

Structured-wall PE-HD pipes and fittings with smooth bore for underground storm water drains



Drainage system for
traffic route engineering
robust and economic

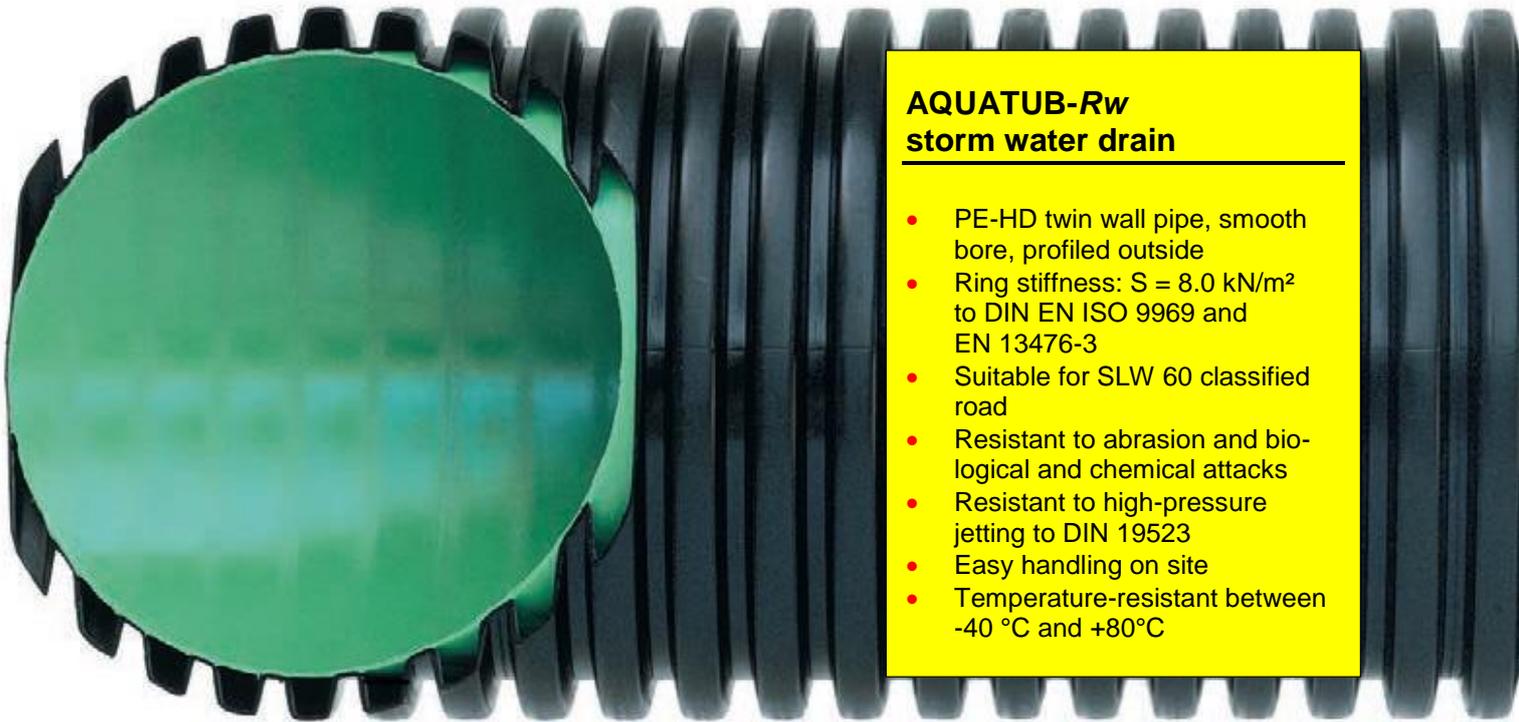
AQUATUB-Rw storm water drainage system:

Polyethylene (PE-HD) twin wall pipes and fittings meeting the requirements of DIN 16961 and DIN 4262-1 and following EN 13476-3; compatible chamber systems

Application:

- Highway and surface drainage
- Subsoil road drainage
- Culverts
- Storm water management systems

AQUATUB-Rw: Polyethylene Storm Water Sewer Pipe



AQUATUB-Rw storm water drain

- PE-HD twin wall pipe, smooth bore, profiled outside
- Ring stiffness: $S = 8.0 \text{ kN/m}^2$ to DIN EN ISO 9969 and EN 13476-3
- Suitable for SLW 60 classified road
- Resistant to abrasion and biological and chemical attacks
- Resistant to high-pressure jetting to DIN 19523
- Easy handling on site
- Temperature-resistant between $-40 \text{ }^\circ\text{C}$ and $+80 \text{ }^\circ\text{C}$

AQUATUB-Rw storm water drainage system

AQUATUB-Rw is a PE-HD twin wall pipe with a smooth inner and structured-walled outer surface, produced by a process developed by and patented to HEGLER in 1968. AQUATUB-Rw combines the ring stiffness of a corrugated pipe with the good hydraulic properties of a smooth pipe.



Profile section

The AQUATUB-Rw storm water pipe meets the requirements of DIN 16961 and DIN 4262-1 (Category UP) and follows the specifications in EN 13476-3. The requirements of EN ISO 13259 regarding the leak-tightness of joints in "Subsoil Thermoplastics Piping Systems" are complied with and even exceeded.

Pipe system

The pipe system has been designed for use in storm water drainage applications (for foul water sewers use the CANALTUB waste water sewer system). AQUATUB-Rw pipes have a green internal bore. The system comprises integral sockets and special seals (DN 300 – DN 800) as well as an extensive range of accessories. It is available in nominal sizes of DN 150 to DN 800.

System advantages

Low weight/simple handling

Thanks to its design AQUATUB-Rw is very light-weight, which facilitates transportation and handling on site.

High load-bearing capacity

The ring stiffness resulting from the combination of pipe material and profile design allows the pipe system to be installed over a wide range of depths. Complying with SN 8 ($S \geq 8.0 \text{ kN/m}^2$ to DIN EN ISO 9969), the ring stiffness meets the conventional and proven requirements for sewer pipes. If installed in accordance with EN 1610 the system will easily withstand

maximum traffic loads (SLW 60) at laying depths ranging from 0.80 to 6.00 m.

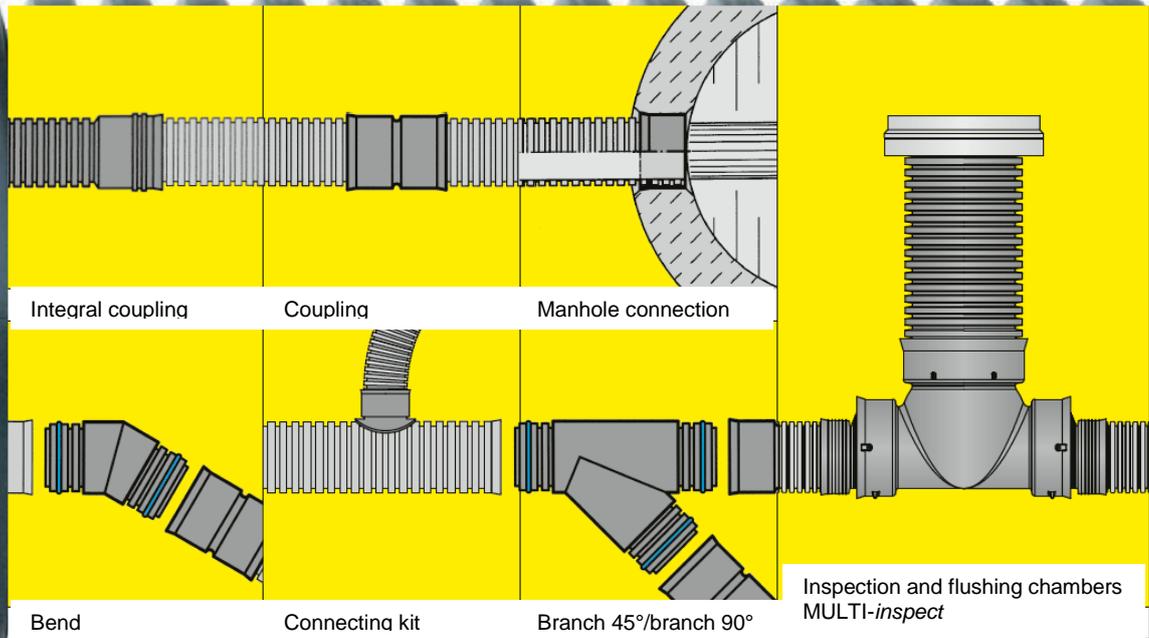
High abrasion resistance

Extensive comparative examinations in accordance with the so-called "Darmstadt Model" have shown that the abrasion properties of AQUATUB-Rw pipes are extremely good and are far in excess of those of any other pipe materials. Cleaning by high-pressure jetting (120 bar at the nozzle) is possible with no problems. Any impact loads caused by the jetting head are absorbed. The green internal bore facilitates TV inspection.

Service life

The raw material properties render AQUATUB-Rw extremely durable. Its resistance to chemical attacks is excellent. The pipe's flexibility activates the reaction forces of the soil, resulting in a high load bearing capacity of the system. Flexibility in the axial direction ensures reliability and integrity of the system even in case of unforeseen soil settlements.

Ecologically Compatible and Economic



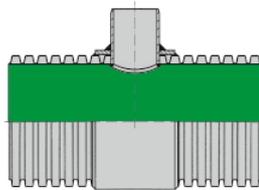
System accessories

Pipe joints

Joints are made by simply pushing pipes into the integral sockets or separate couplings (double sockets). Leak-tightness to EN ISO 13259 of the joints is ensured by special profiled seals adapted to the profile of the AQUATUB-Rw twin wall pipe.

Fittings

AQUATUB-Rw fittings are rotational-moulded or fabricated. Fabricated fittings are made up from pipe material and reinforced on the outside by adding a smooth-walled envelope pipe. All joints and ends of the reinforcing envelope pipes are connected to the AQUATUB-Rw pipe in a leak-tight way by extrusion welding. The ring stiffness of the fittings is at least equivalent to that of the AQUATUB-Rw pipe, thus ensuring high reliability. The inner diameters of the fittings match the inner diameters of the AQUATUB-Rw pipes, so there are no transitions or obstacles inside the system.



90° branch with consistently smooth inner surface

Subsequent connection by HP-CONNECT

HP-CONNECT allows saddle connections of 150 and 200 mm pipes in new or existing installations. The flexible branch lines AQUATUB-RwR are an inexpensive option for connection to road gullies. For the advantages of HP-CONNECT please refer to our current leaflet.

Inspection and flushing chambers MULTI-inspect

There are different chamber systems to cover the whole size range of AQUATUB-Rw. By modern inspection systems, these chambers can be serviced and flushed in an optimum and cost-efficient way. For the advantages of the MULTI-inspect chamber systems compared to conventional chambers please

refer to the current leaflets.

Adaptation to the gradient is possible by means of special riser pipes which can be cut to the required length, on site. For MULTI-inspect S 400, chamber covers of cast iron are available in load classes A, B and D. All other MULTI-inspect chambers match with standard top rings to DIN 4034 and standard chamber covers to EN 124.

Quality control

Constancy in the quality of AQUATUB-Rw pipes is ensured by a surveillance contract with Süddeutsches Kunststoffzentrum, Würzburg (SKZ), an official testing laboratory.



Important:

- If possible, AQUATUB-Rw pipes should be transported and stored on site in the original packing. Attention should be paid to proper handling on site. Individual lengths can be lifted in the middle.
- Continuous support at the given gradient must be provided in the pipe trench. The supporting layer of 10 cm must consist of sand/gravel 0/8. Local depressions should be provided at joints so that the couplings do not initially rest on the support.
- Joints should be made using the recommended lubricant.
- Embedding has to be performed in accordance with EN 1610 with sand/gravel 0/8. The manufacturer's installation instructions have to be observed.

The information given in this brochure is the most up-to-date available and is intended to provide information on our products and their possible applications. It is not a guarantee of certain features or of their suitability for certain specific applications. Our guarantee applies to compliance with our specifications, within the scope of our General Terms and Conditions. The schematic drawings (pipe/fittings) have symbolic character. The current edition supersedes any former versions. Subject to change.

Technical data AQUATUB-Rw

Nominal size	DN	150	200	250	300	350	400	500	600	800
Outside diameter	mm	174.8	234.8	293.8	352.9	399.8	464.0	579.5	691.9	919.3
Inside diameter	mm	153.5	204.5	255.5	300.5	345.0	396.0	498.0	594.0	791.0

Packing data AQUATUB-Rw

Nominal size	DN	150	200	250	300	350	400	500	600	800
Item number	755...	2115	2120	2125	0130	0135	0140	0150	0160	0180
Stillage contents	units	54	32	18	11	9	6	4	5	2
	m	324	192	108	66	54	36	24	30	12
Stillage dimensions	length	m	6.05	6.05	6.05	6.50	6.50	6.50	6.70	6.70
	width	m	1.20	1.24	1.24	1.16	1.24	1.24	2.31	1.88
	height	m	1.45	1.51	1.38	1.38	1.27	1.33	1.27	1.05

Technical data AQUATUB-RwR

Nominal size	DN	150 (ID)	200 (OD)
Outside diameter	mm	174.8	200.0
Inside diameter	mm	153.5	173.0

Accessories AQUATUB-Rw/RwR

Nominal size	DN	150	200	250	300	350	400	500	600	800
Coupling		○	○	○	○	○	○	○	○	○
Sleeve		○	○	○	○	○	○	○	○	○
Profiled seal		○	○	○	○	○	○	○	○	○
Manhole connection		○	○	○	○	○	○	○	○	○
Bend 15°/30°/45°		○	○	○	○	○	○	○	○	○
Branch 45° DN 150		○	○	○	○	○	○	○	○	○
Branch 90° DN 150		○	○	○	○	○	○	○	○	○
Plug		○	○	○	○	○	○	○	X	X
HP-CONNECT for subsequent connection of DN 150		-	-	○	○	○	○	○	○	○
HP-CONNECT for subsequent connection of DN 200		-	-	-	○	○	○	○	○	○
Lubricant		○								

Special accessories on request
X on request

HEGLER



Corrugated and Twin
Wall Pipes of Plastics

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