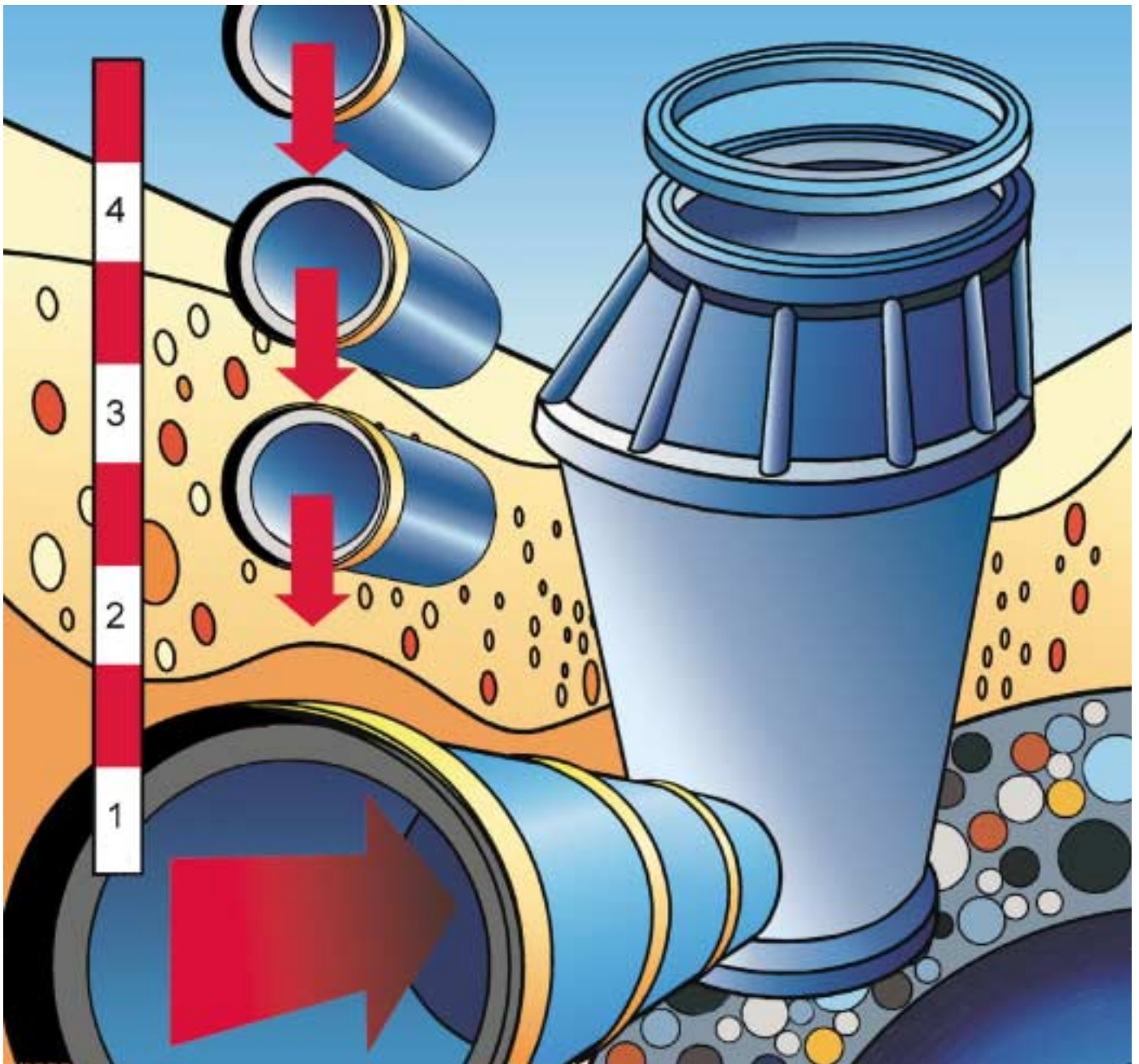


LET EVERYTHING RUN SMOOTHLY



POLYCRETE® sewer pipes made of polymer concrete are extremely corrosion-resistant, diffusion tight and strong. The pre-assembled GFRP couplings allow quick and easy installation of the 3 meter pipes. Like all Meyer products these pipes are permanently monitored for quality as they are developed further. POLYCRETE® sewer pipes provide reliable function for several generations, thus offering a most cost-effective solution.



THE MATERIAL OF THE FUTURE

For decades polymer concrete has proven to be a material with excellent chemical and mechanical resistance in general industrial applications as well as in pipelines. By manufacturing the pipes in a rationalized process and by designing technically sophisticated pipe connections Meyer has succeeded in utilizing the superior properties of its polymer concrete named POLYCRETE® for municipal sewage technology.

THE MATERIAL AND ITS PRODUCTION

POLYCRETE® is a polyester resin bonded type of concrete in which the bonding component is resin alone (no cement). The material properties and sizes are laid down in DIN 54815. The most common name for the material is polymer concrete or polyester resin concrete (PRC). The molding material conforms to DIN 16946-2, type 1140. The material components, polyester resin and quartz, ensure the excellent corrosion resistance of the material between pH 1.0 and pH 10 and reliable resistance even to attack by biogenic sulfuric acid. The strong hard resin and its intrinsic bond with the quartz mineral ensure compressive and bending strength, thus allowing the use of the sewer pipes under large earth and traffic loads.

Computer-controlled dosing and mixing of the material components guarantees complete embedding of aggregates in resin and homogeneous aggregate distribution, making the pipe wall impermeable and diffusion tight. It does not absorb any water. The grain size distribution is optimized so as to use the costly resin efficiently. That makes POLYCRETE® a high-performance, cost-efficient sewer pipe material with long service life.

The mature casting technology using steel molds of exact size ensures dimensional accuracy and very tight tolerances over the whole pipe length. The pipes are after-baked to improve the bond between the material components and implement the full performance potential.



- Superior corrosion resistance makes POLYCRETE® suitable for all municipal and industrial sewage applications.
- The intrinsic material bond ensures high pipe strength and reliable tightness.
- The mature casting technology ensures dimensional accuracy and smooth surfaces.

THE SEWER PIPE PRODUCT RANGE

UNIFORM HIGH-STRENGTH PIPE SERIES

The high strength of the pipes allows us to manufacture just one pipe series, i. e. there is only one wall thickness per diameter. The wall thickness has been selected so as to cover about 85% of all applications in structural terms. The remaining applications are covered by additional measures in supporting the pipes (e. g. solid bedding instead of loose bedding). This uniform series simplifies warehousing and delivery management and helps improve our delivery service.

COST-EFFICIENT PIPE LENGTH

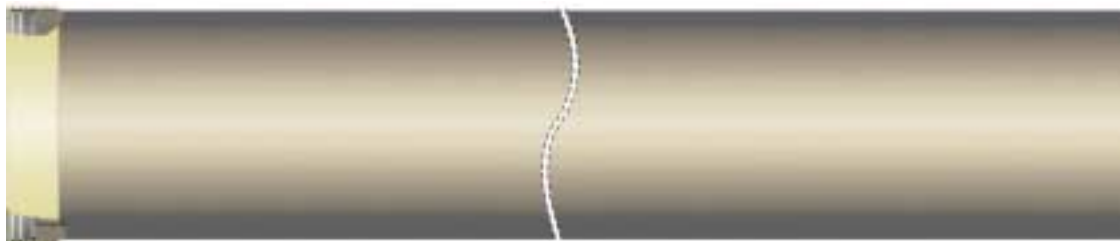
The production length of the 3 meter socketless pipe is the installation length, too. On the one hand a length of 3 meters allows quick installation, on the other hand it is still easy to handle in a trench with sheeting. So the pipes are neither too long nor too short, but they are ideally adapted to the installation situation.

ACCURATE DIAMETER

The outer diameter is exactly the same over the whole pipe length, allowing you to cut pipes to fitting lengths without calibration. Besides we can also manufacture 1 m and 2 m short pipes and 0.75 m joint pipes (for manhole connection). The dimensionally accurate inner diameter d_i is exactly the nominal diameter DN. Thus it is possible to correctly calculate the high flow capacity by using tables (wall roughness $k = 0.1 \text{ mm}$).

PERMANENT QUALITY ASSURANCE

Pipes and couplings are permanently checked during production in the works and monitored for quality by a third party. They are officially approved by General Approval no. Z 42.1-250 of the German Institute of Construction Engineering (DIBt). The pipes are classified as structurally stiff, and their strength is evidenced in accordance with worksheet A 127 of the German Association for Sewage Technology.



inner diameter mm	outer diameter mm	wall thickness mm	length m	pipe weight kg/m
300	388	44	3	107
400	500	50	3	160
500	605	52,5	3	206
600	711	55,5	3	258
700	821	60,5	3	327
800	925	62,5	3	383
900	1038	69	3	475
1000	1145	72,5	3	552
1200	1380	90	3	824

larger nominal diameters upon request

THE PIPE CONNECTION

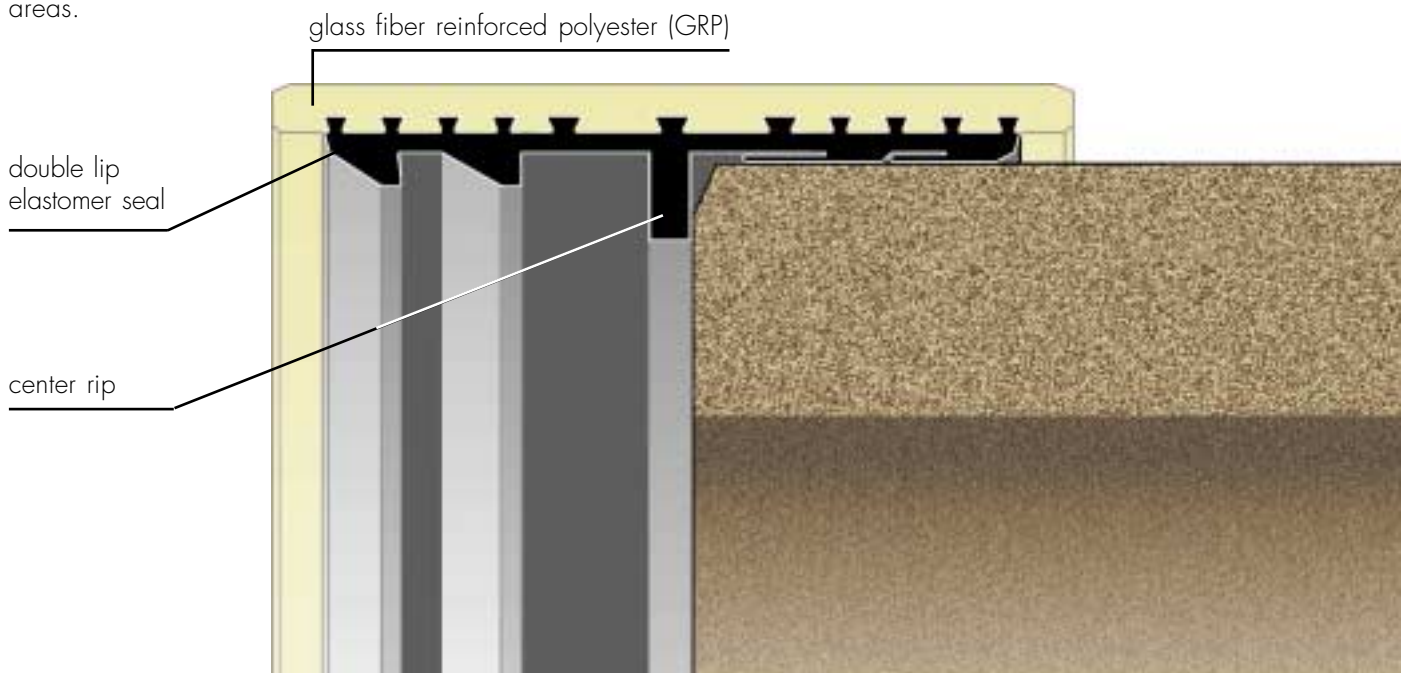
The coupling is a double socket which is assembled on pipes and molded parts in the works so that the pipes arrive on the construction site like socket pipes or molded parts with sockets. In addition double sockets can be delivered separately which allow the use of pipe lengths that have remained after cutting. So almost no pipe material is lost. Around the inner elastomer body the support structure is made from GFRP laminate material. The outer GFRP body interlocks with the web fins of the inner body, which has double sealing lips and a center rib. Thus it is an integral part of the coupling, which cannot be displaced and does not allow any water ingress.

The coupling is stiff by itself and features the same corrosion resistance and dimensional accuracy as the POLYCRETE® pipes. Its long-term tightness under lateral stress and angular deflection has been tested in accordance with DIN 4060.

The reliable tightness and strength allow the works test pressure to be as high as 2.4 bar so that POLYCRETE® pipes may also be used in ground water protection areas.

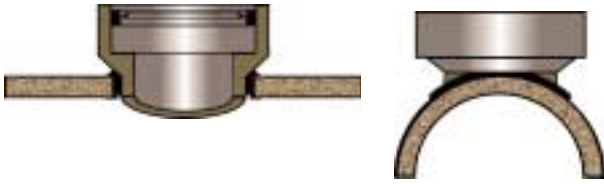


shear load test



CONNECTIONS

Branch connections DN 150 and DN 200

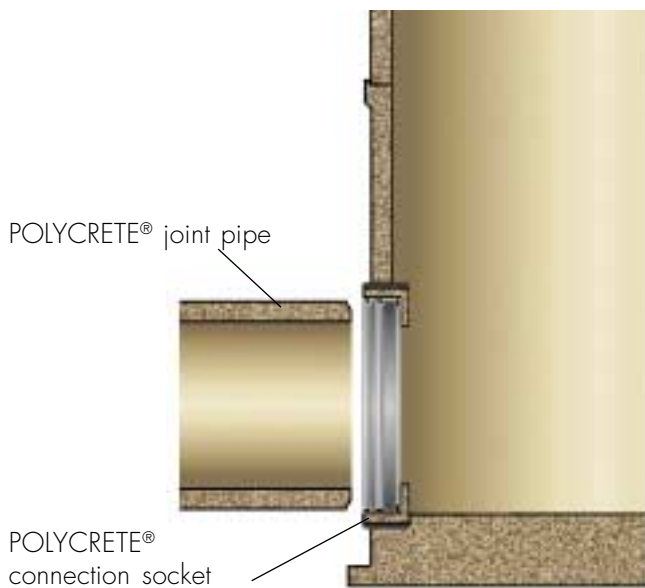


Branch connections for building or road drains are mostly made using commercial 45° branch saddles or 90° branch elements. This connection technology allows the

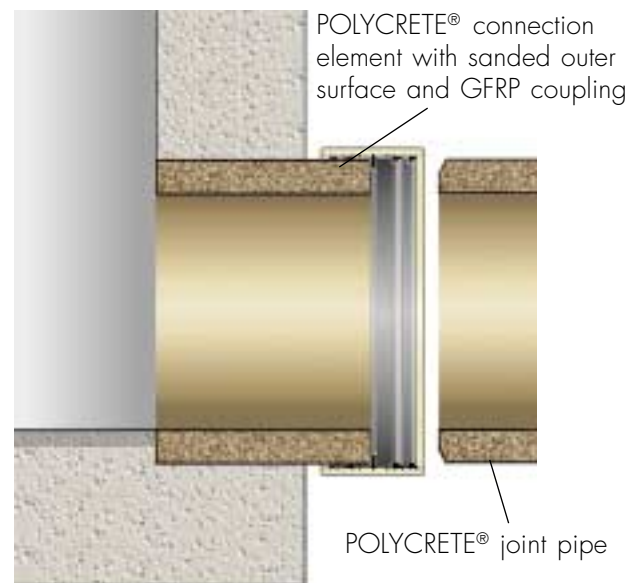


speedy installation of 3 m lengths and avoids extra costs for the manufacture of fitting lengths, additional molded connecting elements or additional couplings.

POLYCRETE® SYSTEM MANHOLE



STEEL-REINFORCED CONCRETE OR BRICKWORK MANHOLE



CONNECTION TO MANHOLES AND STRUCTURES

Sewer reaches are connected to manholes or other structures via joint pipes with POLYCRETE® connection elements or sockets. The outside surface of the connection elements for cast concrete or brickwork structures is sanded to improve bonding.

In POLYCRETE® system manholes or prefabricated DIN manholes the connections with POLYCRETE® elements

or sockets are prefabricated in the works. For smaller pipes (e. g. up to DN 400) exact core drill holes are made into which the 45° branch saddles are glued with 2-component epoxy resin either in the works or on site. The 90° branch elements are mostly directly inserted in the core drill hole with an elastomer seal, the B ring.

MACHINING AND INSTALLATION

MACHINING

In machining POLYCRETE® pipes the tools of choice are usually diamond tools (with water flushing or without). Diamond wheels are used for cuts and diamond drill bits for core drilling. When fitting lengths are cut the cut face needs to be chamfered afterwards. The cut surface does not require any subsequent sealing. Cutting itself is quicker and less dusty than in cement-based concrete. However, the German accident prevention rules require a dust mask for that work.



INSTALLATION

Usually the pipes are laid on a loose bedding, i. e. on compacted gravel and sand. The installation method must meet the structural requirements (trench sheeting, bedding type, ground water level, etc.). Since the coupling is pre-assembled the pipes can be joined quickly and easily using ordinary tools. Small deepenings below the couplings assure that the pipe rests evenly on its body wall. Before pushing two pipes together commercial slip agent should be applied to the seal and pipe end. After assembly the pipes can be put at angles. The maximum allowable angle depends on the nominal diameter.



POLYCRETE SEWER PIPES
Bedding and soil settling as specified in EN 1610 (bedding type 1) for POLYCRETE® sewer pipes made of polymer concrete

meyer
MEYER ROHR + SCHACHT GMBH
C/O: Bremer-Str. 5 • D-21337 LUNEBURG
Tel. +49 41 31 9530 • Fax +49 41 31 953 252
eMail: info@meyer-polycrete.com

SAND / GRAVEL BEDDING

2x = 60° : K = 0,0669
= 90° : K = 0,1464
= 120° : K = 0,2500

b = K x OD

minimum thickness of the lower bedding layer is:

- 100 mm for usual soil conditions
- 150 mm for rock or fairly stilled soil

suitable bedding materials include:

- any non-cohesive soil and cohesive soil if it can be compacted and if there is no danger of subsiding
- The grains must be no bigger than:
 - 22 mm for DN=200
 - 40 mm for DN=200 up to DN=600

The following materials can be used:

- single grain gravel
- materials with graded grain size
- sand
- grain mixtures (all-in)
- crushed building materials

Recycling material is also suitable. An overview is included in EN 1610, Annex B

specific features in bedding version 1:

In concrete bedding with formwork for soil setting besides the pipe which is less than the vertical pipe deformation increases. In structural terms this increases the stress on the pipe.

Disadvantages:

- rigid bedding shows up (ring) by access joints at the pipe connections
- danger of single point or structural loading, possibly create a notch below the pipe bottom line

Concrete quality:

SERVICE

Our service covers all fields of market activity needed by our customers. We provide building owners and planners with state-of-the-art technical knowledge based on our work in standardization committees.

We develop PC-based structural documentation and construction details for every individual project (CAD). Electronic data processing in all tenders and order issues enables us to carefully plan production and manage stocks. The benefit for builders and dealers is precision and speed in price calculations, order timing and delivery promises.

Perfect transport packaging simplifies handling and avoids product damage. Our reliable freight carriers guarantee timely delivery. Just-in-time deliveries are no problem for us if there is a lack of storage space on site.



LOAD DATA
POLYCRETE® Sewer Pipes
 according to DIN 54815

Meyer Rohr + Schacht GmbH
 Otto - Brenner - Straße 5
 D - 21337 LÜNEBURG
 GERMANY

meyer®
 Phone: 04131/959-139 • Fax: 04131/959-259
 eMail: bestell@meyer-polycrete.com

Project: _____
 Consistent: _____
 Enclosure: _____

Sealer: _____
 Name: _____
 Job: _____
 Customer: _____

Nominal diameter DN	Length (m)	Traffic load according to DIN 1072 DS 804 ADY	Evenly distributed surface load (kN/m²)	Trench type	Width of trench bottom (m)
		<input type="checkbox"/> Rink 101 <input type="checkbox"/> Rink 102 <input type="checkbox"/> Rink 121	<input type="checkbox"/> Rink 101 <input type="checkbox"/> Rink 102 <input type="checkbox"/> Rink 121	<input type="checkbox"/> single trench <input type="checkbox"/> double	

THE POLYCRETE® SEWER SYSTEM

We know that a chain is as strong as its weakest link. So we made the manhole stronger, which used to be the weakest link. We can now offer a complete POLYCRETE® sewer system including POLYCRETE® sewer pipes, the suitable pipe connections and a POLYCRETE® system manhole. Its design is adapted to the sewer pipes, and it features the same reliable tightness, strength and corrosion resistance. This perfect sewer system is especially suitable for reliably tight sewers in ground water protection areas.



THE POLYCRETE® SEWER SYSTEM

THE STRONG CHAIN IN SEWAGE TECHNOLOGY



P.O. Box 770530
Lakewood, OH 44107
toll free 866-626-PIPE
fax 704-554-8695

www.meyer-polycrete.com