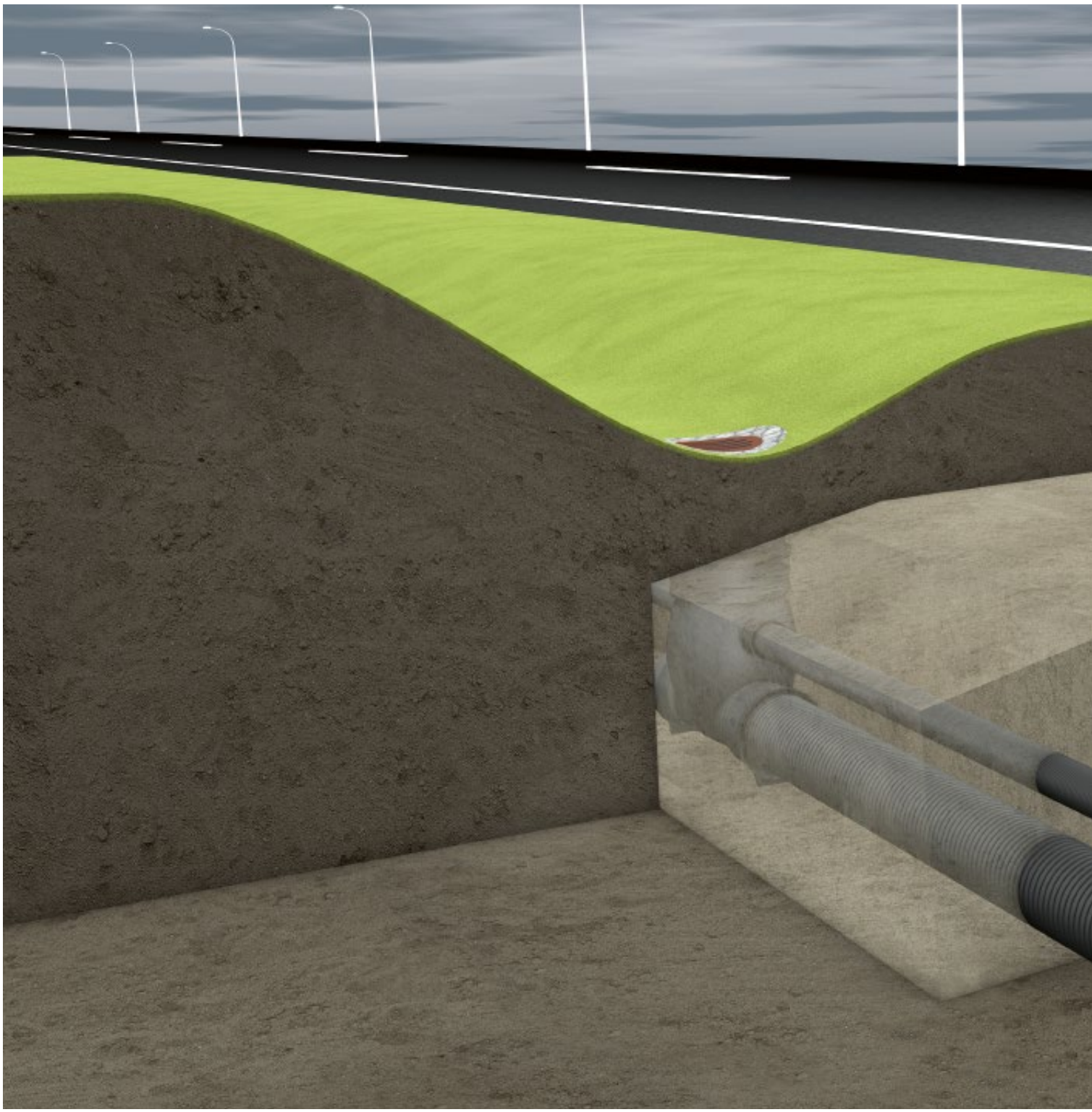
Please see our detailed installation manual for more detailed installation information.

Advantages

- twin-wall PE pipe, R2 pipe type according to DIN 4262-1
- ring stiffness SN 8 according to DIN EN ISO 9969
- economical length of 25 m
- small bend radii possible
- no additional bends required
- easy handling
- high chemical resistance
- suited for SLW 60 / HGV 60

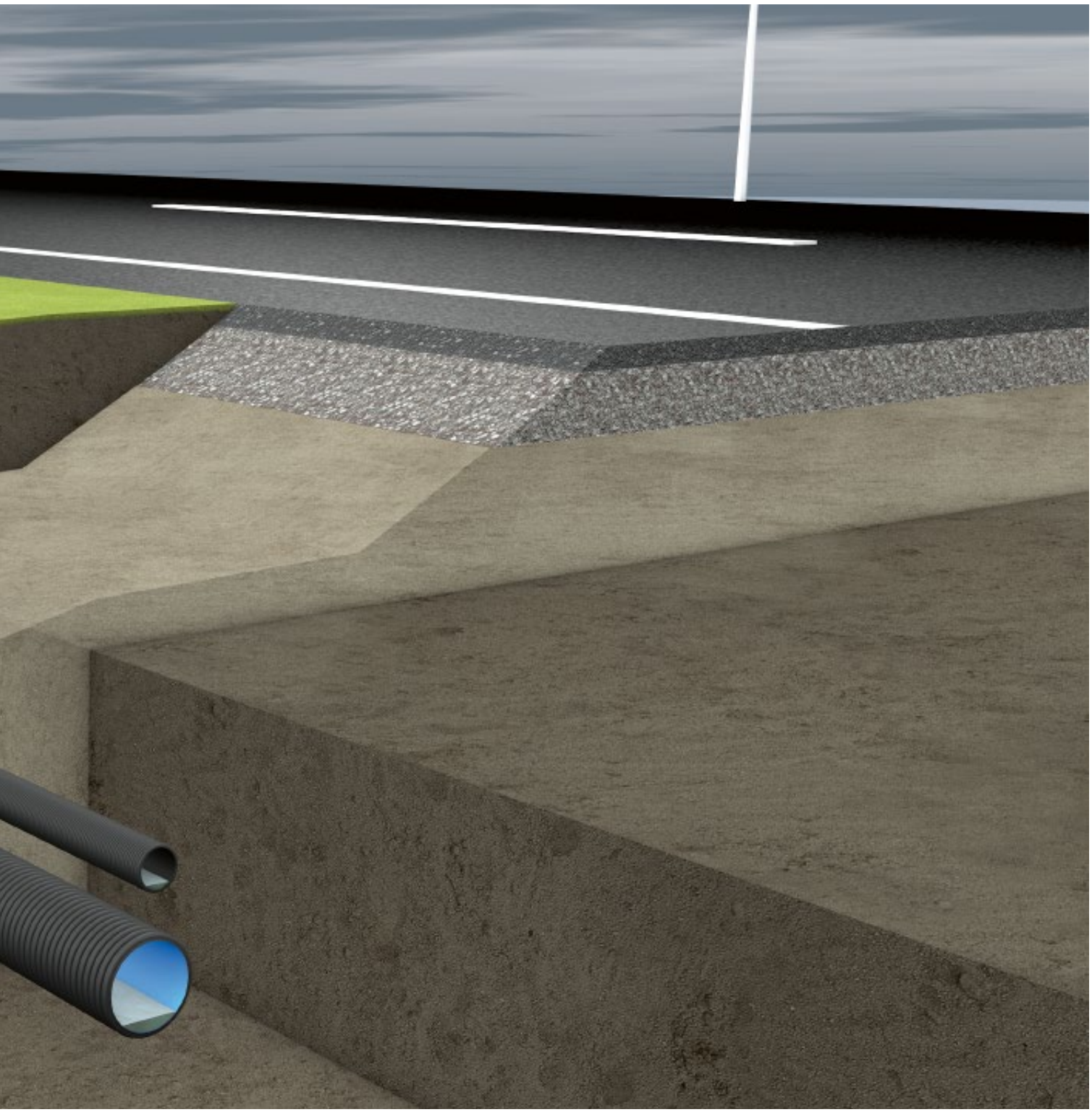
Infiltration water in road drainage

Drainage pipe systems help to collect infiltration water, water from the soil and water from the road surface. For virtually all requirements FRÄNKISCHE provides suitable pipes that comply with applicable standards and are state of the art.



Products

Strabusil – drainage pipe SN 4 (PE-HD)	16–19
StormPipe – drainage pipe SN 8 (PE-HD)	20–23
Strasil – drainage pipe SN 4 (PVC-U)	24–27



Strabusil® drainage pipes SN 4 made of PE-HD ...

Strabusil drainage pipes are PE-HD twin-wall pipes (corrugated outside, smooth inside) according to DIN 4262-1 type R2 in ring stiffness class SN 4. The combination of these two properties combines the advantages of the high static strength of corrugated pipes with the high discharge performance of pipes with a smooth inside.

Strabusil drainage pipes are manufactured in 6 m lengths in nominal diameters ranging from DN 100 to DN 400. They are temperature resistant even at sub-zero temperatures. The black colour provides high UV resistance and allows the pipes to be stored outside for longer periods of time.

Strabusil drainage pipes are resistant to acids and bases according to DIN 8075 supplementary sheet 1. Strabusil drainage pipes are used according to relevant standards, guidelines and regulations.

The most important are:

- DIN EN 1610
- RAS-Ew
- DWA-A 139
- ZTVA-StB 97/06
- ZTV Ew-StB 14

The perforations are symmetrically arranged along the crown and guarantee optimum water intake thanks to the matched perforation-wall ratio. The perforations are located in the corrugation troughs and protected by a surrounding filter layer so that water can flow freely into the pipe.

NB

Please refer to the applicable standards EN 1610, DWA-A 139, DWA-A 127 and our installation manual at www.fraenkische.com for detailed information.

Strabusil® – the pipe

- high infiltration rate thanks to perfectly arranged perforations and low water infiltration resistance
- push-fit coupling ensures rapid installation. A profile sealing ring seals MP pipes.
- extremely high degree of drainage thanks to smooth inside
- high compressive strength and impact resistance thanks to PE-HD twin-wall design
- easy to install thanks to low weight
- suited for SLW 60 / HGV 60

… tried-and-tested in road and track construction for many years

The perforation area is greater than or equal to 50 cm^2/m per pipe. The crown marking of locally perforated pipes ensures the correct installation of Strabusil so that the perforations are located in the upper half of the pipe.

The tried-and-tested twin-wall design gives the pipe a high ring stiffness and a low weight. The smooth surface of the pipe inside ensures unimpeded, rapid discharge of water. Pipe inside and outside are homogeneously welded along the contact surfaces. The combination of maximum water infiltration and discharge performance, low weight, easy-to-handle 6 m lengths, pliability and high static strength make its use easy and safe and its installation economical.

Strabusil drainage pipes have been designed for the reliable drainage of roads, airfields, sports fields and for cases where increased requirements are placed on drainage pipes.

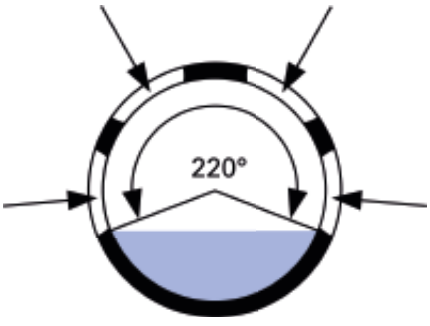
Its low weight facilitates installation. Matching accessories meet all the demands that are placed on easy-to-install drainage technology.

The different types of perforations

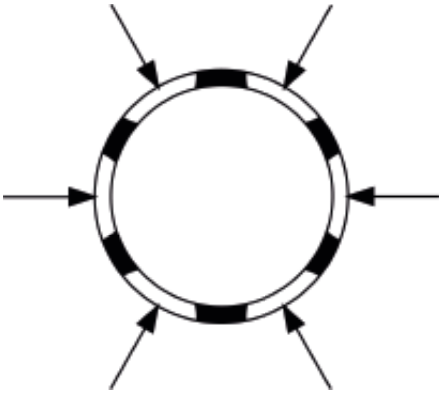
Use and function:

Strabusil locally perforated (LP) and **totally perforated (TP) pipes** ensure drainage of the ground level and the anti-frost layer. This holds true during and after construction by collecting the accumulating unbound soil water and then transporting it to the receiving waters.

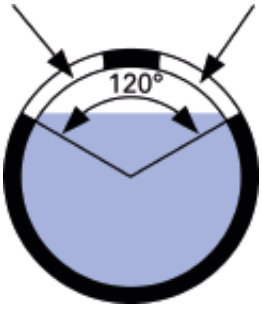
Strabusil multi-purpose pipes (MP) feature both the function of locally perforated pipes and collectors for longer distances.
They must store and transport the accumulating surface water if required. As opposed to locally perforated pipes, the coupling connection must provide a watertight (WD) seal according to DIN 4262-1. This is achieved by slipping a profile sealing ring into the second corrugation trough. The connection is sandtight (SD) without a profile sealing ring. Make sure that in the case of watertight connections both the coupling inside and the profile sealing ring must be covered with a sufficient amount of lubricant upon installation.



Locally perforated pipe (LP)



Totally perforated pipe (TP)



Multi-purpose pipe (MP)

Strabusil® – high drainage capacity...

Hydraulic properties

The partial capacity curve for circular profiles according to the diagram on the right is used to determine partial discharges according to DWA-A 110.

Key:

d [m] = inside diameter

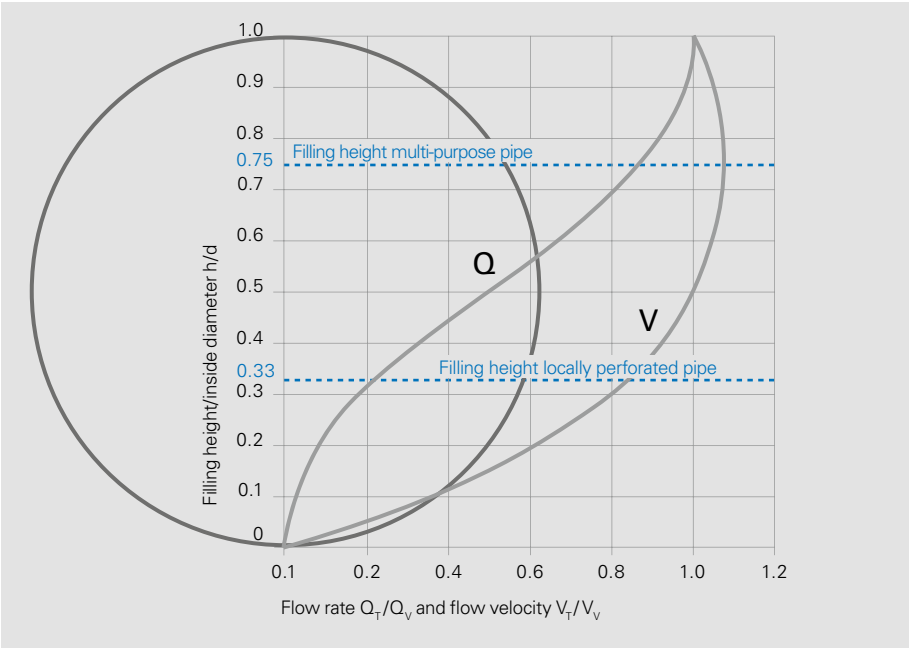
h [m] = filling height

Q_V [m³/s] = flow rate at full capacity

Q_T [m³/s] = flow rate at partial capacity

V_V [m/s] = flow velocity at full capacity

V_T [m/s] = flow velocity at partial capacity

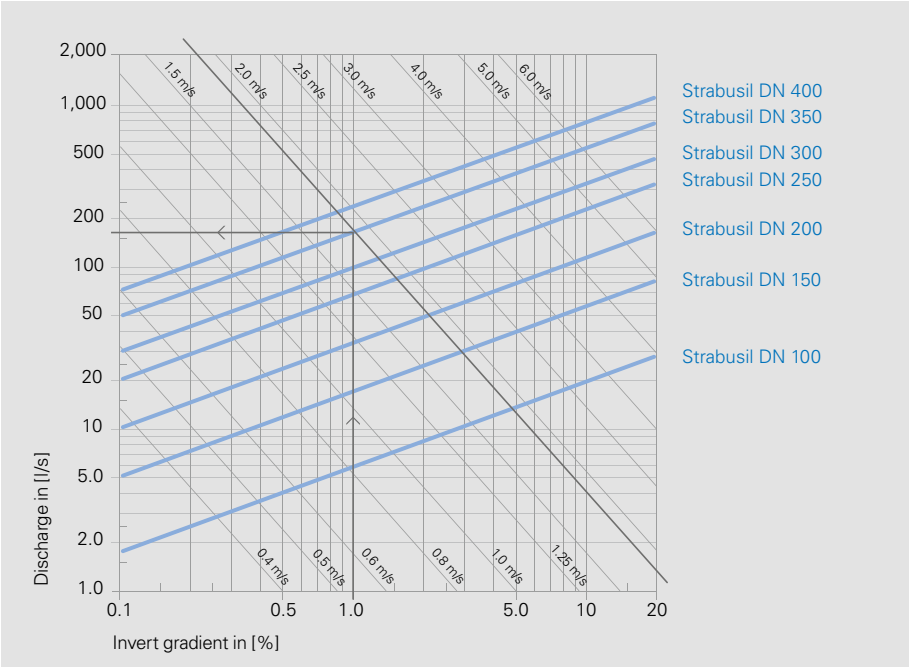


The hydraulic chart can be used to determine the discharge performance (at full capacity).

The hydraulic properties were calculated according to DWA A 110 and are based on a roughness coefficient of k_b = 0.5 mm.

The chart shows the discharge (l/s) and flow velocity (m/s) depending on nominal diameter (DN) and invert gradient (%).

If DN 350 Strabusil multi-purpose pipes (MP) are used, a water quantity of approx. 160 l/s or 580 m³/h can be discharged at a gradient of 1 % and a flow velocity of approx. 1.8 m/s.



… and excellent robustness guaranteed

Loading

Strabusil drainage pipes are robust and ideal for use in harsh construction site environments. They are impact resistant at sub-zero temperatures.

Strabusil drainage pipes are jetting resistant according to DIN 19523.

The twin-wall design provides high ring stiffness. They can be used wherever high static and dynamic loads must be absorbed.

If installed according to standards (DIN EN 1610, DWA-A 139), – for standard installations as described below with high traffic loads – the deflection values calculated using the pipe stress analysis (see chart) are not exceeded. The values do not exceed the admissible deflection value of 6.0 % according to DWA-A 127.

However, the deflection chart does not replace the project-specific pipe stress analysis according to DWA-A 127.
In addition to the deflection analysis, the static verification includes stress and stability analysis.

NB

Please refer to the applicable standards EN 1610, DWA-A 139, DWA-A 127 and our installation manual at www.fraenkische.com for detailed information.

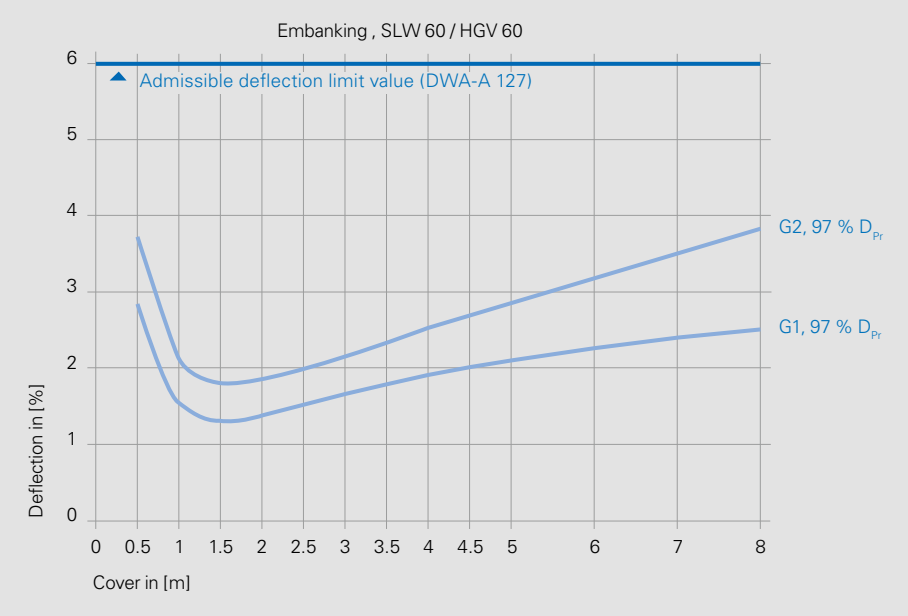
The following installation conditions apply to the deflection chart on the right (average of all nominal diameters):

- Strabusil DN 100 – DN 400
- embanking
- soil cover 0.5 – 8.0 m
- SLW 60 / HGV 60 traffic loads
- piping zone – soil of the groups:

  G2 / slightly cohesive soils (top curve)

  G1 / non-cohesive soils (bottom curve)

  See also soil class 3 according to DIN 18300; bedding angle 180°, loose bedding.
- native soil and backfill
  G3 with 95 % D_{Pr}



Only applies to the installation conditions on the left!

StormPipe – drainage pipes SN 8 made of PE-HD

StormPipe, drainage pipes for demanding requirements in road and track drainage.

StormPipe is made of PE-HD in tried-and-tested twin-wall design. StormPipe complies with DIN 4262-1, R2 pipe type.

The combination of twin-wall design and PE-HD ensures a high ring stiffness of SN 8 according to EN ISO 9969.

StormPipe features a corrugated black outside and a smooth grey inside.

Inside and outside are homogeneously welded along the corrugation troughs.

StormPipe is available in straight lengths of 6 m in nominal diameters DN 100 to DN 600 as totally perforated pipe, locally perforated pipe and multi-purpose pipe.

Thanks to the low weight, StormPipe has many advantages for on-site transportation and installation.

The most important advantages at a glance

- DN 100 – DN 600 as perforated drainage pipe
- ring stiffness SN 8 according to EN ISO 9969
- twin-wall PE-HD pipe, R2 pipe type according to DIN 4262-1
- easy handling thanks to low weight
- inspection-friendly thanks to grey inside
- high infiltration rate of drainage pipes thanks to perfectly arranged perforations and low water infiltration resistance
- extremely high degree of drainage thanks to smooth inside
- suited for SLW 60 / HGV 60

The perforations are symmetrically arranged along the crown and guarantee optimum water intake thanks to the matched perforation-wall ratio.
The perforations are arranged in the corrugation troughs protected by the surrounding filter layer, which allows best-possible unobstructed water intake.
The pipe stiffness is extremely high.

StormPipe drainage pipes are resistant to acids and bases according to DIN 8075 supplementary sheet 1. They are temperature-resistant also at sub-zero temperatures and feature high UV resistance. The perforation area is greater than or equal to 50 cm^2/m per pipe. The perforation width is 1.2 mm + 0.4 mm.

The locally perforated pipes feature a crown marking ensuring correct installation of StormPipe drainage pipes so that the perforations are located in the upper part of the pipe.

Pipe inside and outside are homogeneously welded along the contact surfaces. The combination of maximum drainage and discharge, low weight, easy-to-handle pipe length, pliability and high static strength make its use easy and safe and its installation economic.

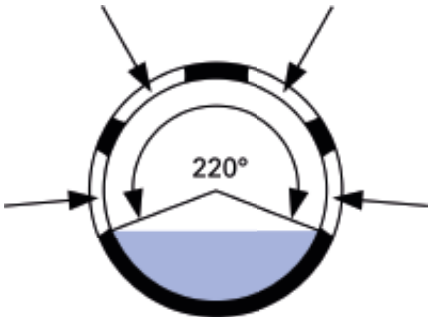
StormPipe drainage pipes have been designed for the reliable drainage of roads, airfields, sports fields and for cases where utmost requirements are placed on drainage pipes.

The different types of perforations

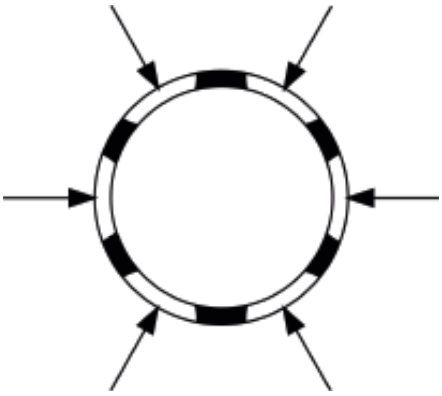
Use and function:

StormPipe locally perforated pipes (LP) and totally perforated pipes (TP) ensure drainage of the ground level and the anti-frost layer. This holds true during and after construction by collecting the accumulating unbound soil water and then transporting it to the receiving waters.

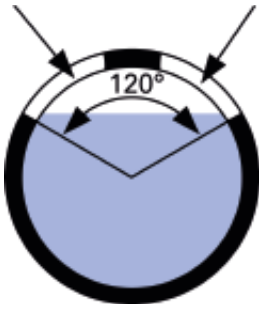
StormPipe multi-purpose pipes (MP) feature both the function of a locally perforated pipe and a collector for longer distances. They must store and transport the accumulating surface water if required. The coupling connection must therefore be watertight (WD)as opposed to locally perforated pipes. This is achieved by slipping a profile sealing ring into the second corrugation trough. The connection is sandtight (SD) without a profile sealing ring. Make sure that in the case of watertight connections both the coupling inside and the profile sealing ring must be covered with a sufficient amount of lubricant upon installation.



Locally perforated pipe (LP)



Totally perforated pipe (TP)



Multi-purpose pipe (MP)

StormPipe – impresses with excellent hydraulics ...

Hydraulic properties

The partial capacity curve for circular profiles according to the diagram on the right is used to determine partial discharges according to DWA-A 110.

Key:

d [m] = inside diameter

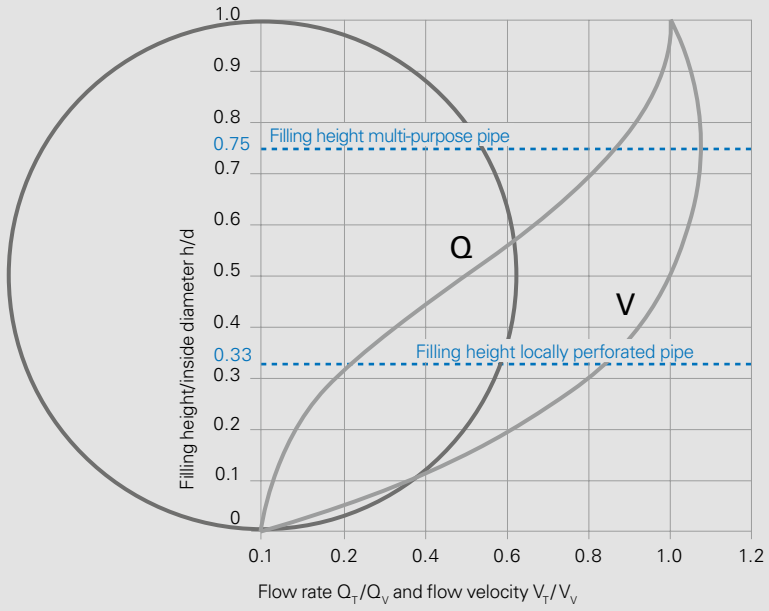
h [m] = filling height

Q_V [m³/s] = flow rate at full capacity

Q_T [m³/s] = flow rate at partial capacity

V_V [m/s] = flow velocity at full capacity

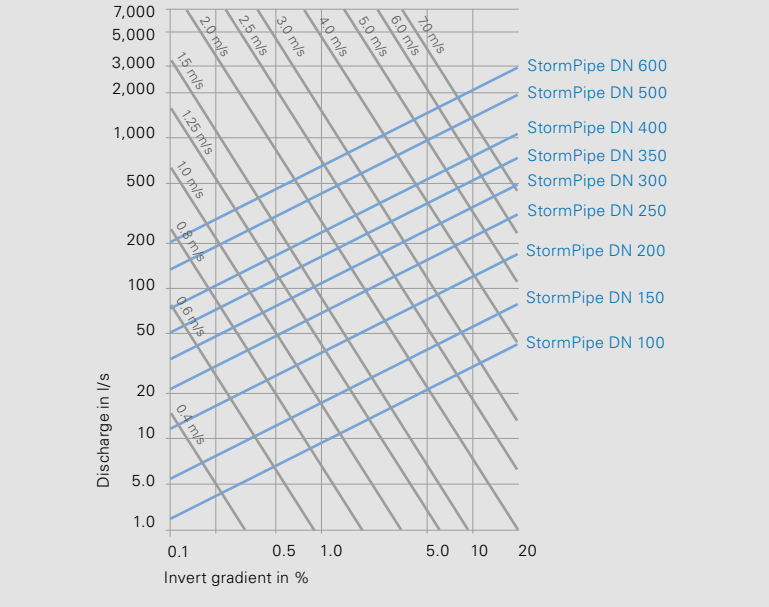
V_T [m/s] = flow velocity at partial capacity



The hydraulic chart can be used to determine the discharge performance (at full capacity).

The hydraulic properties were calculated according to DWA A 110 and are based on a roughness coefficient of (k_b = 0.5 mm).

The chart shows the discharge (l/s) and flow velocity (m/s) depending on nominal diameter (DN) and invert gradient (%).



Loading

The high ring stiffness of StormPipe ensures a high degree of reliability. If installed correctly (DIN EN 1610, DWA-A 139), – for standard installations as described below with high traffic loads – the deflection value is significantly below the admissible deflection value of 6.0 % according to DWA-A 127. However, the deflection chart does not replace the project-specific pipe stress analysis according to DWA-A 127.

In addition to the deflection analysis, the static verification includes stress and stability analysis.

The validity range of the chart complies with the safety factors of 2.5.

NB

Please refer to the relevant DIN EN 1610, DWA-A 139, DWA-A 127 standards and our installation manual for detailed installation information.

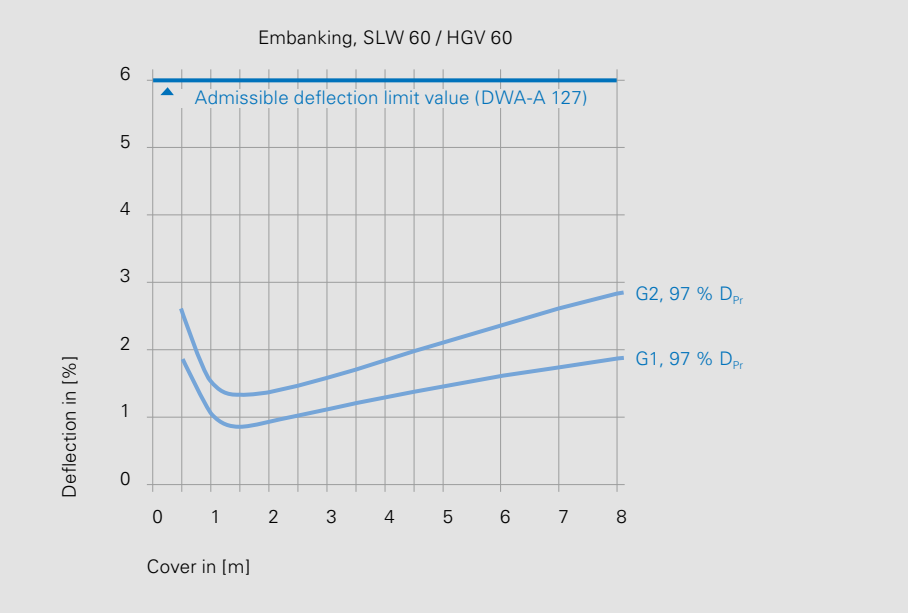
The following installation conditions apply to the deflection chart on the right (average of all nominal diameters):

- StormPipe DN 100 – DN 600
- embanking
- soil cover 0.5 – 8.0 m
- SLW 60 / HGV 60 traffic loads
- piping zone – soil of the groups:

  G2 / slightly cohesive soils (top curve)

  G1 / non-cohesive soils (bottom curve)

  See also soil class 3 according to DIN 18300; bedding angle 180°, loose bedding.
- native soil and backfill G3 with 95 % D_{Pr}



Only applies to the installation conditions on the left!

Strasil® drainage pipes SN 4 made of PVC-U ...

Strasil is a classic, tunnel-shaped drainage pipe for road and track construction featuring a characteristic smooth invert.

Strasil pipes are resistant to acids and bases according to DIN 8061, supplementary sheet 1.

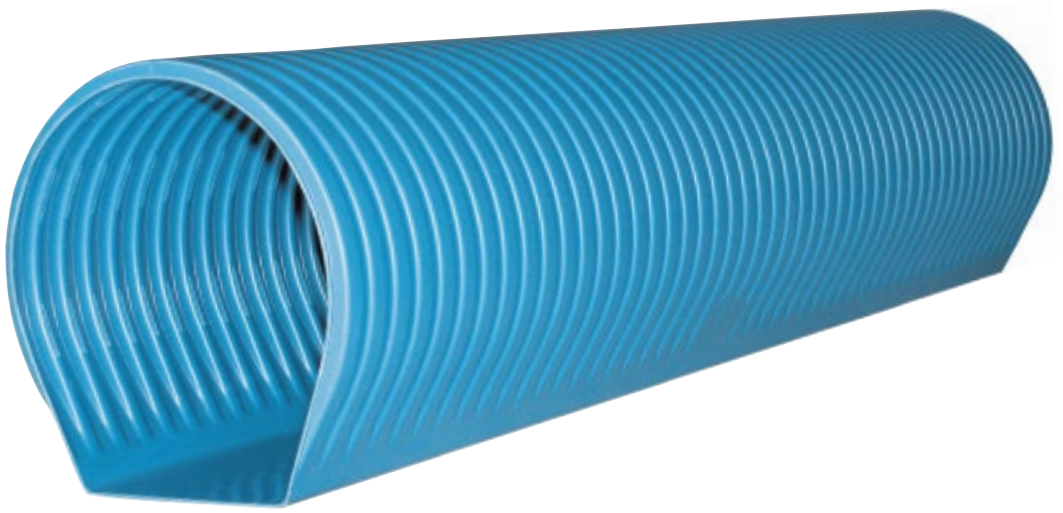
Strasil drainage pipes must be used according to relevant standards, guidelines and regulations.

The most important are:

- DIN EN 1610
- RAS-Ew
- DWA-A 139
- ZTVA-StB 97/06
- ZTV Ew-StB 14

Strasil® – the smooth-invert pipe

- quick to assemble thanks to push-fit coupling for LP and MP.
  A profile sealing ring seals MP pipes.
- unobstructed water infiltration
- high degree of drainage thanks to smooth invert
- high compressive strength thanks to optimum corrugation geometry. Static and dynamic loads are easily absorbed.
- suited for SLW 60 / HGV 60



.....convincing thanks to high discharge performance

The perforations are symmetrically arranged along the crown and guarantee optimum water intake thanks to the matched perforation-wall ratio.

The perforations are 1.2 mm wide and protectively located in the corrugation troughs; the total perforation area is greater than or equal to 50 cm^2/m per pipe. The smooth invert improves drainage.

Strasil drainage pipes have been dimensioned according to applicable provisions and regulations.

The combination of maximum water infiltration and discharge performance, low weight, easy-to-handle lengths (6 m) and high strength make its use easy and safe and its installation economical.

Due to the design, the coupling provides an absolutely reliable and sand-tight (SD) connection; a profile sealing ring renders the connection watertight (WD). The extensive selection of accessories meets the needs of installation situations and the wide range of possible applications.

NB

For detailed information, please refer to our installation manual at www.fraenkische.com.

The different types of perforations

Use and function:

Strasil locally perforated pipes (LP) ensure drainage of the ground level and the anti-frost layer. This holds true during and after construction by collecting the accumulating unbound soil water and then transporting it to the receiving waters. Strasil locally perforated pipes comply with these requirements.

Strasil multi-purpose pipes (MP) feature both the function of locally perforated pipes and collectors for longer distances. They must store and transport the accumulating surface water if required. As opposed to locally perforated pipes, the coupling connection must provide a watertight (WD) seal according to DIN 4262-1.

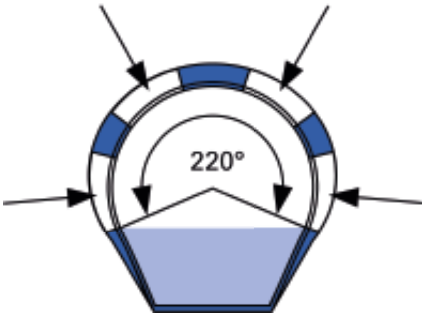
Position of sealing ring to establish a watertight seal between MP pipes:

DN 200 – 7th corrugation trough

DN 250 – 6th corrugation trough

DN 350 – 5th corrugation trough

If no sealing ring is used, the connection is sandtight (SD).



Locally perforated pipe (LP)

Multi-purpose pipe (MP)

Strasil® – convincing in hydraulics ...

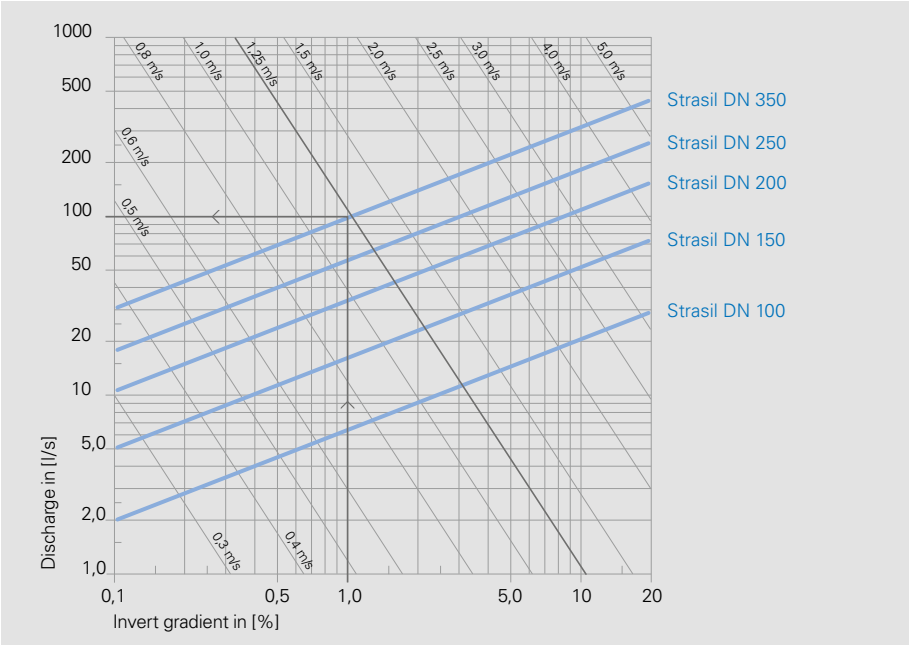
Hydraulic properties

The smooth invert of Strasil multi-purpose pipes only offers little resistance to the discharge of the infiltrated water. Due to the additional collection function, at least 240° of the pipe circumference are unperforated, i.e. watertight.

The hydraulic properties were determined by the University of Applied Sciences in Karlsruhe and the Technical University in Munich.

The chart shows the discharge (l/s) and flow velocity (m/s) depending on nominal diameter (DN) and invert gradient (%).

If Strasil DN 350 multi-purpose pipes (MP) are used, a water quantity of approx. 100 l/s or 360 m³/h can be discharged at a gradient of 1 % and a flow velocity of approx. 1.25 m/s.



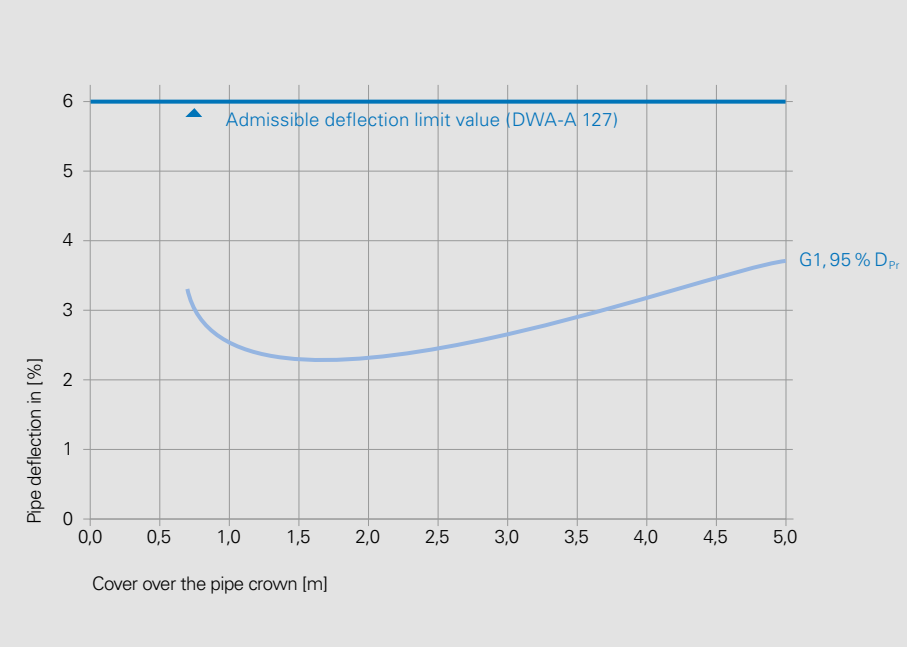
Loading

The optimised pipe geometry leads to particularly high compressive strength. Strasil multi-purpose pipes can be used wherever high static and dynamic loads must be absorbed.

The diagram shows the deflection behaviour of Strasil DN 250 with a cover of 0.7–5.0 m if non-cohesive soils G1 are used and a degree of compaction of 95 % D_{Pr} in the embedding area with heavy good vehicle traffic SLW 60 / HGV 60.

The maximum permissible deflection value of 6.0 % as required in the corresponding regulations (e.g. DWA-A 127) is generally not exceeded if exposed to long-term load. If necessary, there is a survey on the proof of stability by the Technical University in Munich that can be used to furnish proof of static properties.

Strasil DN 250 pipe deflection caused by soil and traffic loads SLW 60 / HGV 60 if installed in G1 soil, 95 % D_{Pr}



Flushing and inspection shafts for road drainage

Pipe systems must be inspectable and flushable. FRÄNKISCHE system shafts define what is state of the art and easily meet these requirements. Whether to connect a drainage pipe or a transport pipe to classic shafts or wye shafts, or for a piggyback arrangement.

Table of contents

General information on flushing and inspection shafts	30–31
Overview of shafts	32–33
StrabuControl / StrabuControl 600 / AquaTrafficControl shafts	34–38
Shaft covers	39
Installation situations	40–41

All benefits at a glance

Classic solution

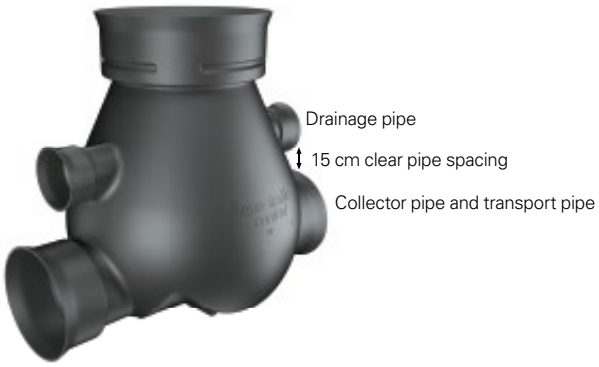
Classic flushing and inspection shafts by FRÄNKISCHE cover virtually any application.

- a comprehensive line of accessories makes design and installation from one source a breeze
- high-quality durable shafts "made in Germany"

Piggyback shafts

In addition to connections to the tight collector pipe and transport pipe situated at the bottom, piggyback shafts have connections for a drainage pipe at the top that reliably collects accumulating infiltration water as well as planum water from the road superstructure, and transports it to inspection shafts.

- different shaft base bodies and connection options allow adjustment to on-site conditions
- in-house manufactured quality products
- clear pipe spacing of 15 cm between drainage pipe and collector and transport pipe



- monolithic product made of PE-HD
- particularly easy to handle at construction sites thanks to the low weight
- extremely durable, robust and hard-wearing
- resistant to oils, acids, bases, greases, gasoline, diesel fuel according to DIN 8075 supplementary sheet 1
- high UV resistance
- ideal maintenance and inspection of connected systems possible
- edgeless design inside
- compact design and shallow building depths
- decoupling of forces from the extension pipe and the cover
- integrated compensating area for the extension pipe
- can also be used as a combined road gully and inspection shaft

Basics of the piggyback system

Stormwater runoff from roads is considered wastewater according to the Federal Water Act *(Wasserhaushaltsgesetz (WHG))* (see Section 54). To protect groundwater and waterbodies it must be collected and discharged in leak-tight pipes taking into consideration Section 60 of the WHG and according to recognized rules of engineering (DIN, DWA and FGSV regulations). In addition, the accumulating drainage / infiltration water must be collected separately from wastewater through drainage pipes.

With its piggyback shafts, FRÄNKISCHE allows for the possibility of complying with standards as easily as possible while remaining state of the art. The piggyback shaft combines a tight transport pipe and a top drainage pipe in one flushing and inspection shaft through which accumulating water can be reliably discharged. Thus, it can be ensured that no polluted surface water infiltrates into the soil.

The tasks of both road drainage and environmental protection are perfectly fulfilled. The shafts available in many different designs with various diameters and connection options are operationally-safe and utterly reliable solutions for collecting and discharging surface and infiltration water.

StrabuControl HP with a tight transport pipe at the bottom, and a drainage pipe at the top

Classic solution

Product	StrabuControl	StrabuControl 600	NEW StrabuControl 600 V	AquaTrafficControl	AquaTrafficControl V
Illustration					
Inside diameter of base body	> 500 mm	> 600 mm	> 600 mm	> 900 mm	> 900 mm
Extension pipe D_o	400	600	600	600	600
Designs	2/250 3/250 4/250 3/350 4/350 2/400	2/250 2/400 2/250 – 150 (90°) 2/400 – 150 (90°)	Variable shaft angle 90 – 270 degrees	2/300 2/400 2/500 2/600	Variable shaft angle 90 – 270 degrees
Connectable type(s) of pipe*	Strasil Strabusil StormPipe	Strasil Strabusil StormPipe AquaPipe	Strasil Strabusil StormPipe AquaPipe	AquaPipe StormPipe	AquaPipe StormPipe
Available nominal connection diameters	DN 100 – 400	DN 100 – 400	DN 100 – 400	DN 300 – 600	DN 300 – 600
Cover	FRÄNKISCHE (470 mm)	Standard cover (625 mm), on site	Standard cover (625 mm), on site	Standard cover (625 mm), on site	Standard cover (625 mm), on site
For more details, see	page 34	page 35	page 36	page 37	page 38

* Other FRÄNKISCHE twin-wall pipes possible

Piggyback

Product	StrabuControl HP (NEW)	StrabuControl 600 HP (NEW)	StrabuControl 600 V HP (NEW)	AquaTrafficControl HP	AquaTrafficControl V HP
Illustration					
Inside diameter of base body	> 500 mm	> 600 mm	> 600 mm	> 900 mm	> 900 mm
Extension pipe D_o	400	600	600	600	600
Designs	2/250 3/250 2/350 2/250 – 150 (90°) 2/350 – 150 (90°)	2/250 2/350 2/250 – 150 (90°) 2/350 – 150 (90°)	Variable shaft angle 90 – 270 degrees	2/300 2/400 2/500 2/600	Variable shaft angle 90 – 270 degrees
Transport pipe*	AquaPipe	AquaPipe	AquaPipe	AquaPipe	AquaPipe
Nominal connection diameters of transport pipe	DN 200 – 350	DN 200 – 350	DN 200 – 350	DN 300 – 600	DN 300 – 600
Drainage pipe	Strabusil StormPipe	Strabusil StormPipe	Strabusil StormPipe	Strabusil StormPipe	Strabusil StormPipe
Nominal connection diameters of drainage pipe	DN 150	DN 150	DN 150	DN 150	DN 150
Cover	FRÄNKISCHE (470 mm)	Standard cover (625 mm), on site	Standard cover (625 mm), on site	Standard cover (625 mm), on site	Standard cover (625 mm), on site
For more details, see	page 34	page 35	page 36	page 37	page 38

* Other FRÄNKISCHE twin-wall pipes possible

StrabuControl® / StrabuControl® HP

As a classic solution, StrabuControl is a particularly versatile inspection and flushing shaft just like in the piggyback design. It is suited for virtually any form of road drainage and can easily be integrated into trafficked areas with the FRÄNKISCHE shaft covers.

StrabuControl®

Total height:
approx. 750/860 mm
(depending on design)

Inside diameter of base body:
> 500 mm

Connectable type(s) of pipe:
Strasil
Strabusil
StormPipe

Extension pipe D_o:
400 mm

Designs:
2/250
3/250
4/250
3/350
4/350
2/400

Available nominal connection diameters DN:
100 – 400

- the low height allows a soil depth of at least 1.0 m
- standard nominal diameters ranging from DN 100 to DN 300 can be connected using reducers
- use of FRÄNKISCHE 470 mm shaft covers

StrabuControl® HP

NEW

Total height:
approx. 900/1,000 mm
(depending on design)

Inside diameter of base body:
> 500 mm

Drainage pipe(s):
Strabusil
StormPipe

Extension pipe D_o:
400 mm

Nominal connection diameters of drainage pipe DN: 150

Designs:
2/250
3/250
2/350
2/250 – 150 (90°)
2/350 – 150 (90°)

Transport pipe:
AquaPipe

Available nominal connection diameters of transport pipe DN:
200 – 350

- all FRÄNKISCHE 470 mm shaft covers can be used in combination with extension pipes D_o 400
- compact and statically optimised shaft base body
- standard nominal diameters ranging from DN 200 to DN 300 can be connected using reducers
- open flume

StrabuControl® 600 / StrabuControl® 600 HP

StrabuControl® 600

Total height:
approx. 825 mm

Connectable type(s) of pipe:
Strasil
Strabusil
StormPipe
AquaPipe

Available nominal connection diameters DN:
100 – 400

Inside diameter of base body:
> 600 mm

Extension pipe D_o:
600 mm

Designs:
2/250
2/400
2/250 – 150 (90°)
2/400 – 150 (90°)

- standard nominal diameters ranging from DN 100 to DN 350 can be connected using reducers
- the low height allows a soil depth of at least 1.0 m
- open flume
- also perfectly suited as swale infiltration shaft
- standard 625 mm shaft covers can be used
- installation possible in soil depths of approx. 1.0 to 5 m*; statically substantiated with HGV 60 traffic loads

* Shallow installation depths available on request

StrabuControl 600 and StrabuControl 600 HP have a particularly low height despite their relatively large shaft base body. Due to their compact and optimised design, they can be installed even at low soil depths, for instance as swale infiltration shafts.

StrabuControl® 600 HP

NEW

Total height:
approx. 970/1,050 mm
(depending on design)

Drainage pipe(s):
Strabusil
StormPipe

Nominal connection diameters of drainage pipe DN: 150

Transport pipe:
AquaPipe

Available nominal connection diameters of transport pipe DN:
200 – 350

Inside diameter of base body:
> 600 mm

Extension pipe D_o:
600 mm

Designs:
2/250
2/350
2/250 – 150 (90°)
2/350 – 150 (90°)

- compact and statically optimised shaft base body
- standard nominal diameters ranging from DN 100 to DN 300 can be connected using reducers
- open flume
- standard 625 mm shaft covers can be used

StrabuControl® 600 V / StrabuControl® 600 V HP

V stands for variable: StrabuControl 600 and StrabuControl 600 HP are also available as variable shafts for particularly demanding individual installation situations. Thanks to the freely selectable connection angles of these shafts, transport pipes and drainage pipes can be installed at small and irregular bend radii in especially narrow areas without additional fittings.

StrabuControl® 600 V

NEW

Total height:
approx. 1,000 mm

Connectable type(s) of pipe:
Strasil
Strabusil
StormPipe
AquaPipe

Available nominal connection diameters DN:
100 – 400

Inside diameter of base body:
> 600 mm

Extension pipe D_o:
600 mm

Designs:
Freely selectable shaft angle
90 – 270 degrees

- standard 625 mm shaft covers can be used

NB

Variable shafts are custom-manufactured exclusively for each project.

StrabuControl® 600 V HP

NEW

Total height:
approx. 1,000 mm

Drainage pipe(s):
Strabusil
StormPipe

Nominal connection diameters of drainage pipe DN: 150

Transport pipe:
AquaPipe

Available nominal connection diameters of transport pipe DN:
200 – 350

Inside diameter of base body:
> 600 mm

Extension pipe D_o:
600 mm

Designs:
Freely selectable shaft angle
90 – 270 degrees

- standard 625 mm shaft covers can be used

NB

Variable shafts are custom-manufactured exclusively for each project.

AquaTraffic®Control / AquaTraffic®Control HP

AquaTraffic® Control

Total height:
approx. 1,130 mm

Inside diameter of base body:
> 900 mm

Connectable type(s) of pipe:
AquaPipe
StormPipe

Extension pipe D_o:
600 mm

Designs:
2/300
2/400
2/500
2/600

Available nominal connection diameters DN:
300 – 600

- standard 625 mm shaft covers can be used
- the low height allows a soil depth of at least 1.35 m
- open flume

AquaTrafficControl and AquaTraffic-Control HP are ideally suited for the use in highway construction. Thanks to their large base body, nominal pipe diameters of up to DN 600 can be connected, so that even large amounts of surface water can be collected and reliably discharged. Despite their considerable dimensions, both shafts are easy to handle thus being a perfect solution in road drainage.

AquaTraffic® Control HP

Total height:
approx. 1,130 mm

Inside diameter of base body:
> 900 mm

Drainage pipe(s):
Strabusil
StormPipe

Extension pipe D_o:
600 mm

Nominal connection diameters of drainage pipe DN: 150

Designs:
2/300
2/400
2/500
2/600

Transport pipe:
AquaPipe

Available nominal connection diameters of transport pipe DN:
300 – 600

- standard 625 mm shaft covers can be used
- open flume

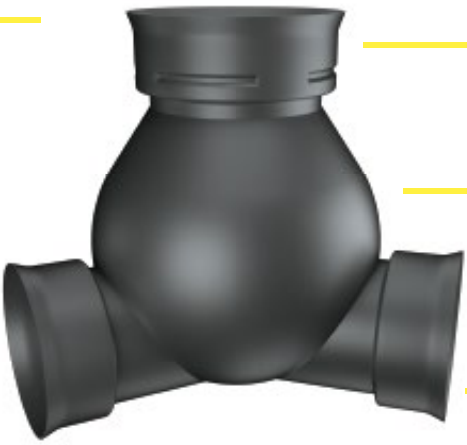
AquaTraffic® Control V / AquaTraffic® Control V HP

AquaTrafficControl V and AquaTraffic-Control V HP are used under narrow conditions. AquaPipe stormwater pipes can be installed very economically also in areas with very small bend radii, e.g. in highway construction. Custom-manufactured to meet specific project needs, drainage pipes with freely selectable connection angles can be connected.

AquaTraffic® Control V

Total height:
approx. 1,130 mm

Inside diameter of base body:
> 900 mm



Extension pipe D_o:
600 mm

Connectable type(s) of pipe:
AquaPipe
StormPipe

Designs:
Freely selectable shaft angle
90 – 270 degrees

Available nominal connection diameters DN:
300 – 600

- standard 625 mm shaft covers can be used

NB

Variable shafts are custom-manufactured exclusively for each project.

AquaTraffic® Control V HP

Total height:
approx. 1,130 mm

Inside diameter of base body:
> 900 mm

Drainage pipe(s):
Strabusil
StormPipe

Extension pipe D_o:
600 mm

Nominal connection diameters of drainage pipe DN: 150

Designs:
Freely selectable shaft angle
90 – 270 degrees

Transport pipe:
AquaPipe

Available nominal connection diameters of transport pipe DN:
300 – 600

- standard 625 mm shaft covers can be used

NB

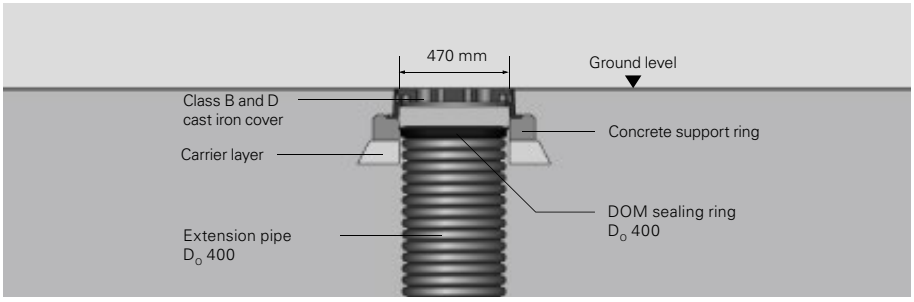
Variable shafts are custom-manufactured exclusively for each project.

FRÄNKISCHE covers (470 mm)

FRÄNKISCHE covers can be integrated in the road surface without any problems. Whether classic or piggyback: the special-purpose DOM sealing ring D_o 400 ensures that extension pipes D_o 400 are properly connected to corresponding covers.

Concerns the following shafts:

- StrabuControl
- StrabuControl HP



FRÄNKISCHE cover (470 mm)

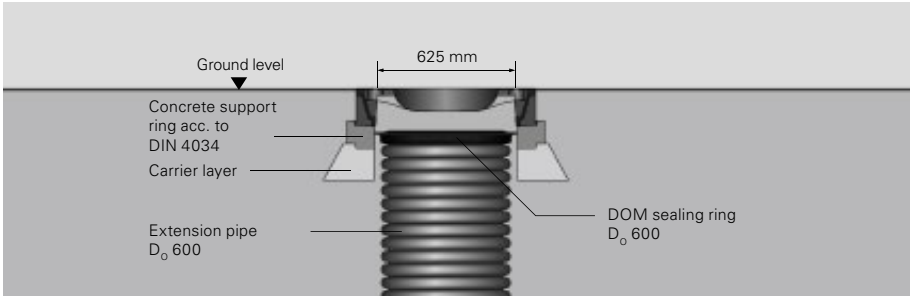
DOM sealing ring D_o 400

Installation with standard covers (625 mm)

The special-purpose DOM sealing ring D_o 600 provides a proper connection of the extension pipes D_o 600 to the cover. More covers such as roll-in covers can be used without any problems under certain preconditions.

Concerns the following shafts:

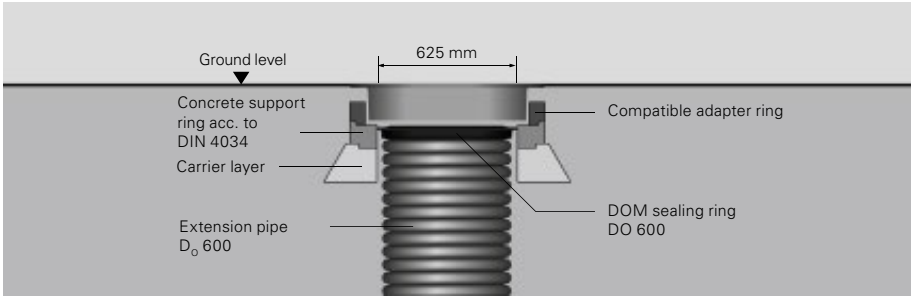
- StrabuControl 600
- StrabuControl 600 HP
- StrabuControl 600 V
- StrabuControl 600 V HP
- AquaTrafficControl
- AquaTrafficControl HP
- AquaTrafficControl V
- AquaTrafficControl V HP



Standard cover (625 mm)

Please observe in general

The height of support ring and frame must be clarified in connection with the use of a dirt trap. The dirt trap should not rest directly on the extension pipe.



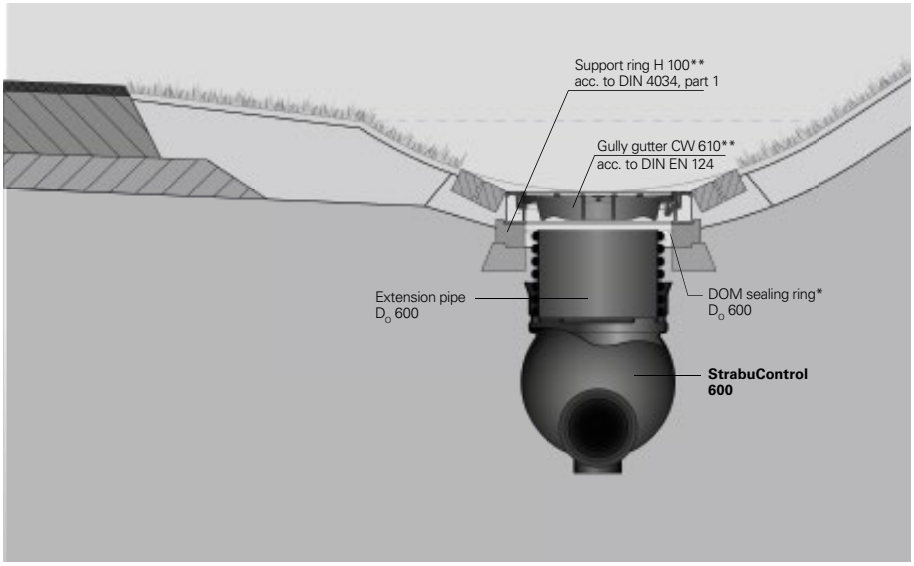
Cover for rolling-in in bituminous road surfaces

DOM sealing ring D_o 600

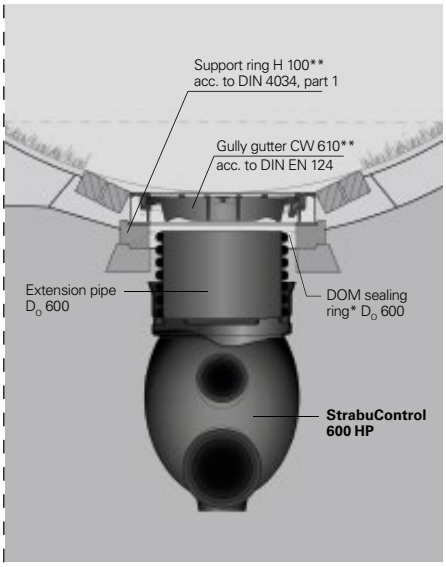
Installation as swale infiltration shaft

The compact design makes StrabuControl 600 / HP and AquaTrafficControl / HP ideally suited as swale infiltration shafts with perforated gully gutters.

StrabuControl 600 / HP as swale infiltration shaft

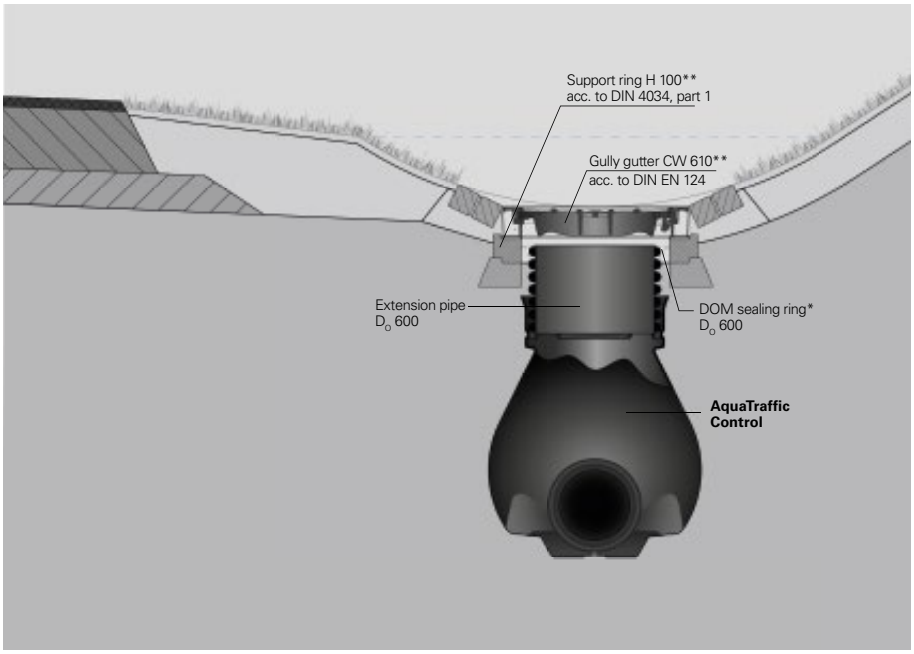


StrabuControl 600 as swale infiltration shaft

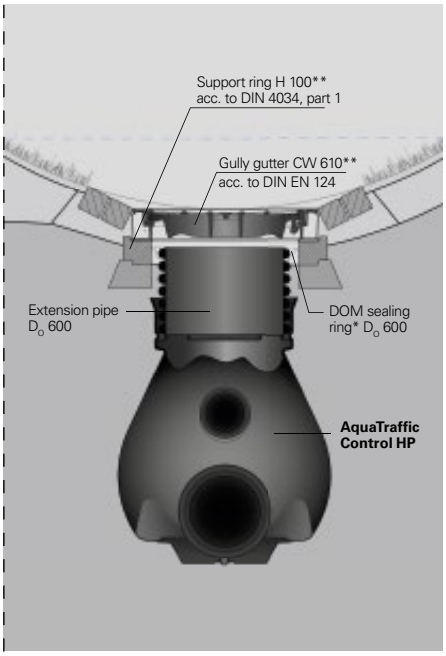


StrabuControl 600 HP as swale infiltration shaft

AquaTrafficControl / HP as swale infiltration shaft



AquaTrafficControl as swale infiltration shaft



AquaTrafficControl HP as swale infiltration shaft

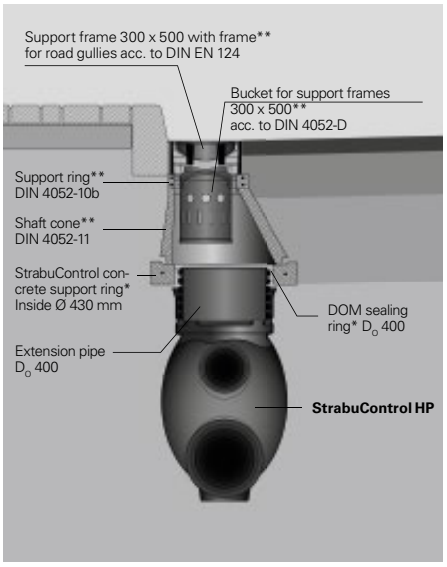
* see FRÄNKISCHE shaft accessories
** to be supplied on site

Road gully and inspection shaft as a two-in-one solution

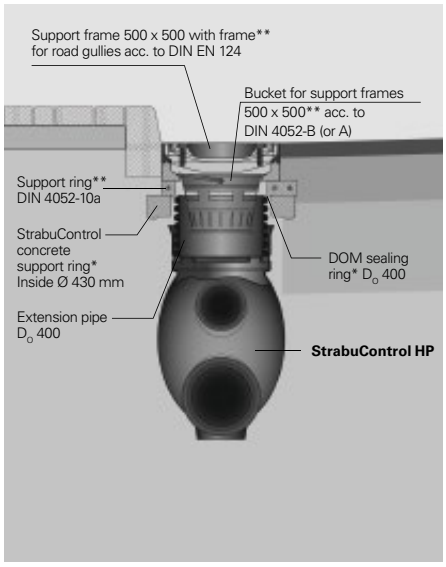
The shallow and compact design of the shaft base body also makes it ideally suited as a combined road gully and inspection shaft.

Using the respective accessories, commercially available support frames 300 x 500 mm and / or 500 x 500 mm can be connected to the concrete support rings and/or extension pipes. With the help of the sloped concrete support ring by FRÄNKISCHE, the road gully can be formed as a v-shaped gutter.

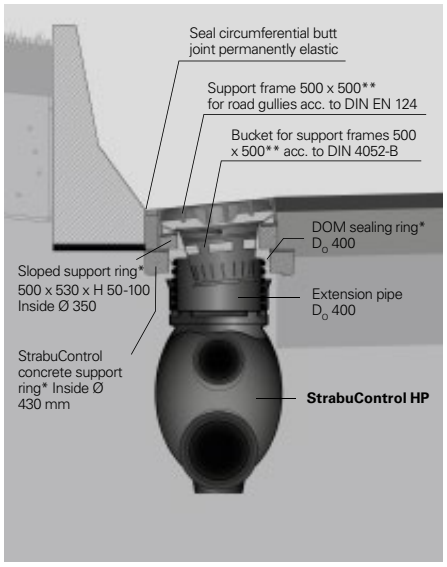
Installation examples for shafts with extension pipe D_o 400



StrabuControl HP with support frame 300 x 500 mm (desk type)

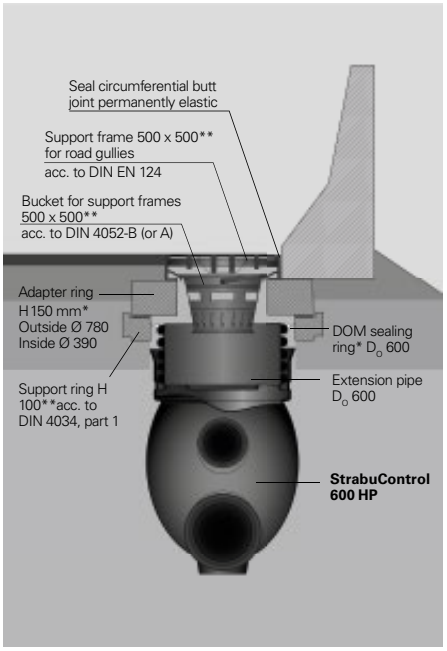


StrabuControl HP with support frame 500 x 500 mm (desk type)

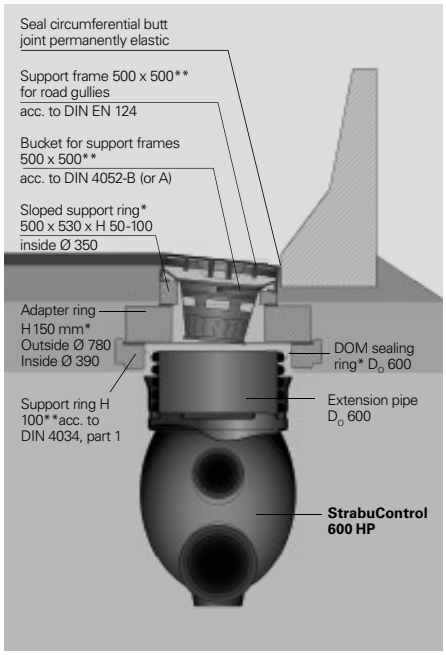


StrabuControl HP with support frame as v-shaped gutter

Installation examples for shafts with extension pipe D_o 600



StrabuControl 600 HP with support frame 500 x 500



StrabuControl 600 HP with support frame 500 x 500 as v-shaped gutter

NB

Installation also possible with AquaTrafficControl HP.

* see FRÄNKISCHE shaft accessories
** to be supplied on site

Product range overview

Table of contents

AquaPipe – transport pipe SN 8 (PE-HD)	44–47
Strabusil – drainage pipe SN 4 (PE-HD)	48–51
StormPipe – drainage pipe SN 8 (PE-HD)	52–55
Strasil – drainage pipe SN 4 (PVC-U)	56–59
StrabuControl – shafts	60–61
StrabuControl 600 – shafts	62–63
AquaTrafficControl – shafts	64–65

AquaPipe® product range overview

Installation manual
www.fraenkische.com

AquaPipe® – transport pipe SN 8 (PE-HD)

Twin-wall (corrugated outside, smooth inside) PE-HD transport pipe , including sealing ring and coupling. Black outside, blue inside. High load-bearing capacity (SN 8 according to DIN EN ISO 9969). Can be used in accordance with RAS-Ew "Directive relating to road construction – Part: Drainage" (*Richtlinien für die Anlage von Straßen, Teil: Entwässerung*).

Application:
transport pipe to drain roads and highways, to discharge municipal stormwater runoff from residential, commercial and industrial areas, and to discharge stormwater into receiving waters.

Product	Technical data			Cat. no.
AquaPipe 6 m length	DN 150	D_I = 149	D_O = 175	**551.50.150**
	DN 200	D_I = 201	D_O = 235	**551.50.200**
	DN 250	D_I = 254	D_O = 295	**551.50.250**
	DN 300	D_I = 300	D_O = 347	**551.50.300**
	DN 350	D_I = 348	D_O = 399	**551.50.350**
	DN 400	D_I = 398	D_O = 459	**551.50.400**
	DN 500	D_I = 498	D_O = 570	**551.50.500**
	DN 600	D_I = 596	D_O = 684	**551.50.600**
	DN 800	D_I = 799.5	D_O = 932	**551.51.800**
AquaPipe 3 m length	DN 150	D_I = 149	D_O = 175	**551.52.150**
	DN 200	D_I = 201	D_O = 235	**551.52.200**
	DN 250	D_I = 254	D_O = 295	**551.52.250**
	DN 300	D_I = 300	D_O = 347	**551.52.300**
	DN 350	D_I = 348	D_O = 399	**551.52.350**
	DN 400	D_I = 398	D_O = 459	**551.52.400**
	DN 500	D_I = 498	D_O = 570	**551.52.500**
	DN 600	D_I = 596	D_O = 684	**551.52.600**
AquaPipe 1 m length	DN 150	D_I = 149	D_O = 175	**551.52.151**
	DN 200	D_I = 201	D_O = 235	**551.52.201**
	DN 250	D_I = 254	D_O = 295	**551.52.251**
	DN 300	D_I = 300	D_O = 347	**551.52.301**
	DN 350	D_I = 348	D_O = 399	**551.52.351**
	DN 400	D_I = 498	D_O = 459	**551.52.401**
	DN 500	D_I = 498	D_O = 570	**551.52.501**
	DN 600	D_I = 596	D_O = 684	**551.52.601**

AquaPipe® accessories product range overview

AquaPipe® accessories

Product	Technical data	Cat. no.
Coupling with centred limit stop 2 sealing rings included	DN 150	**558.10.150**
	DN 200	**558.10.200**
	DN 250	**558.10.250**
	DN 300	**558.10.300**
	DN 350	**558.10.350**
	DN 400	**558.10.400**
	DN 500	**558.10.500**
	DN 600	**558.10.600**
	DN 800	**556.18.800**
Slide-on coupling without limit stop	DN 150	**558.96.150**
	DN 200	**558.96.200**
	DN 250	**558.96.250**
	DN 300	**558.96.300**
	DN 350	**558.96.350**
	DN 400	**558.96.400**
	DN 500	**558.96.500**
	DN 600	**558.96.600**
	DN 800	**558.96.800**
Profile sealing ring*	DN 150	**558.19.150**
	DN 200	**558.19.200**
	DN 250	**558.19.250**
	DN 300	**558.19.300**
	DN 350	**558.19.350**
	DN 400	**558.19.400**
	DN 500	**558.19.500**
	DN 600	**558.19.600**
	DN 800	**558.19.800**
15° bend	DN 150	**558.23.150**
	DN 200	**558.23.200**
30° bend	DN 150	**558.22.150**
	DN 200	**558.22.200**
45° bend	DN 150	**558.21.150**
	DN 200	**558.21.200**

*** For lubricant for watertight couplings, see p. 46.**

AquaPipe® accessories product range overview

Product	Technical data	Cat. no.
45° wye	DN 150/DN 150	**558.40.150**
	DN 200/DN 150	**558.41.200**
	DN 250/DN 150	**558.42.250**
	DN 300/DN 150	**558.43.300**

Adapter sealing ring	DN 150 – to directly join a KG spigot and an AquaPipe coupling/ wye DN 150	**558.64.151**

90° tee	DN 350/DN 150	**558.34.350**
	DN 400/DN 150	**558.35.400**
	DN 500/DN 150	**558.36.500**
	DN 600/DN 150	**558.37.600**
	DN 350/DN 200	**558.33.350**
	DN 400/DN 200	**558.34.400**
	DN 500/DN 200	**558.35.500**
	DN 600/DN 200	**558.36.600**

Glass fibre reinforced plastic (GFP) shaft lining	DN 150	**558.88.150**
	DN 200	**558.88.200**
	DN 250	**558.88.250**
	DN 300	**558.88.300**
	DN 350	**558.88.350**
	DN 400	**558.88.400**
	DN 500	**558.88.500**
	DN 600	**558.88.600**
	DN 800	**558.88.800**

Drainage fitting 1:1 slope	DN 150 – DN 600	**available on request**

Temporary construction site cover available on request. **Other fittings available on request.**

Product	Technical data	Cat. no.
Lubricant	500 ml tube	**556.90.000**
	10 kg bucket	**556.91.000**

NB

The lubricant is required for watertight coupling connections with profile sealing rings for the following pipes: AquaPipe, AquaFlex, Strabusil, StormPipe, Strasil

AquaDock®, saddle and AquaFlex® product range overview

Product	Technical data	Cat. no.
AquaDock	DN 300/150; 90°	**556.73.301**
	DN 350/150; 90°	**556.73.351**
	DN 400/150; 90°	**556.73.401**
	DN 500/150; 90°	**556.73.501**
	DN 600/150; 90°	**556.73.601**
Hole saw	pilot drill included Ø 178.5 mm ± 0.5 mm	**556.98.994**
Replacement pilot drill	for hole saw	**556.98.996**
Installation wrench		**556.98.990**
Drill stand	Drilling aid for AquaPipe	**576.98.995**
EPDM adapter sealing*	DN 150	**558.64.151**
Saddle (A KG adapter and a sealing ring DN 150 and/or DN 200 are included with each saddle.)	DN 300/KG DN 200 – AquaPipe/AquaFlex	**558.72.300**
	DN 400/KG DN 200 – AquaPipe/AquaFlex	**558.72.400**
	DN 500/KG DN 200 – AquaPipe/AquaFlex	**558.72.500**
	DN 600/KG DN 200 – AquaPipe/AquaFlex	**558.72.600**
	DN 800/KG DN 150 – AquaPipe/AquaFlex	**558.71.800**
	DN 800/KG DN 200 – AquaPipe/AquaFlex	**558.72.800**
Hole saw for saddle	DN 800/KG DN 150	**556.98.991**
	DN 300/DN 400/KG DN 200 (Ø 214.5 mm)	**556.98.992**
	DN 500/DN 600/DN 800/KG DN 200 (Ø 220 mm)	**556.98.993**

* To directly join a KG spigot and an AquaPipe coupling/wye DN 150

Each set includes an installation manual.

AquaFlex®

Flexible PE pipe in twin-wall design (corrugated outside, with inner pipe). Black outside, blue inside. High load-bearing capacity (SN 8 according to DIN EN ISO 9969), without coupling. Thanks to its flexibility, no accessories such as bends are required.

Application:
connection pipe between road gully and shaft or main drainage pipe.

Product	Technical data	Cat. no.
AquaFlex	DN 150; 25 m coil	**551.51.150**
	DN 200; 25 m coil	**551.51.200**
Shaft coupling	DN 150 (for road gully)	**556.88.150**
KG adaptor, sealing ring included (push-fit KG coupling)	DN 150	**556.61.151**
	DN 200	**556.61.201**
Clay pipe adapter incl. sealing ring (can be inserted in clay push-fit coupling L)	DN 150	**556.98.998**
Concrete pipe connection set 3-part	DN 150 (Ø 186 mm core drill hole required)	**556.87.155**
	DN 200 (Ø 226 mm core drill hole required)	**556.87.205**
45° wye sealing ring incl.	DN 150/DN 150	**556.40.151**
	DN 200/DN 150	**556.41.201**
	DN 200/DN 200	**556.40.201**
Coupling sealing ring incl.	DN 150	**556.17.150**
	DN 200	**556.17.200**
Profile sealing ring*	DN 150	**556.17.151**
	DN 200	**556.17.201**

*** For lubricant for watertight couplings, see p. 46.**

Strabusil® drainage pipes product range overview

Strabusil® – drainage pipe SN 4 (PE-HD)

Locally perforated, totally perforated and multi-purpose pipes made of PE-HD according to DIN 4262-1, type R2, total perforation area greater than or equal to 50 cm²/m for LP, TP, MP, 1.2 mm perforation width ± 0.4 mm. Can be used in accordance with RAS-Ew "Directive relating to road construction – Part: Drainage" (*Richtlinien für die Anlage von Straßen, Teil: Entwässerung*), SN 4 according to DIN EN ISO 9969.

Application:
drainage pipe to reliably drain roads, air fields, sports fields and when drainage pipes must meet increased requirements.

Installation manual
www.fraenkische.com

Strabusil® LP

Twin-wall (corrugated outside, smooth inside) locally perforated pipe with coupling. Colour black, with white crown marking.

LP
Locally perforated pipes

Product	Technical data			Cat. no.
Strabusil LP 6 m length	DN/ID 100	D_O = 118	D_I = 104	**551.10.100**
	DN/ID 150	D_O = 174	D_I = 154	**551.10.150**
	DN/ID 200	D_O = 236	D_I = 202	**551.10.200**

Also available in nominal diameters DN 250 / 300 / 350 / 400 on request.

Strabusil® TP

Twin-wall (corrugated outside, smooth inside) totally perforated pipe with coupling. Colour black.

TP
Totally perforated pipes

Product	Technical data			Cat. no.:
Strabusil TP 6 m length	DN/ID 100	D_O = 118	D_I = 104	**551.00.100**
	DN/ID 150	D_O = 174	D_I = 154	**551.00.150**
	DN/ID 200	D_O = 236	D_I = 202	**551.00.200**
	DN/ID 250	D_O = 295	D_I = 255	**551.00.250**
	DN/ID 300	D_O = 349	D_I = 303	**551.00.300**
	DN/ID 350	D_O = 400	D_I = 351	**551.00.350**
	DN/ID 400	D_O = 461	D_I = 404	**551.00.400**

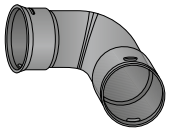
Strabusil® MP

Twin-wall (corrugated outside, smooth inside) multi-purpose pipe, with watertight coupling connection including sealing ring.
Colour black, with white crown marking.

MP
Multi-purpose pipes

Product	Technical data			Cat. no.
Strabusil MP 6 m length	DN/ID 200	D_O = 236	D_I = 202	**551.20.200**
	DN/ID 250	D_O = 295	D_I = 255	**551.20.250**
	DN/ID 300	D_O = 349	D_I = 303	**551.20.300**
	DN/ID 350	D_O = 400	D_I = 351	**551.20.350**
	DN/ID 400	D_O = 461	D_I = 404	**551.20.400**

Strabusil® accessories product range overview



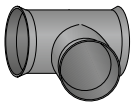
Strabusil® accessories

Product	Technical data	Cat. no.
Coupling	DN 100	**556.10.100**
	DN 150	**556.10.150**
	DN 200	**556.10.200**
	DN 250	**556.10.250**
	DN 300	**556.10.300**
	DN 350	**556.10.350**
	DN 400	**556.10.400**
Profile sealing ring*	DN 100	**556.19.100**
	DN 150	**556.19.200**
	DN 200	**556.19.200**
	DN 250	**556.19.250**
	DN 300	**556.19.300**
	DN 350	**556.19.350**
	DN 400	**556.19.400**
45° bend	DN 100	**556.21.100**
	DN 150	**556.21.150**
	DN 200	**556.21.200**
	DN 250	**556.21.250**
	DN 300	**556.21.300**
	DN 350	**556.21.350**
	DN 400	**556.21.400**
90° bend	DN 100	**556.20.100**
	DN 150	**556.20.150**
	DN 200	**556.20.200**
	DN 250	**556.20.250**
	DN 300	**556.20.300**
	DN 350	**556.20.350**
	DN 400	**556.20.400**
End plug	DN 100	**556.80.100**
	DN 150	**556.80.150**
	DN 200	**556.80.200**
	DN 250	**556.80.250**
	DN 300	**556.80.300**
	DN 350	**556.80.350**
End cap	DN 400	**556.80.400**
Outlet with flap valve	DN 100; 1 m length	**556.79.100**
	DN 150; 1 m length	**556.79.150**
	DN 200; 1 m length	**556.79.200**
	DN 250; 1 m length	**556.79.250**
	DN 300; 1 m length	**556.79.300**
	DN 350; 1 m length	**556.79.350**
	DN 400; 1 m length	**556.79.400**

*** For lubricant for watertight couplings, see p. 46.**

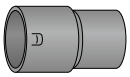
Strabusil® accessories product range overview

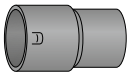
Strabusil® accessories



Product	Technical data	Cat. no.
Shaft lining / coupling	DN 100	**556.89.100**
	DN 150	**556.89.150**
Shaft lining	DN 200	**556.89.200**
	DN 250	**556.89.250**
	DN 300	**556.89.300**
	DN 350	**556.89.350**
	DN 400	**556.89.400**
Tee	DN 100	**556.30.100**
	DN 150	**556.30.150**
	DN 200	**556.30.200**
	DN 250	**556.30.250**
	DN 300	**556.30.300**
	DN 350	**556.30.350**
	DN 400	**556.30.400**
Tee with reducer	DN 150/DN 100	**556.31.150**
	DN 200/DN 150	**556.31.200**
	DN 200/DN 100	**556.32.200**
	DN 250/DN 200	**556.31.250**
	DN 250/DN 150	**556.32.250**
	DN 250/DN 100	**556.33.250**
	DN 350/DN 250	**556.31.350**
	DN 350/DN 200	**556.32.350**
	DN 350/DN 150	**556.33.350**
	DN 350/DN 100	**556.34.350**
45° wye	DN 100	**556.40.100**
	DN 150	**556.40.150**
	DN 200	**556.40.200**
	DN 250	**556.40.250**
	DN 300	**556.40.300**
	DN 350	**556.40.350**
	DN 400	**556.40.401**
45° wye with reducer	DN 150/DN 100	**556.41.150**
	DN 200/DN 150	**556.41.200**
	DN 200/DN 100	**556.42.200**
	DN 250/DN 200	**556.41.250**
	DN 250/DN 150	**556.42.250**
	DN 250/DN 100	**556.43.250**
	DN 350/DN 200	**556.42.350**
	DN 350/DN 150	**556.43.350**
	DN 350/DN 100	**556.44.350**

Strabusil® accessories product range overview





Strabusil® accessories

Product	Technical data	Cat. no.
Reducer	DN 150/DN 100	**556.11.150**
	DN 200/DN 150	**556.11.200**
	DN 200/DN 100	**556.12.200**
	DN 250/DN 200	**556.11.250**
	DN 250/DN 150	**556.12.250**
	DN 250/DN 100	**556.13.250**
	DN 350/DN 250	**556.11.350**
	DN 350/DN 200	**556.12.350**
	DN 350/DN 150	**556.13.350**
	DN 350/DN 100	**556.14.350**
KG adapter with KG spigot (push-fit KG coupling)	DN 100/DN 100	**556.61.100**
	DN 150/DN 150	**556.61.150**
	DN 200/DN 200	**556.61.200**
	DN 250/DN 250	**556.61.250**
KG adapter with KG coupling (KG spigot can be inserted)	DN 100/DN 100	**556.60.100**
	DN 150/DN 150	**556.60.150**
	DN 200/DN 200	**556.60.200**

Other fittings available on request.

StormPipe drainage pipes product range overview

StormPipe drainage pipe SN 8 (PE-HD)

Locally perforated, totally perforated and multi-purpose PE-HD pipes according to DIN 4262-1, type R2, total perforation area greater than or equal to 50 cm^2/m for LP, TP and MP, 1.2 mm perforation width ± 0.4 mm. Can be used in accordance with RAS-Ew "Directive relating to road construction – Part: Drainage" (*Richtlinien für die Anlage von Straßen, Teil: Entwässerung*), SN 8 according to DIN EN ISO 9969.

Application:
drainage pipe to reliably drain roads, air fields, sports fields and when drainage pipes must meet utmost requirements.

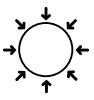
StormPipe LP

LP
Locally perforated pipes

Twin-wall (corrugated outside, smooth inside) locally perforated pipe with coupling. Black outside, grey inside, with white crown marking.

Product	Technical data			Cat. no.
StormPipe LP 6 m length	DN 100	D_I = 103.5	D_O = 118	**551.18.100**
	DN 150	D_I = 149	D_O = 173	**551.18.150**
	DN 200	D_I = 201.5	D_O = 236	**551.18.200**
	DN 250	D_I = 254.5	D_O = 294	**551.18.250**
	DN 300	D_I = 300	D_O = 347	**551.18.300**
	DN 350	D_I = 347	D_O = 397	**551.18.350**
	DN 400	D_I = 399	D_O = 459.5	**551.18.400**
	DN 500	D_I = 499	D_O = 570	**551.18.500**
	DN 600	D_I = 596	D_O = 684	**551.18.600**

StormPipe TP



TP
Totally perforated pipes

Twin-wall (corrugated outside, smooth inside) totally perforated pipe with coupling. Black outside, grey inside.

Product	Technical data			Cat. no.
StormPipe TP 6 m length	DN 100	D_I = 103.5	D_O = 118	**551.08.100**
	DN 150	D_I = 149	D_O = 173	**551.08.150**
	DN 200	D_I = 201.5	D_O = 236	**551.08.200**
	DN 250	D_I = 254.5	D_O = 294	**551.08.250**
	DN 300	D_I = 300	D_O = 347	**551.08.300**
	DN 350	D_I = 347	D_O = 397	**551.08.350**
	DN 400	D_I = 399	D_O = 459.5	**551.08.400**
	DN 500	D_I = 499	D_O = 570	**551.08.500**
	DN 600	D_I = 596	D_O = 684	**551.08.600**

StormPipe drainage pipes product range overview

StormPipe LP and TP accessories

Product	Technical data	Cat. no.
Coupling	DN 100	**559.17.100**
	DN 150	**559.17.150**
	DN 200	**559.17.200**
	DN 250	**559.17.250**
	DN 300	**559.17.300**
	DN 350	**559.17.350**
	DN 400	**559.17.400**
	DN 500	**559.17.500**
	DN 600	**559.17.600**

Please see Strabusil accessories for more accessories

StormPipe MP

MP
Multi-purpose pipes

Twin-wall (corrugated outside, smooth inside) multi-purpose pipe with coupling and profile sealing ring for watertight connections. Black outside, grey inside, with white crown marking.

Product	Technical data			Cat. no.
StormPipe MP 6 m length	DN 100	D_I = 103.5	D_O = 118	**551.28.100**
	DN 150	D_I = 149	D_O = 173	**551.28.150**
	DN 200	D_I = 201.5	D_O = 236	**551.28.200**
	DN 250	D_I = 254.5	D_O = 294	**551.28.250**
	DN 300	D_I = 300	D_O = 347	**551.28.300**
	DN 350	D_I = 347	D_O = 397	**551.28.350**
	DN 400	D_I = 399	D_O = 459.5	**551.28.400**
	DN 500	D_I = 499	D_O = 570	**551.28.500**
	DN 600	D_I = 596	D_O = 684	**551.28.600**

StormPipe MP accessories

Product	Technical data	Cat. no.
Coupling incl. 2 sealing rings	DN 100	**559.10.100**
	DN 150	**559.10.150**
	DN 200	**559.10.200**
	DN 250	**559.10.250**
	DN 300	**559.10.300**
	DN 350	**559.10.350**
	DN 400	**559.10.400**
	DN 500	**559.10.500**
	DN 600	**559.10.600**

StormPipe accessories product range overview

StormPipe accessories

Product	Technical data	Cat. no.
Profile sealing ring*	DN 100	**559.19.100**
	DN 150	**559.19.150**
	DN 200	**559.19.200**
	DN 250	**559.19.250**
	DN 300	**559.19.300**
	DN 350	**559.19.350**
	DN 400	**559.19.400**
	DN 500	**559.19.500**
	DN 600	**559.19.600**
WD end cap	DN 150	**559.80.150**
	DN 200	**559.80.200**
	DN 250	**559.80.250**
	DN 300	**559.80.300**
	DN 350	**559.80.350**
	DN 400	**559.80.400**
	DN 500	**559.80.500**
	DN 600	**559.80.600**
Adapter StormPipe / KG spigot	DN 150	**559.61.150**
	DN 200	**559.61.200**
	DN 250	**559.61.250**
	DN 300	**559.61.300**
	DN 350	**559.61.350**
	DN 400	**559.61.400**
	DN 500	**559.61.500**
45° wye	DN 150/150	**559.40.150**
	DN 200/200	**559.40.200**
	DN 250/250	**559.40.250**
	DN 300/300	**559.40.300**
	DN 350/350	**559.40.350**
	DN 400/400	**559.40.400**
	DN 500/500	**559.40.500**
	DN 600/600	**559.40.600**
15° bend	DN 150	**559.23.150**
	DN 200	**559.23.200**
	DN 250	**559.23.250**
	DN 300	**559.23.300**
	DN 350	**559.23.350**
	DN 400	**559.23.400**
	DN 500	**559.23.500**
	DN 600	**559.23.600**

*** For lubricant for watertight couplings, see p. 46.**

StormPipe accessories product range overview

StormPipe accessories

Product	Technical data	Cat. no.
30° bend	DN 150	**559.22.150**
	DN 200	**559.22.200**
	DN 250	**559.22.250**
	DN 300	**559.22.300**
	DN 350	**559.22.350**
	DN 400	**559.22.400**
	DN 500	**559.22.500**
	DN 600	**559.22.600**
45° bend	DN 150	**559.21.150**
	DN 200	**559.21.200**
	DN 250	**559.21.250**
	DN 300	**559.21.300**
	DN 350	**559.21.350**
	DN 400	**559.21.400**
	DN 500	**559.21.500**
	DN 600	**559.21.600**

Strasil® drainage pipes product range overview

Strasil® – drainage pipe SN 4

Locally perforated and multi-purpose PVC-U pipes according to DIN 4262-1 type C1 (formerly form F), total perforation area greater than or equal to 50 cm²/m, 1.2 mm perforation width ± 0.2 mm. Can be used in accordance with RAS-Ew "Directive relating to road construction – Part: Drainage" *(Richtlinien für die Anlage von Straßen, Teil: Entwässerung)*, SN 4 according to DIN EN ISO 9969.

Application:
as drainage pipe to reliably drain roads, air fields, sports fields and other objects.

Strasil® LP

Locally perforated pipe, crossways corrugation, crossways offset perforation, tunnel-shaped, with smooth invert and coupling. Colour blue.

LP
Locally perforated pipes

Product	Technical data			Cat. no.
Strasil LP 6 m length	DN/ID 100	D_O = 110	D_I = 99	**552.00.100**
	DN/ID 150	D_O = 160	D_I = 147	**552.00.150**
	DN/ID 200	D_O = 217	D_I = 196	**552.00.200**

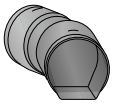
Strasil® MP

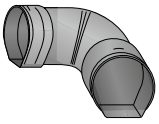
Multi-purpose pipe with watertight coupling connection; sealing rings included. Colour blue.

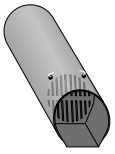
MP
Multi-purpose pipes

Product	Technical data			Cat. no.
Strasil MP 6 m length	DN/ID 200	D_O = 217	D_I = 196	**552.10.200**
	DN/ID 250	D_O = 262	D_I = 238	**552.10.250**
	DN/OD 350	D_O = 351	D_I = 317	**552.10.350**

Strasil® accessories product range overview







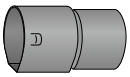
Strasil® accessories

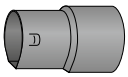
Product	Technical data	Cat. no.
Coupling	DN 100	**557.10.100**
	DN 150	**557.10.150**
	DN 200	**557.10.200**
	DN 250	**557.10.250**
	DN 350	**557.10.350**
Profile sealing ring*	DN 200	**557.19.200**
	DN 250	**557.19.250**
	DN 350	**557.19.350**
45° bend	DN 100	**557.21.100**
	DN 150	**557.21.150**
	DN 200	**557.21.200**
	DN 250	**557.21.250**
	DN 350	**557.21.350**
90° bend	DN 100	**557.20.100**
	DN 150	**557.20.150**
	DN 200	**557.20.200**
	DN 250	**557.20.250**
	DN 350	**557.20.350**
End plug	DN 100	**557.80.100**
End cap	DN 150	**557.80.150**
	DN 200	**557.80.200**
	DN 250	**557.80.250**
	DN 350	**557.80.350**
Shaft lining / coupling	DN 100	**557.89.100**
	DN 150	**557.89.150**
Shaft lining	DN 200	**557.89.200**
	DN 250	**557.89.250**
	DN 350	**557.89.350**
Outlet with flap valve	DN 100; 1 m length	**557.79.100**
	DN 150; 1 m length	**557.79.150**
	DN 200; 1 m length	**557.79.200**
	DN 250; 1 m length	**557.79.250**
	DN 350; 1 m length	**557.79.350**

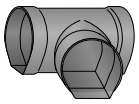
*** For lubricant for watertight couplings, see p. 46.**

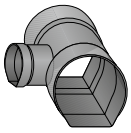
Strasil® accessories product range overview

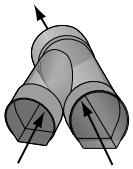
Strasil® accessories



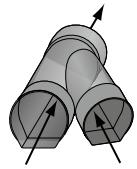








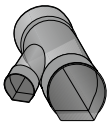
Inflow from the left — Flow direction

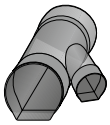


Flow direction — Inflow from the right

Product	Technical data	Cat. no.
KG adapter with KG spigot (push-fit KG coupling)	DN 100/DN 100	**557.61.100**
	DN 150/DN 150	**557.61.150**
	DN 200/DN 200	**557.61.200**
	DN 250/DN 250	**557.61.250**
KG adapter with KG coupling (KG spigot can be inserted)	DN 100/DN 100	**557.60.100**
	DN 150/DN 150	**557.60.150**
	DN 200/DN 200	**557.60.200**
	DN 250/DN 250	**557.60.250**
Tee	DN 100	**557.30.100**
	DN 150	**557.30.150**
	DN 200	**557.30.200**
	DN 250	**557.30.250**
	DN 350	**557.30.350**
Tee with reducer	DN 150/DN 100	**557.31.150**
	DN 200/DN 150	**557.31.200**
	DN 200/DN 100	**557.32.200**
	DN 250/DN 200	**557.31.250**
	DN 250/DN 150	**557.32.250**
	DN 250/DN 100	**557.33.250**
	DN 350/DN 250	**557.31.350**
	DN 350/DN 200	**557.32.350**
	DN 350/DN 150	**557.33.350**
	DN 350/DN 100	**557.34.350**
45° wye with left hand branch	DN 100	**557.40.100**
	DN 150	**557.40.150**
	DN 200	**557.40.200**
	DN 250	**557.40.250**
	DN 350	**557.40.350**
45° wye with right hand branch	DN 100	**557.50.100**
	DN 150	**557.50.150**
	DN 200	**557.50.200**
	DN 250	**557.50.250**
	DN 350	**557.50.350**

Strasil® accessories product range overview



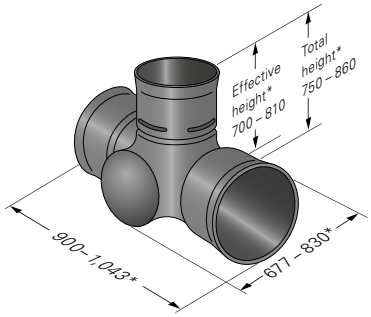


Strasil® accessories

Product	Technical data	Cat. no.
45° wye with left hand reducer	DN 150/DN 100	**557.41.150**
	DN 200/DN 150	**557.41.200**
	DN 200/DN 100	**557.42.200**
	DN 250/DN 200	**557.41.250**
	DN 250/DN 150	**557.42.250**
	DN 250/DN 100	**557.43.250**
	DN 350/DN 150	**557.43.350**
	DN 350/DN 100	**557.44.350**
45° wye with right hand reducer	DN 150/DN 100	**557.51.150**
	DN 200/DN 150	**557.51.200**
	DN 200/DN 100	**557.52.200**
	DN 250/DN 200	**557.51.250**
	DN 250/DN 150	**557.52.250**
	DN 250/DN 100	**557.53.250**
	DN 350/DN 150	**557.53.350**
	DN 350/DN 100	**557.54.350**
Reducer	DN 150/DN 100	**557.11.150**
	DN 200/DN 150	**557.11.200**
	DN 200/DN 100	**557.12.200**
	DN 250/DN 200	**557.11.250**
	DN 250/DN 150	**557.12.250**
	DN 250/DN 100	**557.13.250**
	DN 350/DN 250	**557.11.350**
	DN 350/DN 200	**557.12,350**
	DN 350/DN 150	**557.13.350**
	DN 350/DN 100	**557.14.350**

Other fittings available on request.

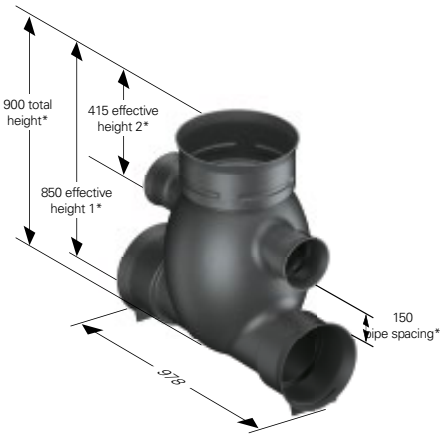
StrabuControl® product range overview



StrabuControl®

Product	Technical data	Cat. no.
StrabuControl	2/250 180° shaft	**555.00.402**
	3/250 90° wye shaft	**555.00.403**
	4/250 cross shaft	**555.00.404**
	3/350 90° wye shaft	**555.01.403**
	4/350 cross shaft	**555.01.404**
	2/400 180° shaft	**555.02.402**

* Dimensions according to shaft type



StrabuControl® HP

NEW

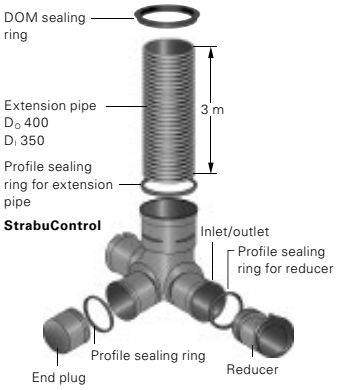
Product	Technical data	Cat. no.
StrabuControl HP	2/250 180° shaft	**555.01.422**
	3/250 90° wye shaft [1)]	**555.01.413**
	2/350 180° shaft*	**555.01.432**
	2/250 – 150 (90°) [2)] 1 inlet / 1 outlet DN 250 + inlet DN 150 (lateral 90°)	**555.01.412**
	2/350 – 150 (90°)* 1 inlet / 1 outlet DN 350 + inlet DN 150 (lateral 90°)	**555.01.433**

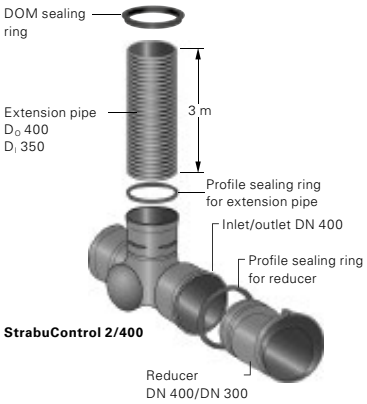
* For StrabuControl HP DN 2/350: total height = 1,000, effective height 1 = 950, effective height 2 = 400 and pipe spacing = 150

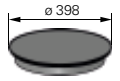
1)

2)

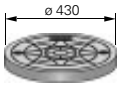
StrabuControl® accessories product range overview



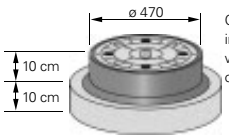




Temporary construction site cover



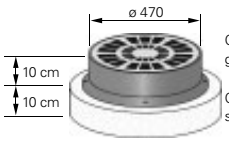
Class A cast iron cover (without ventilation openings) with fixture



Class B and D cast iron cover with and without ventilation openings

Concrete support ring

Hook for class D cast iron cover with screwless interlocking



Class B and D gully gutters

Concrete support ring

StrabuControl® accessories

Product	Technical data	Cat. no.
Extension pipe	D_o 400; 3 m total length	**555.40.400**
Profile sealing ring*	For extension pipe D_o 400	**555.19.400**
DOM sealing ring	For extension pipe D_o 400; as seal between concrete support ring and extension pipe	**555.19.403**
End plug	DN 250	**555.80.250**
	DN 350	**555.80.350**
Reducer (for twin-wall pipes)	DN 250/200	**555.11.250**
	DN 250/150	**555.12.250**
	DN 250/100	**555.13.250**
	DN 350/150	**555.13.350**
	DN 350/250	**555.11.350**
	DN 350/300	**555.11.353**
	DN 400/300	**555.12.400**
Profile sealing ring*	for reducer DN 250	**555.19.250**
	for reducer DN 350	**555.19.350**
	for reducer DN 400/DN 300	**555.19.404**
Temporary construction site cover	PP; for extension pipe D_o 400	**555.80.400**
Shaft cover	cast iron; class A 15 (cast iron cover with fixture; **without** ventilation openings)	**555.85.100**
	cast iron; class B 125 (cast iron cover, cast iron frame, concrete support ring; **without** ventilation openings)	**555.85.000**
	cast iron; class D 400 (cast iron cover, cast iron frame, concrete support ring; **without** ventilation openings, with screwless interlocking)	**555.85.400**
	cast iron, class D 400 **surface-watertight**; (cast iron cover with double screw connection, cast iron frame, concrete support ring, **without** ventilation openings)	**555.85.440**
	cast iron; class B 125 (cast iron cover, cast iron frame, concrete support ring; **with** ventilation openings)	**555.84.000**
	cast iron; class D 400 (cast iron cover, cast iron frame, concrete support ring **with** ventilation openings, with screwless interlocking)	**555.84.400**
Hook	galvanised steel hook (for class D covers with screwless interlocking)	**555.86.990**
Gully gutter	cast iron; class B 125 (gully gutter, cast iron frame, concrete support ring)	**555.84.100**
Gully gutter with snap-on lock	cast iron; class D 400 (gully gutter with snap-on lock, cast iron frame, concrete support ring)	**555.84.500**
Dirt trap	for gully gutters and covers with ventilation openings	**555.91.000**
Sloped concrete support ring	W x H = 500 x 530 mm	**555.84.009**

Strasil reducers and other fittings available on request.

*** For lubricant for watertight couplings, see p. 46.**

StrabuControl® 600 accessories product range overview

StrabuControl® 600

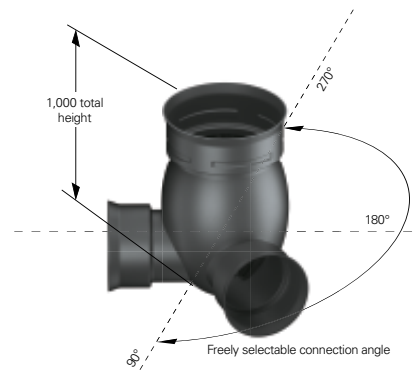
Product	Technical data	Cat. no.
StrabuControl 600	2/250 180° shaft	**555.00.602**
	2/400 180° shaft	**555.02.602**
	2/250 – 150 (90°) 1 inlet / 1 outlet DN 250 + inlet DN 150 (lateral 90°)	**555.00.603**
	2/400 – 150 (90°) 1 inlet / 1 outlet DN 400 + inlet DN 150 (lateral 90°)	**555.02.603**

StrabuControl® 600 HP

NEW

Product	Technical data	Cat. no.
StrabuControl 600 HP	2/250 180° shaft	**555.01.622**
	2/350 180° shaft*	**555.01.632**
	2/250 – 150 (90°) 1 inlet / 1 outlet DN 250 + inlet DN 150 (lateral 90°)	**555.01.612**
	2/350 – 150 (90°)* 1 inlet / 1 outlet DN 350 + inlet DN 150 (lateral 90°)	**555.01.613**

* For StrabuControl 600 HP DN 2/350: total height = 1,050, effective height 1 = 1,000, effective height 2 = 455 and pipe spacing = 150



StrabuControl® 600 V

NEW

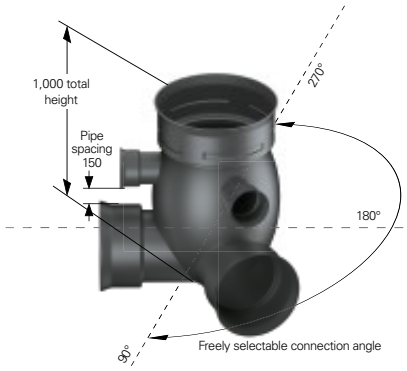
Product	Technical data	Cat. no.
StrabuControl 600 V Shaft with variable connection angle	DN 2/100	**555.01.660**
	DN 2/150	**555.01.665**
	DN 2/200	**555.01.670**
	DN 2/250	**555.01.675**
	DN 2/300	**555.01.680**
	DN 2/350	**555.01.685**
	DN 2/400	**555.01.690**

NB

Please note that only fully completed and signed forms will be accepted!

Order form
www.fraenkische.com

StrabuControl® 600 and accessories product range overview



NB

Please note that only fully completed and signed forms will be accepted!

StrabuControl® 600 V HP

NEW

Product	Technical data	Cat. no.
StrabuControl 600 V HP with variable connection angle	DN 2/200	**555.01.620**
	DN 2/250	**555.01.625**
	DN 2/300	**555.01.630**
	DN 2/350	**555.01.635**

StrabuControl® 600 accessories

Product	Technical data	Cat. no.
Profile sealing ring*	for reducer DN 250	**555.19.250**
	for reducer DN 350	**555.19.350**
	for reducer DN 400	**555.19.404**
End plug	DN 250	**555.80.250**
	DN 350	**555.80.350**
Reducer (for twin-wall pipes)	DN 250/200	**555.11.250**
	DN 250/150	**555.12.250**
	DN 250/100	**555.13.250**
	DN 350/150	**555.13.350**
	DN 350/250	**555.11.350**
	DN 350/300	**555.11.353**
	DN 400/300	**555.12.400**
	DN 400/350	**555.11.400**
Concrete adapter ring	connection of standard gully gutter 500 x 500 mm, with 625 mm standard concrete support ring (DIN 4034)	**555.84.066**
DOM sealing ring	for extension pipe D_O 600; as seal between concrete support ring and extension pipe	**555.19.565**
Extension pipe	D_O = 600; 1 m length	**555.40.561**
	D_O = 600; 2 m length	**555.40.562**
	D_O = 600; 3 m length	**555.40.563**
Profile sealing ring for extension pipe*	seal between extension pipe and shaft body	**555.19.561**
Support ring acc. to DIN 4034, part 1	60/80/100 mm high	**to be ordered/ supplied on site**
Standard covers acc. to DIN EN 124	class B or D CW 610	**to be ordered/ supplied on site**
Gully gutter acc. to DIN EN 124 with bucket handle and stretched bucket (acc. to DIN 4052-A4)	class B, C or D CW 610	**to be ordered/ supplied on site**

DOM sealing ring

Extension pipe

Profile sealing ring for extension pipe

Strasil reducers as well as other fittings and special shafts available on request.

*** For lubricant for watertight couplings, see p. 46.**

AquaTraffic®Control product range overview

AquaTraffic®Control

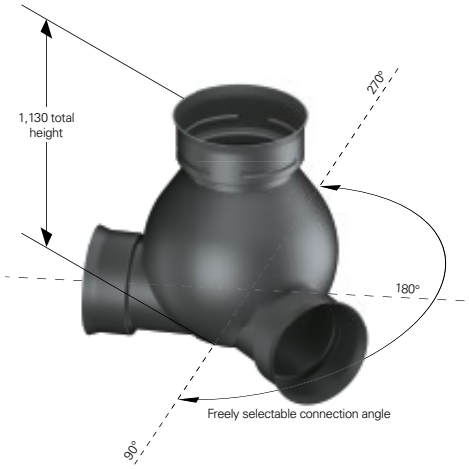
Product	Technical data	Cat. no.
AquaTrafficControl 180 ° shaft	DN 2/300	**555.08.300**
	DN 2/400	**555.08.400**
	DN 2/500	**555.08.500**
	DN 2/600	**555.08.600**
AquaTrafficControl 180° with individual reducer	DN 300/400	**555.08.999**
	DN 400/500	**555.08.999**
	DN 500/600	**555.08.999**
AquaTrafficControl start shaft	DN 300	**555.06.300**
	DN 400	**555.06.400**
	DN 500	**555.06.500**
	DN 600	**555.06.600**

AquaTraffic®Control HP

Product	Technical data	Cat. no.
AquaTrafficControl HP	DN 2/300 180° shaft	**555.08.315**
	DN 2/400 180° shaft	**555.08.415**
	DN 2/500 180° shaft	**555.08.515**
	DN 2/600 180° shaft*	**555.08.615**
	Other types	**available on request**

* For AquaTrafficControl HP DN 2/600: total height = 1,340, effective height = 1,275 and pipe spacing = 170

Special shafts available on request.



AquaTraffic®Control V

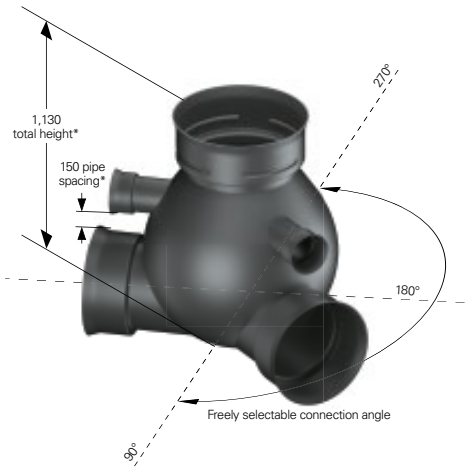
Product	Technical data	Cat. no.
AquaTrafficControl V shaft with variable connection angle	DN 2/300	**555.09.310**
	DN 2/400	**555.09.410**
	DN 2/500	**555.09.510**
	DN 2/600	**555.09.610**
AquaTrafficControl V shaft with variable connection angle, with individual reducer	DN 300/400	**555.09.999**
	DN 400/500	
	DN 500/600	

NB

Please note that only fully completed and signed forms will be accepted!

Order form
www.fraenkische.com

AquaTraffic®Control and accessories product range overview



NB

Please note that only fully completed and signed forms will be accepted!

AquaTraffic®Control V HP

Product	Technical data	Cat. no.
AquaTrafficControl V HP with variable connection angle	DN 2/300	**555.09.315**
	DN 2/400	**555.09.415**
	DN 2/500	**555.09.515**
	DN 2/600*	**555.09.615**

* For AquaTrafficControl V HP DN 2/600: total height = 1,250 and pipe spacing = 170

Special shafts available on request.

Free download

www.fraenkische.com

Downloads

Select **competence:**

Road and track drainage

and **document type:**

Order form

AquaTrafficControl® accessories

DOM sealing ring

Extension pipe

Profile sealing ring for extension pipe

Product	Technical data	Cat. no.
Extension pipe	D_O 600; 1 m length	**555.40.501**
	D_O 600; 2 m length	**555.40.502**
	D_O 600; 3 m length	**555.40.503**
Profile sealing ring for extension pipe*	seal between extension pipe and shaft body	**555.19.501**
DOM sealing ring	seal between concrete support ring and extension pipe	**555.19.505**
Concrete adapter ring	connection of standard gully gutter 500 x 500 mm, with 625 mm standard concrete support ring (DIN 4034)	**555.84.006**
Support ring acc. to DIN 4034, part 1	60/80/100 mm high	**To be ordered/ supplied on site**
Standard covers acc. to DIN EN 124	class B or D CW 610	**to be ordered/ supplied on site**
Gully gutter acc. to DIN EN 124 with bucket handle and stretched bucket (acc. to DIN 4052-A4)	class B, C or D CW 610	**to be ordered/ supplied on site**

*** For lubricant for watertight couplings, see p. 46.**

Information concerning DIN 4262-1

Pipes and fittings for subsoil drainage of trafficked areas and underground engineering

Part 1: Pipes, fittings and their joints made from PVC-U, PP and PE

The new, revised DIN 4262-1 "Pipes and fittings for subsoil drainage of trafficked areas and underground engineering – Part 1: Pipes, fittings and their joints made from PVC-U, PP and PE" (*Rohre und Formstücke für die unterirdische Entwässerung im Verkehrswege- und Tiefbau – Teil 1 Rohre, Formstücke und deren Verbindungen aus PVC-U, PP und PE*) was published in October 2009. It replaces the old version of 2001-1.

Important

AquaPipe, AquaFlex, Strabusil, StormPipe and Strasil and their accessories fully comply with the requirements of DIN 4262-1.
The following describes the most important changes and amendments of the currently valid version 10/2009:

- **Introduction of stiffness classes (SN classes):**

  So far, pipes have been divided in two categories: ND and SD. Depending on the nominal diameter, ND pipes were SN 2/SN 4 and SD pipes were SN 4/SN 8. Pipes are now clearly marked according to their SN classes. All Strabusil and Strasil pipes are category SN 4 and higher.

- **Specification of the actual pipe inside diameter, e.g. DN/ID, DN/OD:**

  far, drainage pipes have only been categorised in DN classes. Since for the majority of pipes the nominal diameter matched the inside diameter of the pipe, no additional differentiation was necessary. Now that the standard also covers solid drainage pipes, a more specific identification is needed, since the nominal and the inside diameters of drainage pipes usually vary. The actual inside diameter of the pipe must be specified. It must be clearly identified on the pipe if DN is the effective hydraulic inside diameter ID or only the outside diameter OD.

DIN 4262-1 / Last modified 10/2009		
Type		**FRW products**
R1	Circular, corrugated drainage pipes	
R2	Twin-wall pipes with smooth inside	**AquaPipe, AquaFlex, Strabusil, StormPipe**
R3	Circular, solid-wall drainage pipes	
C1	Tunnel-shaped pipes with corrugated inside and smooth invert	**Strasil**
C2	Tunnel-shaped pipes with smooth inside	

DIN 4262-1 / Last modified 10/2009 / 01/2001	Formerly
TP = Totally perforated pipe	**VS =** Vollsickerrohr
LP = Locally perforated pipe	**TS =** Teilsickerrohr
MP = Multi-purpose pipe	**MZ =** Mehrzweckrohr
UP = Unperforated pipe	

Load class capabilities of shaft covers		
Class	**Test load**	**Suitable for installation in**
A 15	15 kN	Areas that are used by pedestrians and cyclists only and similar areas.
B 125	125 kN	Footways, pedestrian areas and similar areas, passenger car parks or car parking decks.
D 400	400 kN	Carriageways of roads, parking areas and similar hard shoulders (e.g. rest areas).

Your connection to us

Professional advice by FRÄNKISCHE

International Sales Director

Horst Dörr
+49 9525 88-2490
horst.doerr@fraenkische.de

International Sales

Ralf Paul
+49 9525 88-2103
ralf.paul@fraenkische.de

Technology

Stefan Weiß
+49 9525 88-8824
stefan.weiss@fraenkische.de

European Sales Director

Klaus Lichtscheidel
+49 9525 88-8066
klaus.lichtscheidel@fraenkische.de

European Sales

Carolin Rausch
+49 9525 88-2229
carolin.rausch@fraenkische.de

Jessica Ursin
+49 9525 88-2441
jessica.ursin@fraenkische.de

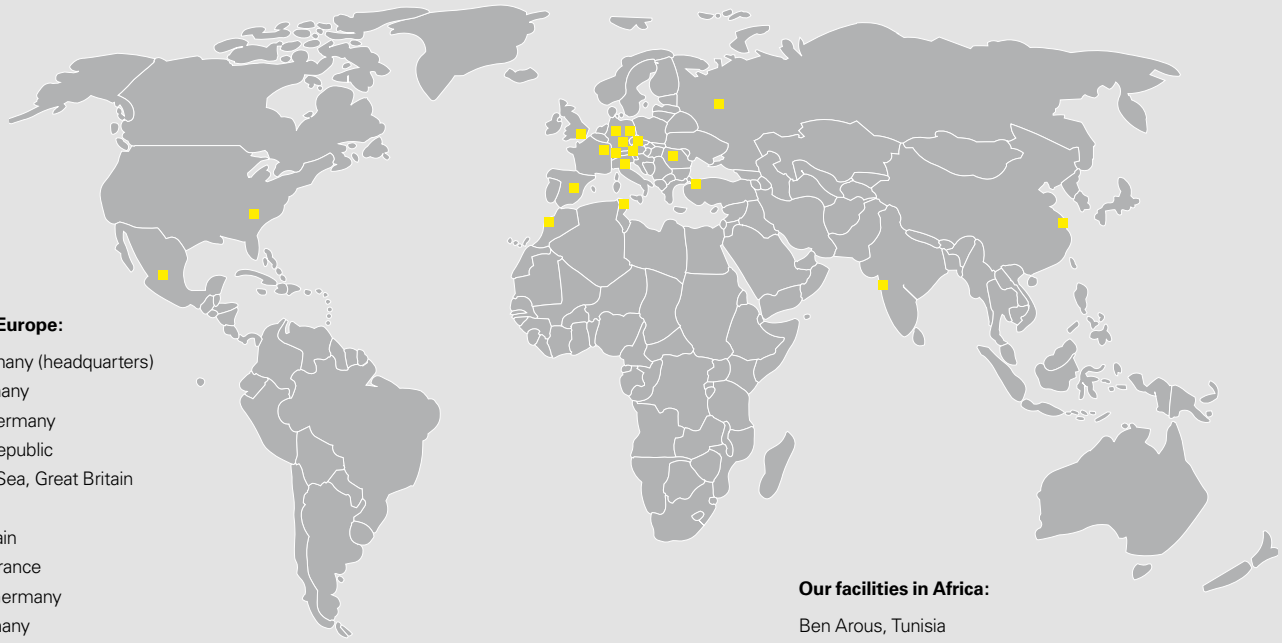
Jennifer Gernert
+49 9525 88-2569
jennifer.gernert@fraenkische.de

Fax +49 9525 88-2522

FRÄNKISCHE

Rooted in Königsberg –

globally successful!



Our facilities in Europe:

Königsberg, Germany (headquarters)
Bückeburg, Germany
Schwarzheide, Germany
Okříšky, Czech Republic
St.-Leonards-on-Sea, Great Britain
Moscow, Russia
Yeles/Toledo, Spain
Torcy-le-Grand, France
Ebersbach/Fils, Germany
Hermsdorf, Germany
Mönchaltorf, Switzerland
Milan, Italy
Istanbul, Turkey
Cluj, Romania
Wels, Austria

Our facilities in Asia:

Anting/Shanghai, China
Pune, India

Our facilities in Africa:

Ben Arous, Tunisia
Casablanca, Morocco

Our facilities in North America and Mexico:

Anderson, USA
Guanajuato, Mexico

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.

We currently employ about 3,000 people worldwide. Both our many years of experience and expertise in plastics processing, our consulting services and the large array of products are highly valued by our customers.

FRÄNKISCHE is a third generation family owned business that was established in 1906 and is now run by Otto Kirchner. Today, we are globally represented with production facilities and sales offices. The proximity to our customers enables us to develop products and solutions that are perfectly tailored to our customers' needs. Our action and business philosophy focus on our customers and their needs and requirements for our products.

FRÄNKISCHE – Your partner for sophisticated and technologically advanced solutions.

FRÄNKISCHE Rohrwerke Gebr. Kirchner GmbH & Co. KG | Hellinger Str. 1 | 97486 Königsberg/Germany
Phone +49 9525 88-0 | Fax +49 9525 88-2412 | info.drain@fraenkische.de | www.fraenkische.com

E.1387/1.03.17.0.2 EP | Subject to change without notice | Cat. no. 599.99.466