AkvaPanInženjering

30 YEARS with you

CATALOGUE PRODUCTS

www.akvapan.com

About Akvapan

After three decades of devoted and committed work, we at Akvapan are proud of our achievements, transforming a small family business into a respectable company, recognized for the good quality of its products. Thanks to the commitment of our employees, we have managed to build a company capable of a fast and high-quality response to every challenge, a company that keeps building win-win relations with its partnerst. Akvapan today means a name that is synonymous with quality and fair business relations.

The Akvapan inženjering d.o.o. company's permanent commitment is to deliver products and services of high and consistent quality in order to meet the increasingly complex demands and expectations of the users, as well as legal and other regulations in order to improve the company's results, prevent environmental pollution, preserve people's health and improve working conditions, thus ensuring a high level of satisfaction among its employees and all other stakeholders. The basis for ensuring the quality, safety and reliability of our products and services is the integrated management system (IMS), which forms the fundamental basis for performing daily activities and serves as a benchmark for sustainable development and improvements in dynamic market conditions.


30
YEARS
with you

WATER PIPES

HDPE WATER SUPPLY PIPES

Polyethylene water pipes are used in constructing water systems and transporting water under pressure. HDPE water pipes are high-quality pipes made of the highest quality polyethylene PE-80, PE-100 and PE100-RC. The complete programme of HDPE water pipes is produced according to SRPS EN 12201-1 and SRPS EN 12201-2 standards. The pipes are completely physiologically and toxicologically safe for use in water supply.

Advantages of pipes manufactured from PE80, PE100 and PE100-RC materials include:

- The material is absolutely non-toxic and completely inert in contact with water
- Zero effect on the smell and taste of water
- No scale is formed and, accordingly, no reduction in flow during long-term use
- The pipes are resistant to UV rays and to temperatures of -30° C to +60°C
- High resistance to abrasion
- Very low pressure losses because the coefficient of friction is 10x lower than that of steel pipes
- They are easy to continue
- They are easy to transport and handle

Additional advantages of pipes made of PE100-RC material are:

- Resistance to load points
- Resistance to rapid crack propagation
- Highest product reliability
- Compatibility with classic PE pipes

High abrasion resistance

Resistant to UV rays

The material is absolutely non-toxic

Intended use

Polyethylene pipes are intended for public, private and industrial water supply, for the construction of underground and above-ground pipelines. For public water supply, pipes are defined by projects that have water management approval, while for private and industrial water supply there are no restrictions regarding water management approval for the use of a certain pressure that is provided by the project.

Description

The pipes are single-layer with a homogeneously structured wall, smooth inner and outer surfaces. The pipe colour is black with blue longitudinal co-extruded lines. The nominal diameter of the pipe (DN) is the outer diameter of the pipe (OD) in dimensions from 20mm to 630mm for the pressures provided by the standard SRPS EN 12201-1 and SRPS EN 12201-2.

GAS PIPES

HDPE GAS SUPPLY PIPES

Polyethylene gas pipes are used for the construction of gas pipelines and the transportation of natural gas under pressure. HDPE gas pipes are high-quality pipes made of the highest quality high-density polyethylene PE-80, PE-100 and PE100-RC. Safety is one of the most important aspects of gas supply. Production and quality control is in accordance with the current standard SRPS EN 1555-1 and SRPS EN 1555-2.

Advantages of gas pipes made of PE-80, PE-100 and PE100-RC materials include:

- The material is absolutely non-toxic
- They are flexible and resistant to vibrations, seismic shocks and ground movement
- The pipes are resistant to UV rays and to temperatures of -20 °C to +40°C
- They have a high resistance to abrasion
- Very low pressure losses because the coefficient of friction is 10x lower than that of steel pipes
- Easy to continue
- Leak-free joints
- Easy to transport and handle

High abrasion resistance

Resistant to UV rays

The material is absolutely non-toxic

Intended use

Polyethylene gas pipes are used for the construction of regional and local gas pipelines for the supply of public, industrial and private users. They can be laid in the ground, above ground and under water. The recommendation for installation is the standard SRPS EN 12007-2 - Gas infrastructure. It is the responsibility of the purchaser or client to make an appropriate selection, taking into account special requirements and all relevant national regulations and common installation practice.

Description

The pipes are single-layer with a homogeneously structured wall, smooth inner and outer surfaces. The colour of the tube is black with yellow longitudinal co-extruded lines. The nominal diameter of the pipe (DN) is the outer diameter of the pipe (OD) in dimensions from 20mm to 630mm for the pressures provided by the standard SRPS EN 1555-1 and SRPS EN 1555-2.

SEWAGE PIPES

PP/HDPE CORRUGATED SEWAGE PIPES

Double-layer corrugated pipes are intended for underground drainage and sewerage without pressure. They are produced by the extrusion process of the highest quality polypropylene (PP) or polyethylene (HDPE). Pipes are produced and marked according to the SRPS EN 13476-3 standard. PP/HDPE double-layer corrugated pipe is produced in different peripheral strengths in accordance with the SRPS EN ISO 9969 standard.

PP corrugated pipes are an excellent choice, which confirms the advantages that we can single out:

- durability
- simple and safe handling and installation
- excellent hydraulic properties
- excellent mechanical properties
- high temperature stability
- high resistance to abrasion
- low weight of the pipe (enables economical, simple and safe handling and installation)
- complete drainage system (all elements of the system are made of the same material)

- flexibility in processing and joining (all classic methods of joining and processing are used)
- low costs of the entire system
- flexibility of the pipe system (stable against deformation due to high traffic loads even with a low overlay, can withstand large deformations without damage to the structure, tolerates settlement countries)

Longevity

Excellent mechanical properties

Excellent hydraulic properties

Intended use

Areas in which they can be applied are fecal and storm sewerage, drainage of roads and land, special solutions for industry and construction of drainage systems.

Description

The PP/HDPE double-layer corrugated pipe is composed of two layers, more precisely, of two connected around the entire circumference of the pipe. The outer wall of the tube is ribbed and black in colour. The size and spacing of the ribs depends on the diameter of the pipe and the degree of stiffness, and the inside of the rib is hollow. The inner tube is smooth and green/blue in colour. The nominal pipe diameter (DN) is the inside diameter (ID) of the pipe.
Pipes with a diameter of DN200 to DN1000 are produced in straight rods of 6m, and the connection is made via

SEWAGE PIPES

PE DOUBLE-LAYER CORRUGATED PIPES FOR SEWAGE AND DRAINAGE

PE double-layer corrugated pipes for underground drainage, drainage, cable protection and non-pressurized sewerage are produced by the extrusion process from high-density polyethylene (HDPE). PE double-layer corrugated pipes are produced in different peripheral strengths in accordance with the SRPS EN ISO 9969 standard.

Advantages of double-layer corrugated PE pipes:

- durability
- simple and safe handling and installation
- excellent hydraulic and mechanical properties
- high temperature stability
- high resistance to abrasion
- flexibility in processing and joining
- low costs of the entire system
- flexibility of the pipe system
- withstands large deformations without damage in structure, it tolerates soil movement

Longevity

Excellent mechanical properties

Excellent hydraulic properties

Intended use

PE double-layer corrugated pipes have a wide range of applications, from sewage, drainage, cable protection to drainage. PE pipes are used in the construction of roads, tunnels, railways and other traffic, residential or industrial facilities. They provide excellent protection against mechanical and other harmful environmental influences and are suitable for a wide range of cables. All listed PE corrugated pipes can be perforated up to 360'. Partially perforated drainage-sewage pipes are an ideal combination of perforated and collection pipes that have the purpose of collecting and transporting any surface water that occurs, over short and long distances.

Description

The PE pipe is composed of two layers, the outer ribbed and the inner smooth surface. The nominal pipe diameter (DN) is the outside diameter (OD) of the pipe. Pipes with a diameter of DN40 to DN200 mm are produced in coils of 25m and 50m and in rods of 6m. The colour of the pipe can be black, yellow, red or other colour as per the requirement with the appropriate quantity. They are connected with a connector and a rubber band.

COMMUNAL SEWAGE PVC PIPES

Communall sewage pipes and fittings manufactured from unsoftened polyvinyl chloride (PVC-U) are used to construct pipe systems that are laid in the ground and operate mainly under gravity (free fall) conditions. These pipe systems have been successfully used for many years and fully meet the requirements for reliable collection and discharge of storm water, domestic and fecal water, as well as industrial (aggressive) waste water.

PVC pipe systems have a number of advantages:

- exceptional resistance to corrosion
- ideally smooth inner surface
- low weight, which enables easier transport and easier installation
- quick and easy installation of pipe systems
- achieving complete impermeability of pipelines
- high durability of pipelines and minimal maintenance costs
- good performance as electrical insulator
- easy possibility of using PVC pipes and elements for rehabilitation of existing sewage pipelines

Exceptional corrosion resistance

Good electrical insulator

High resistance to external pressure

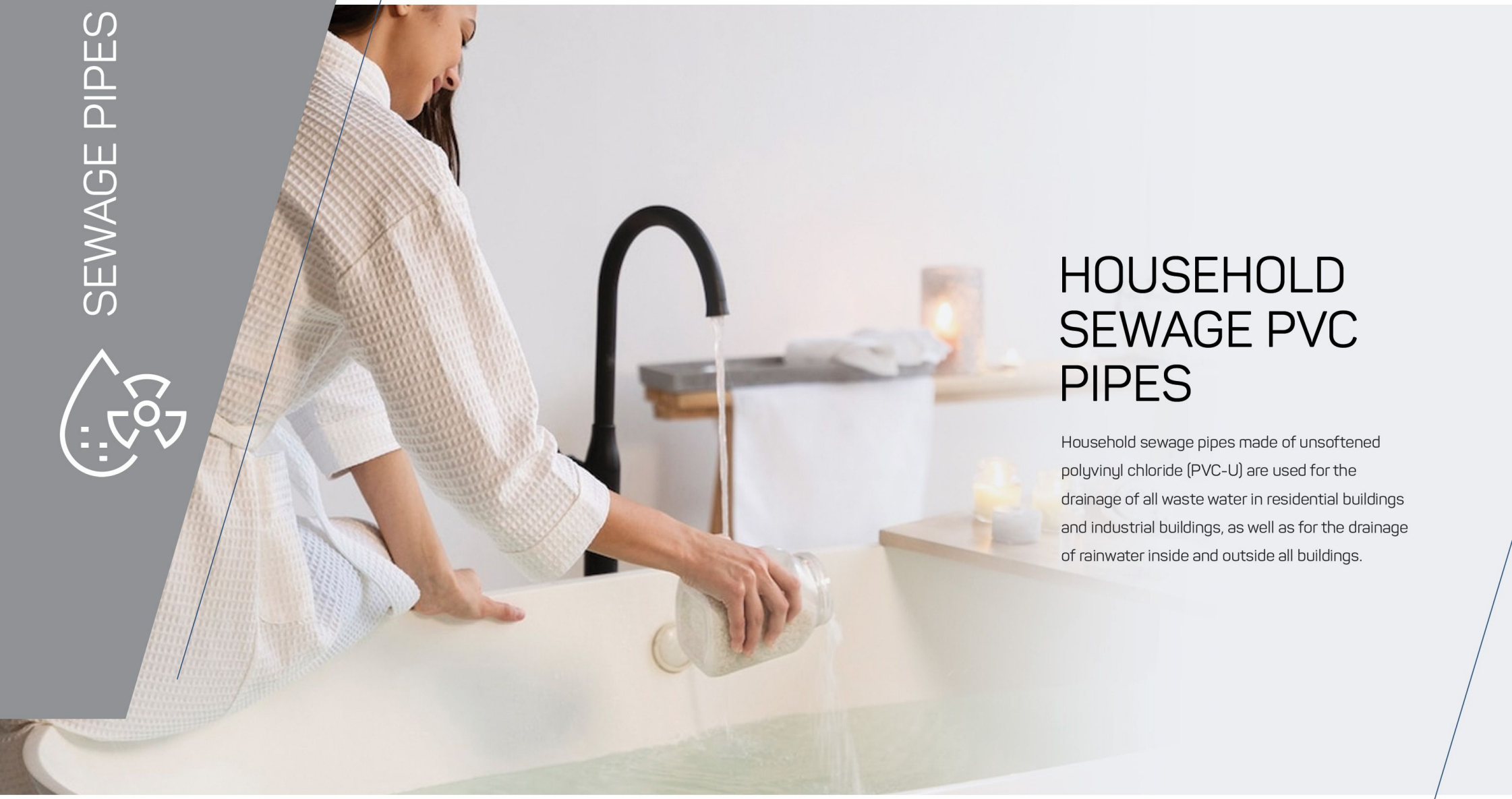
Intended use

PVC UK pipes and fittings are used for the construction of pipelines that are installed in the ground or surface on free flat surfaces. They serve to drain waste and storm water. They are also used for draining industrial wastewater, for free (gravitational) flow regime installations and low pressure installations.

Description

The nominal diameter (DN) is the outside diameter (OD) of the pipe. They are produced in straight rods from DN110 to DN500. The useful length of the pipe is the length of the pipe without the depth of the socket (muff). They are connected to each other with a head and a rubber ring that ensures complete sealing. PVC pipes are produced according to two different standards:

- SRPS EN 1401-1 - pipes that have a solid or compact wall,
- SRPS EN 13476 -1, SRPS EN 13476 -2 - multilayer pipes where the pipe core is made of foamed PVC-U material .



HOUSEHOLD SEWAGE PVC PIPES

Household sewage pipes made of unsoftened polyvinyl chloride (PVC-U) are used for the drainage of all waste water in residential buildings and industrial buildings, as well as for the drainage of rainwater inside and outside all buildings.

PVC pipe systems have a number of advantages:

- exceptional resistance to corrosion
- ideally smooth inner surface
- low weight, which enables easier transport and easier installation
- extremely wide range of various connecting, distribution and reduction pieces
- quick and easy installation of pipe systems
- achieving complete impermeability pipelines
- high durability of pipelines and minimal maintenance costs
- good performance as electrical insulators
- easy possibility of using PVC pipes and elements for rehabilitation of existing sewage pipelines

Exceptional corrosion resistance

Good electrical insulator

High resistance to external pressure

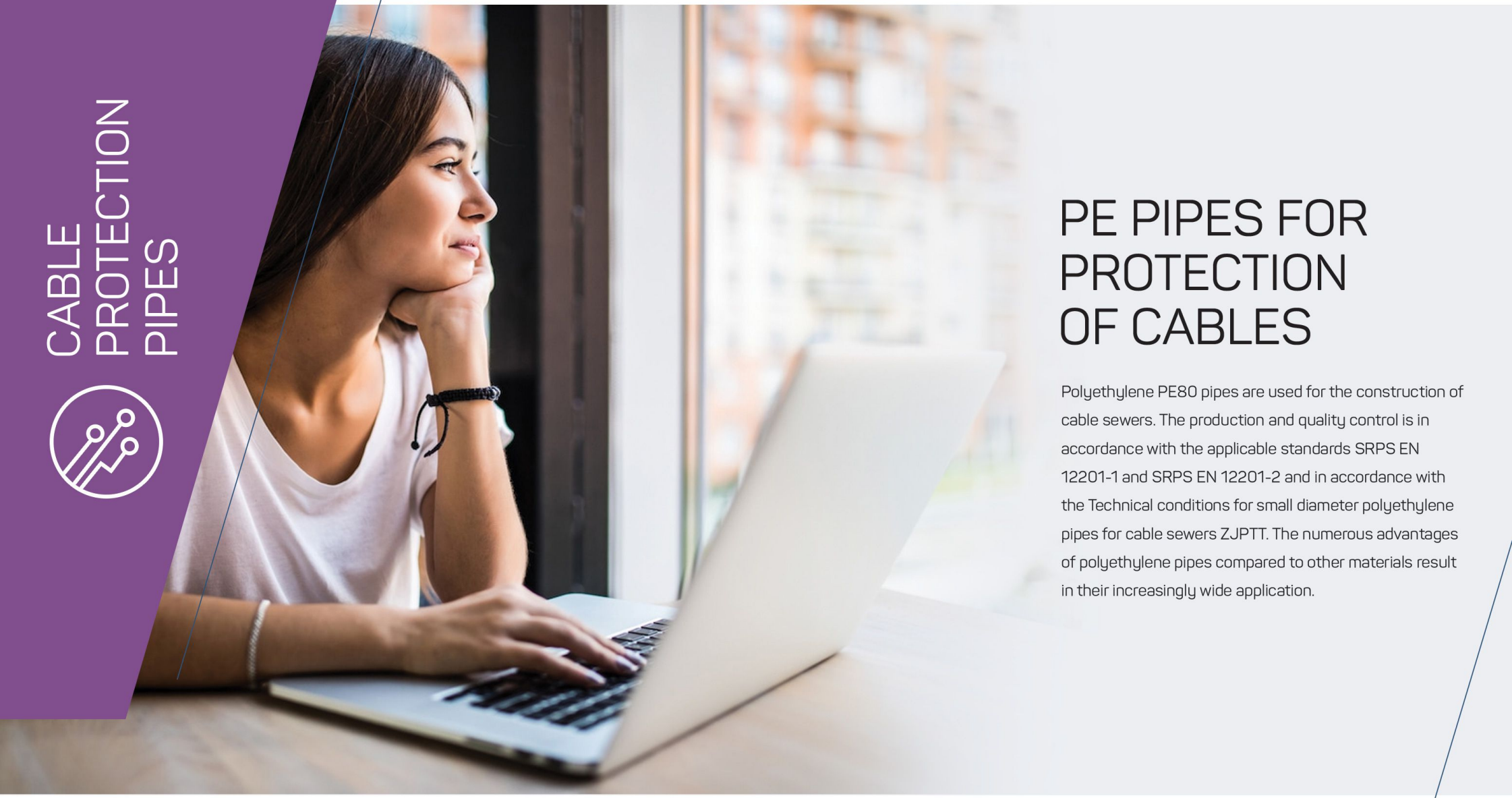
Intended use

They are used for pipelines that are mounted inside buildings, in the ground or on the surface on free flat surfaces and are used for the drainage of waste and storm water. They are also used in industry, for the drainage of waste industrial water to which PVC is resistant, for free (gravitational) flow mode installations and low pressure installations.

Description

The nominal diameter (DN) is the outside diameter (OD) of the pipe. They are produced in straight rods with a diameter of DN32 to DN160 with an integrated sleeve. The useful pipe length is the pipe length without the integrated muff. They are connected to each other with a cap (muff) and a rubber ring that ensures complete sealing.

CABLE PROTECTION PIPES



PE PIPES FOR PROTECTION OF CABLES

Polyethylene PE80 pipes are used for the construction of cable sewers. The production and quality control is in accordance with the applicable standards SRPS EN 12201-1 and SRPS EN 12201-2 and in accordance with the Technical conditions for small diameter polyethylene pipes for cable sewers ZJPTT. The numerous advantages of polyethylene pipes compared to other materials result in their increasingly wide application.

The advantages of polyethylene pipes PE80:

- They are easy to transport and install
- They adapt well to the terrain
- They have a low coefficient of friction that causes low pressure losses
- The pipes are resistant to UV rays and temperatures from -30°C to +60°C
- They are resistant at low temperatures

They are resistant to UV rays

Resistant to low temperatures

Low coefficient of friction

Intended use

Polyethylene PE80 pipes, which are used to make cable ducting, are primarily intended for routing and protecting optical cables, telecommunications and power cables in local and regional networks.

Description

PE pipes are single-layer with a homogeneously structured wall, they have a grooved inner surface and a smooth outer surface. Pipes with a diameter of DN20 to DN110 mm can also be produced as two-layer, with a white inner layer. The tube colour is black with purple longitudinal co-extruded lines.The nominal pipe diameter (DN) is the outside diameter (OD) of the pipe.

CABLE PROTECTION PIPES

PVC PIPES FOR PROTECTION OF CABLES

PVC pipes for the protection of telephone and power cables are made of non-softened polyvinyl chloride (PVC-U).

Intended use

They are used for pipelines that are mounted inside and outside buildings. They provide excellent protection against mechanical and other harmful environmental influences and are suitable for a wide range of cables, such as:

- telephone cables
- cables for television cable network
- optical cables
- cables for high and low voltage power supply
- cables for road, railway and other traffic signaling

PVC pipes have a number of advantages:

- an ideally smooth inner surface
- low weight, which enables easier transport and easier installation
- they are good electrical insulators
- an extremely wide range of various connecting, distribution and reducing pieces
- achieving complete impermeability of pipelines
- high durability of pipelines and minimal costs maintenance
- easy possibility of using PVC pipes and elements for rehabilitation of existing pipelines

Ensuiring complete impermeability

Good electrical insulator

High durability of pipelines

Description

PVC pipes can be in yellow (PTT) and red (EKK) colours, 4 or 6 m long. The nominal diameter is the outside diameter of the pipe. They are produced with an integrated muff, which with a rubber band serves to connect the pipe and ensures complete sealing. The useful length of the pipe is the length of the pipe without the integrated muff. All fashion elements used for laying PVC pipes are also produced: PVC plug, PVC connector, spacer for PVC pipes and PVC sliding coupling. PVC pipes are produced according to two different standards:

- SRPS EN 1401-1 - pipes that have a solid or compact wall,
- SRPS EN 13476 -1, SRPS EN 13476 -2 - multilayer pipes where the pipe core is made of foamed PVC-U material

CABLE PROTECTION PIPES

PE CORRUGATGED PIPIES FOR PROTECTION OF CABLES

PE double-layer corrugated pipes for cable protection are produced by the extrusion process from high-density polyethylene (HDPE). They are produced in yellow and red colors or according to the customer's request.

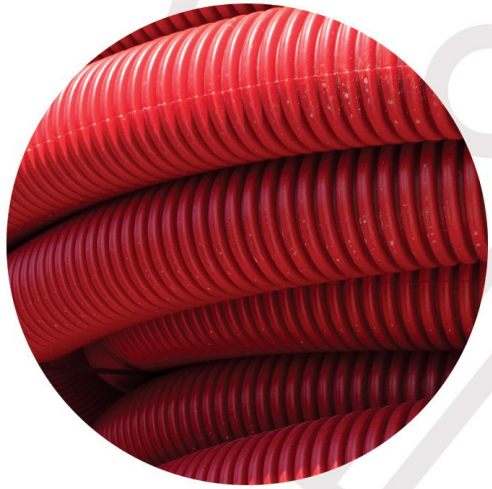
Intended use

PE double-layer corrugated pipes have a wide range of applications, including cable protection. PE double-layer corrugated pipes are used in the construction of roads, tunnels, railways and other traffic, residential or industrial facilities. They provide excellent protection against mechanical and other harmful environmental influences and are suitable for a wide range of cables, such as:

- telephone cables
- cables for television cable network
- optical cables
- cables for high and low voltage power supply
- cables for road, railway and other traffic signaling.

Advantages of double-layer corrugated PE pipes:

- durability
- simple and safe handling and installation
- excellent hydraulic and mechanical properties
- high temperature stability
- flexibility in processing and joining
- low costs of the entire system
- flexibility of the pipe system
- enduring large deformations without damage to the structure, tolerates earth movement



Longevity

Excellent hydraulic properties

High resistance to external pressure

Description

The PE double-layer corrugated pipe is composed of two layers, the outer ribbed and the inner smooth surface. The nominal pipe diameter (DN) is the outside diameter (OD) of the pipe. Pipes with diameters from DN40 to DN200 mm are produced according to SRPS EN 61386-24 and SRPS EN 13476-3 standards, in coils of 25m, 50m and rods of 6m. The color of the pipe can be yellow or red depending on the purpose. They are connected with a connector and a rubber band.

PVC PIPES AND CONNECTORS FOR GREENHOUSES

Greenhouses are structures which can be made of different materials – however, it can often be seen that a greenhouses structure made of PVC pipes. When laying the pipes, PVC stakes can be used or the pipes can be placed directly in the ground.

Advantages:

- made of hard PVC
- resistant to rain and cold
- resistant to solar heat and UV radiation
- good mechanical properties
- do not require any maintenance
- the material from which they are made can be fully recycled

Resistant to UV rays

Excellent mechanical properties

They can be completely recycled

Intended use

By construction, greenhouses are universal tructures in which different fruit and vegetable plant species, seedlings, flowers, etc. can be produced. PVC pipes are primarily intended for the construction of structures for greenhouses, but they are also used for other purposes (very long-lasting stakes for all plants , for creepers, as transverse links, etc.).

Description

PVC pipes for the greenhouse are DN40mm in diameter, 8m long, in white color. They are light in weight, which allows for easy transport and installation. They are resistant to rain and cold, as well as to solar heat and UV rays. Akvapan inženjering d.o.o. offers its customers everything needed for the assembly of greenhouse constructions: PVC pipes for greenhouses, plasticized metal connectors and PVC stakes.

STAINLESS STEEL REPAIR CLAMPS

STAINLESS STEEL REPAIR CLAMPS

Stainless steel repair clamps are intended for the elimination of faults on the pipeline in case of damage, pipe rupture and leakage, for non-aggressive liquids, as well as for connecting pipes without an integrated connection.

Description:

Repair clamps are made of stainless steel (sheets, screws, nuts, washers) in quality Č 4580 and rubber linings in EPDM quality (rubber for the food industry). They consist of:

- rubber coating that fits on the pipe (strong and elastic enough to fit well and sealingly on the surface of the pipe),
- metal armor (tightens the rubber coating to the pipe), clamping systems (consists of a group of screws with a specially shaped head to lie in the profile at the end of the armor, prevent openings when tightening
- nuts and evenly attract the end of the armor with other screws).

The quality of the material is defined by the SRPS EN 10088 (1-3) standard, and testing is performed according to the SRPS EN 12266 standard.
We produce two types of NP couplings depending on the type and outer diameter of the pipe:

- for DN 20 to DN 63 (NI to N4) – one-piece L=100mm
- for DN 50 to DN 180 (MI to M16) – one-piece L=200mm
- for DN 200 to DN 500 (LI to L 18) – two-piece L=300mm

High resistance to external pressure

Excellent mechanical properties

Resistant to corrosion and chemical influences

Purpose

Repairing pipeline defects by containing the damage to the pipe, the NP coupling seals the damaged area, permanently stops the leak and allows for uninterrupted water flow.

Advantages:

They are easy to install, which minimizes repair costs and time. They withstand pressure up to 40 bar, are resistant to mechanical impacts, corrosion and chemical influences.

HDPE WATER SUPPLY PIPES

Technical data

HDPE PE100

	PN 4 SDR 41		PN 6 SDR 26		PN 8 SDR 21		PN 10 SDR 17		PN 12.5 SDR 13.6		PN 16 SDR 11		PN 20 SDR 9		PN 25 SDR 7.4	
DN (mm)	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m
20											2.0	0.12	2.3	0.13	3.0	0.15
25									2.0	0.15	2.3	0.17	3.0	0.20	3.5	0.24
32							2.0	0.19	2.4	0.23	3.0	0.27	3.6	0.33	4.4	0.38
40					2.0	0.24	2.4	0.29	3.0	0.34	3.7	0.43	4.5	0.57	5.5	0.60
50			2.0	0.31	2.4	0.37	3.0	0.45	3.7	0.55	4.6	0.67	5.6	0.79	6.9	0.94
63			2.5	0.49	3.0	0.58	3.8	0.72	4.7	0.87	5.8	1.05	7.1	1.26	8.6	1.47
75			2.9	0.67	3.6	0.83	4.5	1.02	5.6	1.24	6.8	1.47	8.4	1.76	10.3	2.09
90			3.5	0.98	4.3	1.18	5.4	1.46	6.7	1.77	8.2	2.12	10.1	2.54	12.3	3.00
110			4.2	1.43	5.3	1.77	6.6	2.17	8.1	2.62	10.0	3.14	12.3	3.78	15.1	4.49
125			4.8	1.84	6.0	2.27	7.4	2.76	9.2	3.37	11.4	4.08	14.0	4.87	17.1	5.77
140			5.4	2.32	6.7	2.83	8.3	3.46	10.3	4.22	12.7	5.08	15.7	6.11	19.2	7.25
160			6.2	3.04	7.7	3.72	9.5	4.52	11.8	5.50	14.6	6.67	17.9	7.96	21.9	9.44
180			6.9	3.79	8.6	4.67	10.7	5.71	13.3	6.98	16.4	8.42	20.1	10.10	24.6	11.90
200			7.7	4.69	9.6	5.78	11.9	7.05	14.7	8.56	18.2	10.40	22.4	12.40	27.4	14.80
225			8.6	5.89	10.8	7.30	13.4	8.93	16.6	10.90	20.5	13.10	25.2	15.80	30.8	18.60
250			9.6	7.30	11.9	8.93	14.8	11.00	18.4	13.40	22.7	16.20	27.9	19.40	34.2	23.00
280			10.7	9.10	13.4	11.30	16.6	13.70	20.6	16.80	25.4	20.30	31.3	24.30	38.3	28.90
315	7.7	7.52	12.1	11.60	15.0	14.20	18.7	17.40	23.2	21.20	28.6	25.60	35.2	30.80	43.1	36.50
355	8.7	9.55	13.6	14.60	16.9	18.00	21.1	22.10	26.1	26.90	32.2	32.50	39.7	39.10	48.5	46.30
400	9.8	12.10	15.3	18.60	19.1	22.90	23.7	28.00	29.4	34.10	36.3	41.30	44.7	49.60	54.7	58.80
450	11.0	15.30	17.2	23.50	21.5	28.90	26.7	35.40	33.1	43.20	40.9	52.30	50.3	62.70	61.5	74.40
500	12.3	19.00	19.1	28.90	23.9	35.70	29.7	43.80	36.8	53.30	45.4	64.50	55.8	77.30		
560	13.7	23.60	21.4	36.20	26.7	44.70	33.2	54.80	41.2	66.90	50.8	80.80	62.5	97.00		
630	15.4	29.90	24.1	45.90	30.0	56.40	37.4	69.40	46.3	84.60	57.2	102.00	70.3	125.70		

PN - pressure / SDR - ratio of outer diameter and wall thickness

HDPE PE100-RC

	PN 4 SDR 41		PN 6 SDR 26		PN 8 SDR 21		PN 10 SDR 17		PN 12.5 SDR 13.6		PN 16 SDR 11		PN 20 SDR 9		PN 25 SDR 7.4	
DN (mm)	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m
20											2.0	0.12	2.3	0.13	3.0	0.15
25									2.0	0.15	2.3	0.17	3.0	0.20	3.5	0.24
32							2.0	0.19	2.4	0.23	3.0	0.27	3.6	0.33	4.4	0.38
40					2.0	0.24	2.4	0.29	3.0	0.34	3.7	0.43	4.5	0.57	5.5	0.60
50			2.0	0.31	2.4	0.37	3.0	0.45	3.7	0.55	4.6	0.67	5.6	0.79	6.9	0.94
63			2.5	0.49	3.0	0.58	3.8	0.72	4.7	0.87	5.8	1.05	7.1	1.26	8.6	1.47
75			2.9	0.67	3.6	0.83	4.5	1.02	5.6	1.24	6.8	1.47	8.4	1.76	10.3	2.09
90			3.5	0.98	4.3	1.18	5.4	1.46	6.7	1.77	8.2	2.12	10.1	2.54	12.3	3.00
110			4.2	1.43	5.3	1.77	6.6	2.17	8.1	2.62	10.0	3.14	12.3	3.78	15.1	4.49
125			4.8	1.84	6.0	2.27	7.4	2.76	9.2	3.37	11.4	4.08	14.0	4.87	17.1	5.77
140			5.4	2.32	6.7	2.83	8.3	3.46	10.3	4.22	12.7	5.08	15.7	6.11	19.2	7.25
160			6.2	3.04	7.7	3.72	9.5	4.52	11.8	5.50	14.6	6.67	17.9	7.96	21.9	9.44
180			6.9	3.79	8.6	4.67	10.7	5.71	13.3	6.98	16.4	8.42	20.1	10.10	24.6	11.90
200			7.7	4.69	9.6	5.78	11.9	7.05	14.7	8.56	18.2	10.40	22.4	12.40	27.4	14.80
225			8.6	5.89	10.8	7.30	13.4	8.93	16.6	10.90	20.5	13.10	25.2	15.80	30.8	18.60
250			9.6	7.30	11.9	8.93	14.8	11.00	18.4	13.40	22.7	16.20	27.9	19.40	34.2	23.00
280			10.7	9.10	13.4	11.30	16.6	13.70	20.6	16.80	25.4	20.30	31.3	24.30	38.3	28.90
315	7.7	7.52	12.1	11.60	15.0	14.20	18.7	17.40	23.2	21.20	28.6	25.60	35.2	30.80	43.1	36.50
355	8.7	9.55	13.6	14.60	16.9	18.00	21.1	22.10	26.1	26.90	32.2	32.50	39.7	39.10	48.5	46.30
400	9.8	12.10	15.3	18.60	19.1	22.90	23.7	28.00	29.4	34.10	36.3	41.30	44.7	49.60	54.7	58.80
450	11.0	15.30	17.2	23.50	21.5	28.90	26.7	35.40	33.1	43.20	40.9	52.30	50.3	62.70	61.5	74.40
500	12.3	19.00	19.1	28.90	23.9	35.70	29.7	43.80	36.8	53.30	45.4	64.50	55.8	77.30		
560	13.7	23.60	21.4	36.20	26.7	44.70	33.2	54.80	41.2	66.90	50.8	80.80	62.5	97.00		
630	15.4	29.90	24.1	45.90	30.0	56.40	37.4	69.40	46.3	84.60	57.2	102.00	70.3	125.70		

PN - pressure / SDR - ratio of outer diameter and wall thickness

Technical data

HDPE PE80

	PN 4 SDR 33		PN 6 SDR 21		PN 8 SDR 17		PN 10 SDR 13.6		PN 12.5 SDR 11		PN 16 SDR 9		PN 20 SDR 7.4	
DN (mm)	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m	e	kg/m
20									2.0	0.12	2.3	0.13	3.0	0.15
25							2.0	0.15	2.3	0.17	3.0	0.20	3.5	0.24
32					2.0	0.20	2.4	0.23	3.0	0.28	3.6	0.33	4.4	0.39
40			2.0	0.24	2.4	0.30	3.0	0.36	3.7	0.43	4.5	0.51	5.5	0.60
50			2.4	0.37	3.0	0.45	3.7	0.55	4.6	0.67	5.6	0.79	6.9	0.94
63			3.0	0.58	3.8	0.72	4.7	0.87	5.8	1.05	7.1	1.26	8.6	1.47
75			3.6	0.83	4.5	1.02	5.6	1.24	6.8	1.47	8.4	1.76	10.3	2.09
90			4.3	1.18	5.4	1.46	6.7	1.77	8.2	2.12	10.1	2.54	12.3	3.00
110			5.3	1.77	6.6	2.17	8.1	2.62	10.0	3.14	12.3	3.78	15.1	4.49
125			6.0	2.27	7.4	2.76	9.2	3.37	11.4	4.08	14.0	4.87	17.1	5.77
140			6.7	2.83	8.3	3.46	10.3	4.22	12.7	5.08	15.7	6.11	19.2	7.25
160			7.7	3.72	9.5	4.52	11.8	5.50	14.6	6.66	17.9	7.96	21.9	9.44
180			8.6	4.67	10.7	5.71	13.3	6.98	16.4	8.42	20.1	10.10	24.6	11.90
200			9.6	5.78	11.9	7.05	14.7	8.56	18.2	10.40	22.4	12.40	27.4	14.80
225			10.6	7.30	13.4	8.93	16.6	10.90	20.5	13.10	25.2	15.80	30.8	18.60
250			11.9	8.93	14.8	11.00	18.4	13.40	22.7	16.20	27.9	19.40	34.2	23.00
280			13.4	11.30	16.6	13.70	20.6	16.80	25.4	20.30	31.3	24.30	38.3	28.90
315	9.7	9.37	15.0	14.20	18.7	17.40	23.2	21.20	28.6	25.60	35.2	30.80	43.1	36.50
355	10.9	11.80	16.9	18.00	21.1	22.10	26.1	26.90	32.2	32.50	39.7	39.10	48.5	46.30
400	12.3	15.10	19.1	22.90	23.7	28.00	29.4	34.10	36.3	41.30	44.7	49.60	54.7	58.80
450	13.8	19.00	21.5	28.90	26.7	35.40	33.1	43.20	40.9	52.30	50.3	62.70	61.5	74.40
500	15.3	23.40	23.9	35.70	29.7	43.80	36.8	53.30	45.4	64.50	55.8	77.30		
560	17.2	29.40	26.7	44.70	33.2	54.80	41.2	66.90	50.8	80.80	62.5	97.00		
630	19.3	37.10	30.0	56.40	37.4	69.40	46.3	84.60	57.2	102.00	70.3	125.70		

PN - pressure / SDR - ratio of outer diameter and wall thickness

Technical data

PE100 i PE100-RC

	SDR 17 (S-8) PN 6			SDR 11 (S – 5) PN 10		
DN (mm)	e (mm)	t_y (mm)	kg/m	e (mm)	t_y (mm)	kg/m
20	2.3	+ 0.4	0.133	3.0	+ 0.4	0.163
25	2.3	+ 0.4	0.171	3.0	+ 0.4	0.211
32	2.3	+ 0.4	0.224	3.0	+ 0.4	0.279
40	2.4	+ 0.4	0.295	3.7	+ 0.5	0.430
50	3.0	+ 0.4	0.454	4.6	+ 0.6	0.666
63	3.8	+ 0.5	0.722	5.8	+ 0.7	1.05
75	4.5	+ 0.6	1.020	6.8	+ 0.8	1.47
90	5.4	+ 0.7	1.466	8.2	+ 1.0	2.12
110	6.6	+ 0.8	2.182	10.0	+ 1.1	3.14
125	7.4	+ 0.9	2.783	11.4	+ 1.3	4.08
140	8.3	+ 1.0	3.494	12.7	+ 1.4	5.08
160	9.5	+ 1.1	4.560	14.6	+ 1.6	6.67
180	10.7	+ 1.2	5.768	16.4	+ 1.8	8.42
200	11.9	+ 1.3	7.118	18.2	+ 2.0	10.40
225	13,4	+ 1.5	9.028	20.5	+ 2.2	13.10
250	14.8	+ 1.6	11.063	22.7	+ 2.4	16.20
280	16.6	+ 1.8	13.899	25.4	+ 2.7	20.30
315	18.7	+ 2.0	17.601	28.6	+ 3.0	25.60
355	21.1	+ 2.3	22.403	32.2	+ 3.4	32.60
400	23.7	+ 2.5	28.312	36.3	+ 3.8	41.40
450	26.7	+ 2.8	35.869	40.9	+ 4.2	52.83
500	29.7	+3.1	44.320	45.4	+4.7	65.15
560	33.2	+3.5	55.523	50.8	+5.2	81.78
630	37.4	+3.9	70.322	57.2	+5.8	103.38

PN - pressure / SDR - ratio of outer diameter and wall thickness

PE 80

	SDR 17 (S-8) PN 1			SDR 11 (S – 5) PN 4		
DN (mm)	e (mm)	t_y (mm)	kg/m	e (mm)	t_y (mm)	kg/m
20	2.3	+ 0.4	0.133	3.0	+ 0.4	0.163
25	2.3	+ 0.4	0.171	3.0	+ 0.4	0.211
32	2.3	+ 0.4	0.224	3.0	+ 0.4	0.279
40	2.4	+ 0.4	0.295	3.7	+ 0.5	0.430
50	3.0	+ 0.4	0.454	4.6	+ 0.6	0.666
63	3.8	+ 0.5	0.722	5.8	+ 0.7	1.050
75	4.5	+ 0.6	1.020	6.8	+ 0.8	1.470
90	5.4	+ 0.7	1.466	8.2	+ 1.0	2.120
110	6.6	+ 0.8	2.182	10.0	+ 1.1	3.140
125	7.4	+ 0.9	2.783	11.4	+ 1.3	4.080
140	8.3	+ 1.0	3.494	12.7	+ 1.4	5.080
160	9.5	+ 1.1	4.560	14.6	+ 1.6	6.670
180	10.7	+ 1.2	5.768	16.4	+ 1.8	8.420
200	11.9	+ 1.3	7.118	18.2	+ 2.0	10.400
225	13,4	+ 1.5	9.028	20.5	+ 2.2	13.100
250	14.8	+ 1.6	11.063	22.7	+ 2.4	16.200
280	16.6	+ 1.8	13.899	25.4	+ 2.7	20.300
315	18.7	+ 2.0	17.601	28.6	+ 3.0	25.600
355	21.1	+ 2.3	22.403	32.2	+ 3.4	32.600
400	23.7	+ 2.5	28.312	36.3	+ 3.8	41.400
450	26.7	+ 2.8	35.869	40.9	+ 4.2	52.830
500	29.7	+3.1	44.320	45.4	+4.7	65.150
560	33.2	+3.5	55.523	50.8	+5.2	81.780
630	37.4	+3.9	70.322	57.2	+5.8	103.380

S – pipe series / S = SDR - ½

PP/HDPE CORRUGATED SEWAGE PIPES

Technical data

DN/ID (mm)	200		250		300		400		500		600		800		1000	
OD (mm)	225		282		339		452		565		678		906		1120	
SN (kN/m²)	SN4	SN8	SN4	SN8	SN4	SN8	SN4	SN8	SN4	SN8	SN4	SN8	SN4	SN8	SN4	SN8
e_4 (mm) min wall thickness	1.5		1.8		2.0		2.5		3.0		3.5		4.5		5.0	

ID - inner diameter / OD - outer diameter / SN - tube stiffness / SN10 and SN12 are available on customer request

NOMINAL DIAMETER	OUTER DIAMETER	INTERNAL DIAMETER
DN (mm)	OD (mm)	ID (mm)
40	40	32
50	50	44
63	63	52
75	75	64
90	90	77
110	110	95
125	125	107
160	160	136
200	200	176

OD – outer diameter / ID – internal diameter

Technical data

PVC UK pipes SN2/S-25/SDR51					PVC UK pipes SN4/S-20/SDR41					PVC UK pipes SN8/S-16/SDR34				
DN (mm)	e (mm)	Dsmin (mm)	L1min (mm)	Weight (kg/m)	DN (mm)	e (mm)	Dsmin (mm)	L1min (mm)	Weight (kg/m)	DN (mm)	e (mm)	Dsmin (mm)	L1min (mm)	Weight (kg/m)
110	2.2	110.4	60	1.18	110	3.2	110.4	60	1.60	110	3.2	110.4	60	1.6
125	2.5	125.4	67	1.50	125	3.2	125.4	67	1.80	125	3.7	125.4	67	2.1
160	3.2	160.5	81	2.41	160	4.0	160.5	81	3.0	160	4.7	160.5	81	3.4
200	3.9	200.6	100	3.62	200	4.9	200.6	100	4.5	200	5.9	200.6	100	5.3
250	4.9	250.8	125	5.75	250	6.2	250.8	125	7.2	250	7.3	250.8	125	8,3
315	6.2	316.0	132	9.01	315	7.7	316.0	132	11.1	315	9.2	316.0	132	13.1
400	7.9	401.2	150	14.5	400	9.8	401.2	150	17.9	400	11.7	401.2	150	21.1
450	8.8	451.4	155	18.1	450	11.0	451.4	155	22.4	450	13.2	451.4	155	26.8
500	9.8	501.5	160	22.7	500	12.3	501.5	160	28.1	630	18.4	631.9	188	52.8

DN - nominal diameter / e - min pipe wall thickness / Dsmin - min inner diameter of the sleeve / L1 min - min length of the sleeve

Technical data

DN/e (mm) 32/1,6		DN/e (mm) 40/1,6		DN/e (mm) 50/1,8		DN/e (mm) 75/1,8		DN/e (mm) 110/2,2		DN/e (mm) 125/2,5		DN/e (mm) 160/3,2	
L (mm)	Weight (kg/pc)	L (mm)	Weight (kg/pc)	L (mm)	Weight (kg/pc)	L (mm)	Weight (kg/pc)	L (mm)	Weight (kg/pc)	L (mm)	Weight (kg/pc)	L (mm)	Weight (kg/pc)
250	0.091	250	0.114	250	0.122	250	0.196	250	0.365	250	0.495	250	0.843
500	0.164	500	0.206	500	0.228	500	0.356	500	0.655	500	0.865	500	1.445
1000	0.310	1000	0.390	1000	0.439	1000	0.677	1000	1.234	1000	1.605	1000	2.650
2000	0.602	2000	0.758	2000	0.861	2000	1.319	2000	2.393	2000	3.084	2000	5.059
3000	0.894	3000	1.126	3000	1.283	3000	1.961	3000	3.552	3000	4.503	3000	7.468
4000	1.186	4000	1.494	4000	1.705	4000	2.603	4000	4.711	4000	6.042	4000	9.877
5000	1.478	5000	1.862	5000	2.127	5000	3.245	5000	5.870	5000	7.521	5000	12.286

DN – nominal diameter (outer diameter) / e – wall thickness

	PN8 SDR17		
DN/OD (mm)	e (mm)	t_y (mm)	Weight (kg/m)
20	2.0	+ 0.3	0.120
25	2.0	+ 0,3	0,150
32	2.0	+ 0.4	0.198
40	2.4	+ 0.5	0.300
50	3.0	+ 0.5	0.450
90	5.1	+ 0.8	1.460
110	6.3	+ 0.9	2.080

DN – nominal diameter / e - min wall thickness / available pipes and with other parameters at the customer's request

PVC PIPES FOR PROTECTION OF CABLES

Technical data

DN/OD (mm)	ID (mm)	e (mm)	∆e (mm)	Weight (kg/m)
50	46.4	1.8	+ 0.4	0.38
75	70.4	1.8	+ 0.5	0.81
110	103.6	3.2	+ 0.5	1.60
125	118.6	3.2	+0,6	1.95
160	152.0	4.0	+0.6	2.72

DN – nominal diameter / e - min wall thickness / available pipes and with other parameters at the customer's request

PE CORRUGATED PIPIES FOR PROTECTION OF CABLES

Technical data

NOMINAL DIAMETER	OUTER DIAMETER	INTERNAL DIAMETER
DN (mm)	OD (mm)	ID (mm)
40	40	32
50	50	44
63	63	52
75	45	64
90	90	77
110	110	95
125	125	107
160	160	136
200	200	176

OD – outer diameter / ID – internal diameter

STAINLESS STEEL REPAIR CLAMPS

Technical data

Serial number	PVC / PE PIPES	CAST IRON PIPES	ASBESTOS - CEMENT PIPES		Δ yE
	PN 6-10 bar	PN 10 bar	PN 10 bar	PN 16 bar	
N 1	∅20	∅20			100
N 2	∅25	∅25			
N 3	∅32	∅32			
N 4	∅40	∅40			
M 1	∅50				200
M 2	∅63	∅50	∅50	∅50	
M 3	∅75	∅60	∅60	∅60	
M 4	∅690				
M 5		∅80	∅80	∅80	
M 6	∅110				
M 7		∅100	∅100		
M 8	∅125			∅100	
M 9	∅140				
M 10		∅125	∅125		
M 11				∅125	
M 12	∅160				
M 13		∅150			
M 14			∅150		
M 15	∅180				
M 16				∅150	

Serial number	PVC / PE PIPES	CAST IRON PIPES	ASBESTOS - CEMENT PIPES		Δ yE
	PN 6-10 bar	PN 10 bar	PN 10 bara	PN 16 bar	
L 1	∅200				300
L 2	∅225	∅200			
L 3			∅200		
L 4	∅250			∅200	
L 5	∅280	∅250			
L 6			∅250		
L 7				∅250	
L 8	∅315				
L 9		∅300			
L 10			∅300		
L 11	∅355			∅300	
L 12		∅350			
L 13	∅400		∅350		
L 14				∅350	
L 15		∅400			
L 16			∅400		
L 17				∅400	
L 18	∅500				

PN – pressure

Laboratory

Akvapan inženjering d.o.o. operates an independent laboratory, accredited according to the **SRPS ISO/IEC 17025: 2017 standard by ATS Serbia, under accreditation number 01-433** for physical-mechanical and chemical tests of plastics and products made of plastics (pipes and other products for the needs of water supply, gas pipelines, household and street sewage, telecommunications and energy installations, as well as other plastic products). The laboratory has 34 methods in its scope of accreditation. In addition to plastics and plastics, the scope of accreditation also includes methods for testing drain grates and manhole covers for inspection shafts, for motorized and pedestrian traffic zones (made of cast iron, steel or aluminum alloys, reinforced concrete, composite materials and polypropylene (PP), polypropylene with mineral modifiers (PP-MD), polyethylene (PE) or polyvinyl chloride (PVC-U)).

The laboratory bases its business policy on:

- the application of standardized testing methods,
- the establishment and development of inter-laboratory testing systems,
- constant improvement of quality in all phases of work,
- fostering superior ethics in relations with service users.

The laboratory has the most modern equipment, completely reliable, controlled in accordance with all requirements in the field of metrology.

Quality system of its products Akvapan inženjering d.o.o. is achieved in the following procedures:

- Control of incoming materials,
- Control of the production process,
- Final control and testing.

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