

Main terms and definitions

Dn (mm)	Nominal external diameter. Size designation corresponding to the minimum average external diameter.
Dsocket (mm)	Nominal external diameter of the socket. Size designation corresponding to the minimum average external diameter of the socket.
E (mm)	Nominal wall thickness. Size designation corresponding to the minimum permissible pipe wall thickness.
MOP (MPa)	Maximum operating pressure in the pipeline. The pressure of water in the pipeline, allowed during continuous operation.
C	Safety factor. The coefficient that is chosen when designing water supply systems. C = 2.0 for PVC-U 125 pipes.
SDR (Standard Dimensional Ratio)	Standard dimension ratio. The ratio of the nominal external diameter DN of the pipe to the nominal wall thickness E.

Basic documents regulating the design and installation of PVC-U pipelines for water supply and sewerage networks

- 1. Set of rules (SP) 31.13330.2012.** «Construction Directives and Rules (SNiP) 2.04.02-84*. Water Supply. Outdoor Networks and Facilities».
- 2. Set of rules (SP) 30.13330.2012.** «Construction Directives and Rules (SNiP) 2.04.01-85*. Indoor Water Supply and Sewerage of Buildings».
- 3. Set of rules (SP) 73.13330.2012.** «Construction Directives and Rules (SNiP) 3.05.01-85. Sanitary & Technical Systems of Buildings».
- 4. Construction Directives and Rules (SNiP) 3.05.04-85*.** «Outdoor Water Supply and Sewerage Networks and Facilities».
- 5. Set of rules (SP) 32.13330.2012.** «Construction Directives and Rules (SNiP) 2.04.03-85. Sewerage. Outdoor Networks and Facilities».
- 6. Set of rules (SP) 45.13330.2012.** «Construction Directives and Rules (SNiP) 3.02.01-87. Earthen Structures, Bases and Foundations».
- 7. Set of rules for the design and construction (SP) 40-102-2000.** «Design and Installation of Polymer Pipelines for Water Supply and Sewerage Systems. General Requirements».

- 8. Unified Norms and Prices for Construction, Installation and Repair & Construction works (ENiR).** Collection E2 «Earthworks». Edition No: 1 «Mechanized and Manual Earthworks».
- 9. Unified Norms and Prices for Construction, Installation and Repair & Construction works (ENiR).** Collection E9 «Construction of Heat Supply, Water Supply, Gas Supply and Sewerage Systems». Edition No: 2 «Outdoor Networks and Facilities».
- 10. «Design, Installation, Operation of Sewerage Systems made of Plastic Pipes for Buildings and Microdistricts».** By Dobromyslov A.Ya., Sankova N.V. Reference materials. Moscow 2004.
- 11. VSN 20-95** «Industry-specific Building Codes for the Design and Installation of Underground Sewerage and Water Supply Networks made of PVC Pipes». Moscow 1996.
- 12. Manual for the Acceptance and Commissioning of Utility Infrastructure Facilities in Moscow.** By PKTIpromstroy JSC. Moscow 2002.
- 13. Guidelines for the Design and Installation of Outdoor Water Supply and Pressure Sewerage Networks made of PVC Socket Pipes.** By CHEMKOR JSC. Dzerzhinsk 2018.

CHEMKOR JSC

Address: Bld. 3, No: 4Zh, Vostochnoe Road, Urban district city of Dzerzhinsk, Nizhny Novgorod Region, 606000, Russian Federation
Web site: www.chemkor.ru E-mail: info@chemkor.ru
Tel. / Fax: +7(495)335-10-82

Catalog



PVC-U Pipes & Fittings

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ABOUT COMPANY

Joint-stock company CHEMKOR is the largest Russian manufacturer of PVC-U pipes and fittings for outdoor pressure water supply networks, for outdoor and indoor sewerage systems, threaded casing pipes for water-supply and production wells installation, as well as irrigation pressure hoses.

Due to the development strategy chosen by CHEMKOR JSC, our current experience and implementation of advanced production technologies, our products are modern highly efficient solutions ensuring the implementation of a set of tasks for the construction of new networks, and reconstruction and modernization of the existing ones.

Today, among the priorities of CHEMKOR JSC are prompt decision-making, quality control, and an individual approach to customer service.

In 2019, CHEMKOR JSC received Certificate of Conformity of Quality Management System to the requirements of ISO 9001-2015.

HISTORY OF CHEMKOR JSC

1913

One of the first chemical plants in the USSR, Korund, was founded, where such products as ammonia, synthetic domestic corundums, the first cyanide salts in Russia, and the first domestic polyisocyanates were produced for the first time.

1981

The construction project design of a PVC-U pipes manufacturing facility was completed by the Moscow Institute Giproplast. In December 1981, the first extrusion lines for pipes and injection molding machines for fittings were installed. At that time, the facility produced no more than 4 thousand tons of product per year.

2007/13

On the basis of the production facilities of Korund LLC, CHEMKOR plant was established. In the course of the project implementation, extrusion lines for PVC-U pipes were put into commercial operation using the state-of-the-art Krauss Maffei equipment and technologies. The production of PVC-U fittings was modernized. All that made it possible to reach the capacity of about 40 thousand tons of products per year.

2015/20

The first production of PVC-U irrigation pressure hoses (LayFlat) was launched on the territory of the Russian Federation. The range of manufactured fittings was expanded. The production process for PVC-U pipes for low-noise/noise-free indoor sewerage SHUMEKS was embraced. A full cycle of recycling of salvage was established (waste-free production).

WHY CHOOSE US? (ADVANTAGES)

Our plant is equipped with the state-of-the-art high-tech equipment of the German concern Krauss Maffei. At the production site we use a multi-stage quality control system for both raw materials and finished products, by the efforts of our laboratory, accredited by the Federal Agency for Technical Regulation and Metrology of Russian Federation.

Choosing our PVC-U pipelines, you:



Get modern high quality pipes with a guaranteed long service life of 50 years and more.



Reduce installation time and cost.



Reduce investment costs.



Reduce the payback period of your facility.



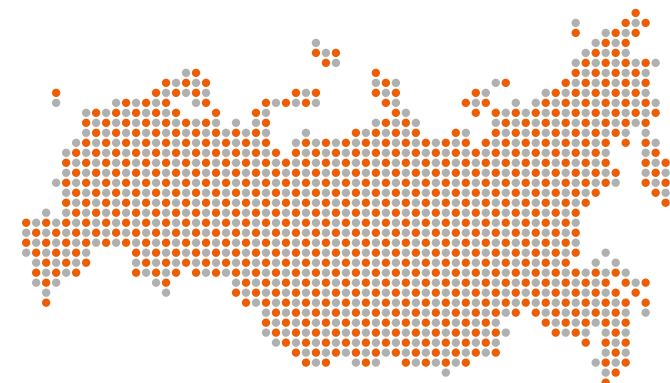
Save the environment.



Supply clean water.

Our experts will always give you qualified recommendations on the applying of PVC-U pipes and fittings in pipelines, and will help you to resolve issues with a complete set of various facilities.

GEOGRAPHY OF CHEMKOR JSC



Regions of presence

The products of CHEMKOR JSC are sold in all regions of Russia, as well as in a number of foreign countries. The company's dealer network is represented directly in 51 regions of Russia:

Central Federal District

Moscow city and Moscow region
Belgorod region
Bryansk region
Ivanovo region
Kaluga region
Kostroma region
Kursk region
Lipetsk region
Orel region
Ryazan region
Smolensk region
Tambov region
Tver region
Tula region
Voronezh region
Yaroslavl region

Volga Federal District

Chuvash Republic
Kirov region
Nizhny Novgorod region
Penza region
Perm Territory
Republic of Bashkortostan
Republic of Mari El
Republic of Mordovia
Republic of Tatarstan
Samara region
Saratov region
Udmurt Republic
Ulyanovsk region

Southern Federal District

Krasnodar territory
Republic of Crimea
Republic of Kalmykia
Rostov region
Volgograd region

Northwestern Federal District

St. Petersburg city and Leningrad Region
Arkhangelsk region
Kaliningrad region
Komi Republic
Novgorod region
Vologda region

North Caucasian Federal District

Republic of Dagestan
Stavropol territory

Ural Federal District

Chelyabinsk region
Kurgan region
Sverdlovsk region

Siberian Federal District

Altai territory
Krasnoyarsk territory
Novosibirsk region

Far Eastern Federal District

Amur region
Primorsky territory
Sakhalin region

Foreign countries

Armenia
Azerbaijan
Belorussia
Georgia
Germany
Kazakhstan
Kyrgyzstan
Mongolia
Tajikistan
Uzbekistan

About 50%

of PVC-U pipelines in Russia are produced by CHEMKOR JSC

Our products comply with international standards, have certificates of conformity and hygiene certificates from Russia and the CIS. Due to the high quality of products and such an important factor influencing the level of demand as the optimal ratio of price and quality, the company has significantly expanded its sales markets.

Market segmentation

During its activity, CHEMKOR JSC has developed a constant circle of partners, the number of which is constantly growing. Among them there are:



Trade companies



Construction and erection companies



Agricultural complexes



Housing & Utilities sector enterprises



Objects of infrastructure



Residential complexes



Water utility service companies

CHEMKOR JSC actively participates in the Federal Program for the Modernization of Housing & Utilities Sector. Our company supplies pipeline systems to water utility and water treatment service companies in many regions of the Russian Federation.

HOW TO BUY?

Specify which of the dealers is represented in your region with the regional manager of CHEMKOR JSC. The managers' contacts can be found on the website www.chemkor.ru or by phone (495) 335-10-82.

UNIQUENESS OF PVC-U SYSTEMS

Pipes made of unplasticized polyvinyl chloride (hereinafter referred to as PVC-U) have been successfully used for laying plumbing & sewerage pipelines for about 80 years. This is due to the successful combination of the unique features of PVC-U material and socket joint technology in pipeline systems. The high demand among Russian and foreign consumers for our products is explained by the advantages of PVC-U pipeline systems.



PHYSICAL AND MECHANICAL FEATURES OF PVC-U PIPES

Feature	Value
Density g/cm ³	1.4
Tensile stress, MPa	55
Elongation, %:	
tensile	5
at break	25
Ultimate bending stress, MPa	95
Elastic modulus, MPa	3000
Impact strength, kJ/m ²	4
Heat resistance, °C	83
Coefficient of thermal linear expansion, mm/(m · °C)	0.08
Thermal conductivity, W/(m · °C)	0.15

CHEMICAL RESISTANCE

The high chemical resistance of PVC-U, especially to such aggressive environments as acids, alkalis, mercury, as well as to many organic compounds, including oil refined products, proteins, fats & carbohydrates, allows using the pipelines not only in utility systems, but also in technological systems for industrial applications. Chemical resistance to aggressive soil components significantly increases the service life of PVC-U pipeline systems compared to other polymer and metal systems.

FIRE RESISTANCE

PVC-U has the highest among thermoplastic materials ignition temperature of + 388° C. In the combustion zone PVC-U does not melt, does not form burning droplets, has low toxicity, has low smoke emission (D1 and T2 according to the standards of the Russian Federation). It refers to the category of self-extinguishing materials. The oxygen index of PVC-U is 40, and it means that the combustion process can take place at 40% oxygen content in the air of the combustion zone. Since the atmospheric air contains only 21% oxygen, PVC-U cannot burn independently, and when the fire source is eliminated it spontaneously goes out. For comparison, the oxygen index of polypropylene is 17.

UV-RESISTANCE

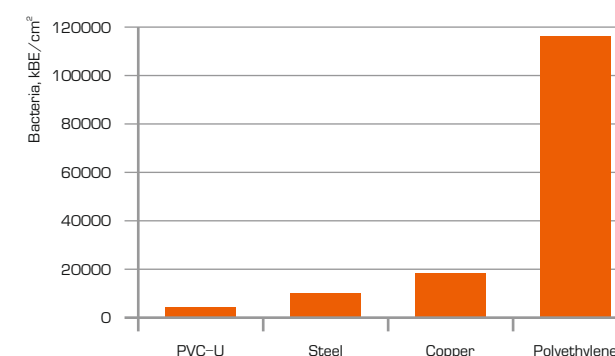
As known, plastic pipes are sensitive to sunlight. Under the influence of ultraviolet radiation, the material of PVC-U pipes only changes color as a result of the destruction of the dye pigments (burnout), without the destruction of the polymer itself (i.e. with maintaining the integrity of the material and all its physical and mechanical features). Under the influence of strong heat radiation, reverse deformation of the pipe surface is possible, which does not affect the geometry, and does not lead to micro-destruction in the form of cracks and crumbling of the material.

SPECIAL FEATURES

PVC-U pipes have the highest MRS (Minimum Required Strength of at least 50 years) compared to pipes made of other materials. With equal operating pressure and outer diameter, the wall thickness of PVC-U pipes is less, therefore, the inner section is larger. That is why the specific loss of throughput and pressure is less than in other polymer pipes. Due to the high density of the material, PVC-U pipes are characterized by increased rigidity. In particular, unlike PE-pipes, PVC-U casing pipes with threaded connections are used when drilling wells as an independent system without an additional outer string of metal pipes.

HYGIENIC FEATURES

According to the Institute of Hygiene and Public Health at the University of Bonn (Germany), PVC-U pipes have the lowest bacterial growth compared to pipes made from other materials.



Growth of bacteria in pipes for 120 days

The chemical structure of the polymer ensures minimal diffusion both from the material and into the material of the pipes, i.e. PVC-U has a low permeability to liquids, vapors and gases. Thus, PVC-U does not affect the organoleptic features of water, and meets all sanitary and epidemiological requirements.

RELIABILITY AND TIGHTNESS

Socket connections of PVC-U pipelines are sealed with rubber O-rings. The technical requirements for the O-ring seals are established by the European standard EN681-1. The material of the O-ring seals has stable temperature resistance: for pressure pipes [EPDM] in the range from -50 to + 150°C; for sewer pipes [SBD] in the range from -50 to + 100°C, and provides long-term strength of the connection to maintain the tightness of the joint throughout the entire life of the pipes. The coefficient of linear expansion also affects the reliability of the pipeline system. Compared to other polymers, PVC-U systems have the lowest coefficient. Therefore, with changes in the temperature of the environment, or the fluid being transported, the linear elongation/reduction of the pipeline is minimal. To compensate for linear elongation/reduction, only a thermal gap is provided, which is formed during the connection of the socket with the smooth end of the pipe.

EFFICIENCY

The low specific weight of pipes, in comparison with steel and PE-pipes, provides savings during transportation, and excludes the use of powerful lifting equipment. Installation of systems made of PVC-U (socket connection with O-ring seal) is very simple, its cost is lower than the installation of systems made of other polymers by about 30%, as no expensive, energy-intensive and heavy welding equipment operated by highly qualified personnel is required. Also, PVC-U pipeline systems are distinguished by easy maintenance and repair. In case of mechanical failure of the system elements, the damaged pipe section is quickly and easily replaced with a new one, or restored with the help of special repair couplings.

PURPOSE OF SYSTEMS AND APPLICATION AREAS

The water supply and water discharge system is one of the main and significant parts of the infrastructure of a modern society, on the reliability of which the living conditions of people and the state of the environment depend.

Due to its unique features and modern approach to solving technical problems that ensure quality, reliability and long-term functioning, PVC-U pipelines, depending on the purpose, have found wide application in public housing, industrial and agricultural construction.

For these purposes, CHEMKOR JSC offers the following solutions:

- Pressure pipeline systems
- Outdoor sewerage systems
- Indoor sewerage systems
- Pressure hoses
- Casing pipes for wells

PRESSURE PIPELINE SYSTEMS

Designed for water supply, including drinking-quality water, as well as for other liquid and gaseous substances to which the material of the systems is chemically resistant.

Regulatory documentation:

STATE STANDARD (GOST R) 51613-2000
STATE STANDARD (GOST) 32415-2013
EN 1452-3

Characteristics:

- **Diameters:** DN 90 – 500 mm.
- **Operating pressure:** 0.6 – 1.6 MPa (6 – 16 bar).
- **Constant temperature of the transported liquid/gases:** from 0 to +60°C.
- **Maximum short-term temperature (during 1 min.):** +95°C.
- **Range of aggressive environment:** from pH-2 to pH-12.
- **Throughput:** high.
- **Color:** gray, tint is not regulated.
- **Type of connection:** socket joint with O-ring seal.
- **O-ring seal type:** according to DIN EN 681-1.
Made of vulcanized rubber (EPDM).
- **Service life:** 50 years and more.

Areas of application:

WATER SUPPLY

Water supply to the population, production facilities, agriculture and firefighting needs.

■ Drinking-quality water supply

Providing the population with high-quality drinking water is a task that requires close attention. Due to the hygienic features of the pipe material (low biological activity, lack of adhesion), as well as low permeability to liquids, vapors and gases, the use of PVC-U pipelines to create underground networks transporting water is a guarantee that consumers will receive water that meets all sanitary and epidemiological requirements.

It should be noted that one of the main parameters for O-ring seals used in CHEMKOR pressure systems is the criterion of "impermeability", meaning that the components of the chemical composition of the seal do not come into contact, and also do not affect the composition and taste of the water. O-ring seals meet high safety requirements and all hygienic standards.



Example of socket connection of pressure pipelines using rubber (elastomer) O-ring seals.



Example of a residential inter-quarter pipeline and a plumbing system connection. In this case, the valve serves as Water Feed/Water Supply Cut control.

■ Water supply for industrial and agricultural needs

Water supply to industrial and agricultural enterprises to ensure technological processes, irrigation of land, as well as the drinking needs of animal husbandry. The range of pressure systems (Ø90 – 500 mm.) allows creating sophisticated and high-tech underground pipeline networks (trunk and distribution ones) serving both small and large industrial and agricultural areas.

High chemical resistance and low permeability of PVC-U material guarantees long-term operation of pipelines laid in aggressive soils (industrial emissions, applied fertilizers, etc.).

PROCESS (INDUSTRIAL) PIPELINES

Due to anticorrosion features, high chemical resistance to many aggressive environments (alkalis, acids, mercury, gasoline, etc.), as well as exceptional hygienic features, CHEMKOR pressure systems are widely used in industry, including food and chemical industries, where they are used as separate elements for the arrangement of systems transporting food or technical liquids/gases.

WATER DISCHARGE (DRAIN) SYSTEM

Drainage of rain and melt-water from the roof (housetop) of buildings.

The systems are installed vertically inside buildings, and provide collection of water for its further transportation to distribution systems (rainwater drainage systems).

When choosing pipes (by diameter and operating pressure) for the arrangement of the downpipe, it is necessary to take into account the pressure of the water column, which depends on the height of the building, the collection area, the amount of precipitation and occurring blockages. CHEMKOR JSC offers pressure systems with different operating pressures from 0.63 MPa to 1.6 MPa (including intermediate pressure 0.8, 1.0, 1.25 MPa).



Revision tee of downpipes are installed in a vertical position in a place convenient for maintenance. In pressure systems tees with a counter flange are used as a revision tee.



PRESSURE SEWERAGE

In the absence of the possibility to drain of sewage effluents according to the standard scheme – "by gravity flow" (difficult terrain, hard soil and other reasons that may prevent the creation of the necessary slope), collection and transportation of waste water is carried out under pressure. It should be noted that this method, despite certain costs (equipment of pumping stations), has a number of advantages, namely:

- + no observance of the slope is required;
- + no need to make deep trenches;
- + there is no danger of silting deposits and blockages;
- + the throughput of the pipeline increases.

OUTDOOR SEWERAGE SYSTEMS

Designed for gravity-flow pipelines of utility sewerage, drainage, water disposal, storm sewer and industrial wastewater disposal, to which the pipeline material is chemically resistant.

Regulatory documentation:

STATE STANDARD (GOST R) 54475-2011
TECH. SPECS (TU) 2248-057-72311668-2007
TECH. SPECS (TU) 2248-002-84300500-2012
EN 1401-1:2009

Characteristics:

- **Diameters:** DN 110 – 500 mm.
- **Manufacturing technology:** multi-layer (three-layer) pipe, outer and external layers – solid wall, inner layer – foamed one.
- **Ring stiffness:** SN2 (2 kN/m²), SN4, SN8.
- **Constant waste water temperature:** from 0 + 60 °C.
- **Maximum short-term temperature (during 1 min.):** +95 °C.
- **Range of aggressive environment:** from pH-2 to pH-12.
- **Color:** brownish orange, tint is not regulated.
- **Type of connection:** socket joint with O-ring seal.
- **O-ring seal type:** according to EN 1401, DIN 19534, EN 1451-1. Made of vulcanized rubber 60 IRHD.
- **Service life:** 50 years and more.

Areas of application:

UTILITY SEWERAGE AND INDUSTRIAL SEWERAGE SYSTEM

It is intended for collection and removal of solid and liquid products of human activity, as well as for the removal of industrial wastewater. It refers to the type of underground pipelines. To determine the laying depth of the pipeline, it is necessary to strictly comply with the requirements of regulatory documentation that determine the depth of soil freezing depending on the climatic conditions of the region. The laying depth must correspond to the stiffness class of the system. CHEMKOR JSC offers pipelines for outdoor sewerage in three stiffness classes, allowing installation at a depth of 1.5 to 8 m. (inclusive).



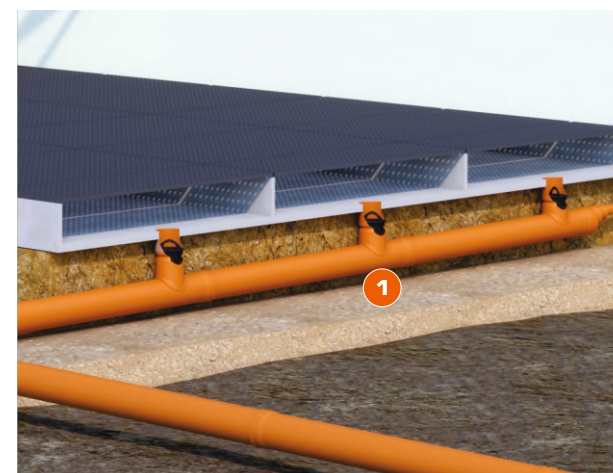
Example of a socket joint for gravity-flow pipelines for outdoor sewerage systems using rubber O-ring seals.



PVC-U pipelines are the most resistant to aggressive environment, as well as to oxidation processes and the vital activity of bacteria. In addition, smooth rigid inner walls of pipes exclude encrustation processes that affect the throughput of systems and biological processes that lead to the gradual destruction of the walls of the pipeline.

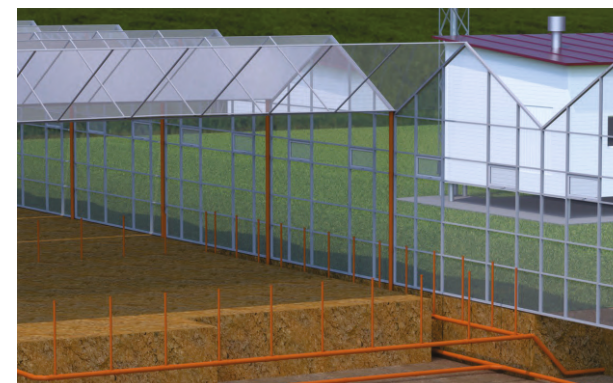
When using pipelines for the disposal of untreated industrial wastewater, it is necessary to focus on the tables of the chemical resistance of the PVC-U material to specific components and their solutions, depending on the temperature of the transported wastewater. Due to the high chemical resistance, PVC-U outdoor systems are actively used in such industries as agriculture, animal and poultry husbandry.

Only PVC-U pipelines are used in the creation of self-alloy manure disposal systems that maintain the microclimate and all sanitary and hygienic standards in animal-breeding complexes.



Example of the construction of a drain channel and a drainage hole with a sealing plug.

Also, CHEMKOR systems are used in greenhouse farms for the arrangement of wastewater disposal, greenhouse ventilation systems, plant nutrition systems and systems for supplying and distributing CO₂ to the plant growth zone.



STORM SEWER SYSTEM

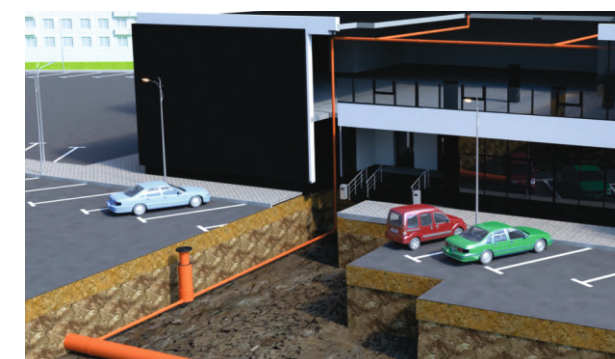
PVC-U systems are an ideal combination of price and quality for organizing a quick drainage of excess water caused by precipitation and melted snow. They are underground pipeline networks that collect melt and rainwater from storm water inlets, drainage trays, etc., with their further transportation to receiving points.



Example of a storm water inlet in the form of a control/revision well. The plastic cap prevents foreign objects from entering the storm sewer system.



Outdoor PVC-U systems can also be used in the arrangement of vertical indoor drainage systems for collecting rain and melt water from the roofs of buildings and constructions, if the height of these does not exceed 4 floors, i.e. in the case of a water column pressure of not more than 3 bar.



INDOOR SEWERAGE SYSTEMS

Designed for utility sewerage systems of buildings and internal drains. CHEMKOR JSC offers low-noise (noise-free) indoor sewerage systems SHUMEKS.

Regulatory documentation:

STATE STANDARD (GOST) 32412-2013
TECH. SPECS (TU) 2248-002-84300500-2012
EN 1401-1:2009

Characteristics:

- **Diameters:** DN 50 – 110 mm.
- **Sound absorption level:** 5 – 11 dB at a flow rate of 0.5 – 2.0 l/sec (respectively)
- **Constant temperature of transported liquids/gases:** from 0 to +60 °C
- **Maximum short-term temperature (during 1 min.):** +95 °C
- **Range of aggressive environment:** from pH-2 to pH-12.
- **Color:** white
- **Type of connection:** socket joint with O-ring seal.
- **O-ring seal type:** according to EN 1401, DIN 19534, EN 1451-1.
Made of vulcanized rubber 60 IRHD.e
- **Service life:** 50 years and more.

Areas of application:

INDOOR SEWERAGE SYSTEM OF BUILDINGS

The system is designed to water and household waste disposal from residential, public and industrial buildings. SHUMEKS pipes & fittings are used in indoor sewerage systems for:

- Installation of risers and branch pipelines from devices in sanitary cabins and blocks;
- Arrangement of individual and group sanitary fixtures (for field installation) and in WVC facilities;
- Construction of exhaust pipelines laid in the attic-floor rooms;
- Installation of pipelines in the underground part of buildings (in technical basements).



INTERNAL DRAINAGE SYSTEM OF BUILDINGS

Arrangement of internal drainage systems, including the installation of gutters, the laying of drainage pipelines from the drain funnels in the attic-floor rooms, as well as the installation of hydraulic locks and branch pipelines from the risers in the basements of buildings up to 4 floors high.

SHUMEKS means:

- + Maximum fire safety (the material is self-extinguishing, non-combustible);
- + High chemical resistance to aggressive environment, including surfactants, which are the main component of detergents and cleaning agents;
- + Absence of overgrowth of the inner walls of the pipeline, due to resistance to oxidation processes and vital activity of microorganisms and bacteria;
- + Maximum permeability and absence of blockages in the pipeline;
- + Maximum comfort of living due to the level of noise absorption in the system.

PRESSURE HOSES LayFlat (LF)

Designed for transportation of water and other liquids, to which the material of hoses (flexible hoses) is chemically resistant. They are made of plasticized polyvinyl chloride (PVC) and reinforced with synthetic threads.

Regulatory documentation:

TECH. SPECS (TU) 2248-003-84300500-2017

Characteristics:

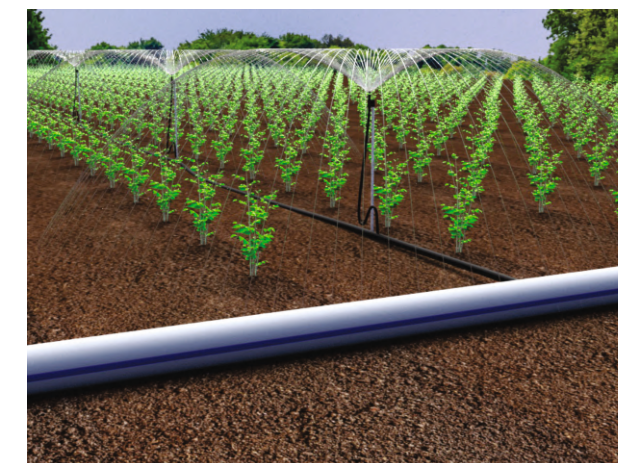
- **Diameters:** DN 78 – 155 mm. (3" – 6")
- **Operating pressure:** 0.4 – 0.6 MPa (4 – 6 bar).
- **Constant temperature of the transported liquid/gases:** from 0 to +75 °C.
- **Maximum short-term temperature (during 1 min.):** +95 °C.
- **Range of aggressive environment:** from pH-2 to pH-12.
- **Color:** light gray with blue guide strip.
- **Type of connection:** coupling joint.
- **Service life:** 1 year and more.
- **Type of package:** coils of 50 m. and 100 m.

Areas of application

IRRIGATION SYSTEMS

CHEMKOR LF pressure hose is one of the constituent elements in the arrangement of open and combined irrigation systems that provide drip irrigation, as well as in the construction of various types of sprinkler systems.

For arrangement of open (portable) drip irrigation using flexible hoses the water intake & transportation are carried out directly from the nearest water intake (natural/artificial) facility by means of a pumping station. Due to their high chemical resistance to organic and inorganic compounds, CHEMKOR LF hoses are also used for the supply of liquid fertilizers.



When used together with pressure systems that form a network of underground linear pipelines, LayFlat hoses make it possible to form fixed irrigation systems for large agricultural areas.

Resistance to ultraviolet radiation, high temperatures, mechanical damage and aggressive environment allows using LayFlat hoses (in compliance with the operation and storage rules) during several agricultural seasons.

CONSTRUCTION

CHEMKOR LF pressure hoses are an excellent solution for the arrangement of temporary supply & drainage systems (sewerage) of water and other technical fluids at construction sites.

They are used to satisfy industrial, utility and motor transport needs, as well as for the needs of fire extinguishing, as supply & drainage networks, forming mobile superficial, easily mounted/dismantled systems in spring/autumn at above-zero air temperatures.

CASING PIPES FOR WELLS

Designed for the arrangement of water intake wells, which are used for water supply, irrigation of pastures, dewatering, extraction of mineral & thermal waters and brines, for hydrogeological & geotechnical research, as well as for drilling and equipping technological wells for underground leaching of mineral resources.

Characteristics:

- **Diameters:** DN 90 – 400 mm.
- **Constant temperature of the transported liquid/gases:** from 0 to +60 °C.
- **Maximum short-term temperature (during 1 min.):** +95 °C.
- **Range of aggressive environment:** from pH-2 to pH-12.
- **Color:** blue.
- **Connection type:** socket joint with trapezoidal thread.
- **Depth of laying (drilling):** up to 300 m. (inclusive).
- **Service life:** 50 years and more.

Areas of application:

DRILLING OF WATER INTAKE & TECHNOLOGICAL WELLS

Due to their physical, mechanical and hygienic features, as well as biological and chemical resistance, PVC-U casing pipes are an ideal solution for arranging water intake & technological wells.

CHEMKOR casing pipes mean:

- + High quality of drinking water;
- + Complete absence of groundwater pollution;
- + High speed of drilling;
- + Increased throughput of pipeline;
- + High performance.

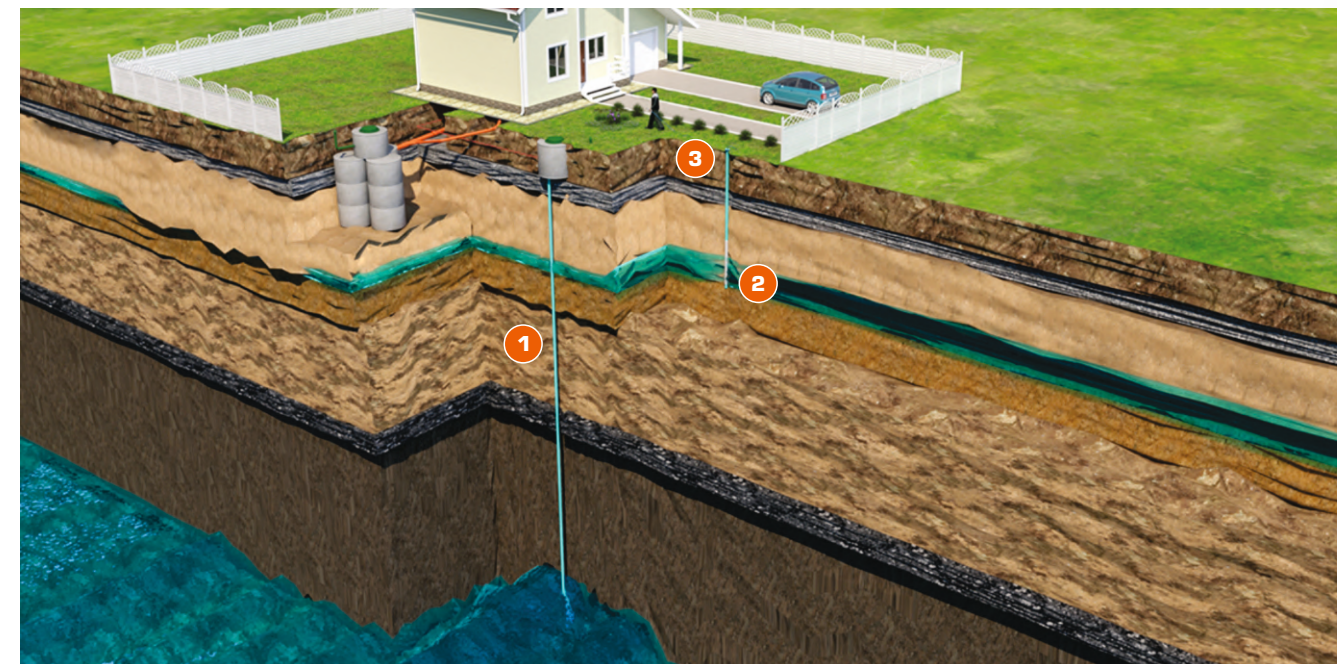
Regulatory documentation:

TECH. SPECS (TU) 2248-001-84300500-2009
STATE STANDARD (GOST) 16338-85

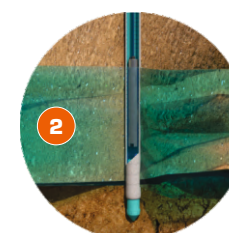
Unlike other polymers, such as high-density polyethylene (HDPE), PVC-U casing pipes can be used as stand-alone systems i.e. without additional borehole fastening with metal pipes.

The connection of pipes by means of a trapezoidal thread ensures the reliability of the well and increases its service life.

High chemical resistance to aggressive environment, as well as the strength and rigidity of CHEMKOR casing pipes make it possible to widely use them for arrangement of technological wells in complex soils during underground leaching of mineral resources.



Example of a socket threaded joint of casing pipes to each other. For wells up to 100 meters deep, pipes with a standard wall thickness are used, for wells up to 300 meters deep, as a rule, casing pipes with an increased wall thickness are used.



Example of a filter designed to remove sand and other impurities from water. Filters are installed as a part of the casing column at the level of productive strata.



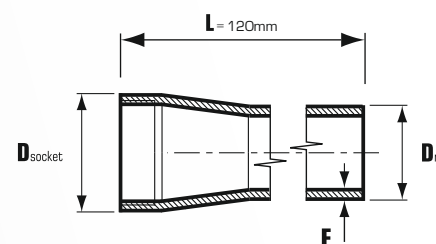
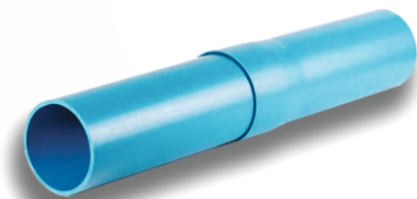
Example of a well head designed to seal a casing column. Main functions: protects the well column from external influences (precipitation, debris, groundwater, etc.), and also serves as a basis for attaching and holding the pump and the raising pipe (hose).

CASING PIPES FOR WELLS

TECH. SPECS (TU)
2248-001-84300500-2009

STATE STANDARD (GOST)
16338-85

PVC-U CASING PIPE



Dn, mm	E, mm	Dsocket, mm	Lpipe, mm	Part number
90	4.0	95.0	3000	1292089
	5.0	96.0	2000	1292001
	8.0	100.0	3000	1292002
113	4.0	117.0	3000	1292004
	5.0	121.0	2000	1292090
			3000	1292005
125	4.0	130.0	3000	1292006
	5.0	132.0	2000	1292091
			3000	1292009
	6.0	135.5	2000	1292010
			3000	1292011
140	6.5	149.0	3000	1292012
	8.0	152.0	3000	1292014
165	7.5	176.0	3000	1292016
	9.5	180.0	3000	1292018
195	8.5	205.0	3000	1292020
225	10.0	241.0	3000	1292022

■ Special request option is available (production of pipes of other length not stated in the table above)

WELL HEADS



Dn, mm	Product description	Part number
113-125	Universal well head OGS 113-127/32	2282040
125-165	Universal well head OGS 125-165/32	2282041

The well head is made of polyethylene and designed for a suspended load of up to 200 kg. The well head has a rubber O-ring seal, as well as a carabiner for hanging the pump, a cable gland for sealing and protecting the cable, a coupling for attaching the water-lifting pipe and mounting loops for easy handling of the well head.

WELL FILTERS

Slotted filter

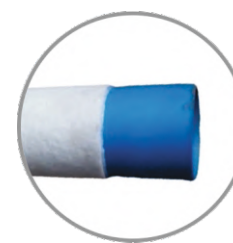


Dn, mm	E, mm	Lpipe, mm	Part number
125	5.0	2000	2282039

It is a PVC-U casing pipe with applied transverse perforation in the form of slots of 0.4 mm. wide.

Slotted filters are used in shallow wells on semi-rocky unstable, gravelly and pebble rocks with a predominant coarseness of gravel and pebble particles from 20 to 100 mm. (more than 50% by weight).

LDPE sprayed filter



Dn, mm	E, mm	Lpipe, mm	Part number
125	5.0	2000	2282038

Spraying a filtering LDPE layer onto a pre-perforated PVC-U casing pipe is carried out using a hot method. Due to adhesion, the filtering layer is securely fixed to the pipe.

They are used for almost all non-suffusion, non-cohesive and cohesive soils. They reliably protect water from mechanical impurities.

Filter with steel plain woven wire mesh (for sand)

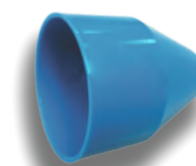


Dn, mm	E, mm	Lpipe, mm	Part number
125	5.0	2000	2282037

It is a perforated PVC-U casing pipe with double winding with stainless wire and plain woven wire mesh P-56. This filter is used for cleaning from medium and fine-grained sands (with a predominant particle size of 0.1-0.25 mm., more than 50% by weight), but it is not recommended to use plain woven wire meshes for clay soils. Stainless steel mesh is widely used as a primary purification of drinking water in deep wells. Such a mesh allows complete eliminating the penetration of sand and other fine particles into the water supply system.

HDPE CONE CAP

No thread



Dn, mm	Part number
90	2280042
113	2280043
125	2280044

PRESSURE PIPELINE SYSTEMS

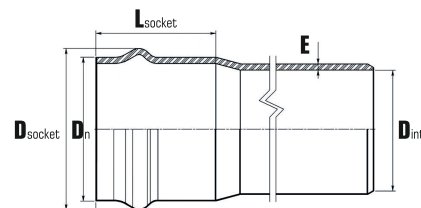
STATE STANDARD (GOST R)
51613-2000

STATE STANDARD (GOST)
32415-2013

EN 1452-3

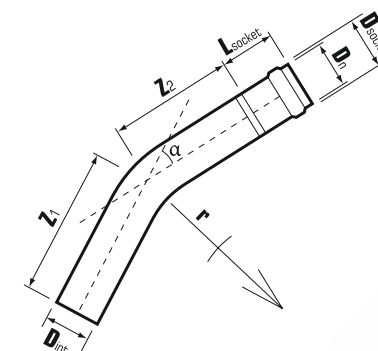
PVC-U 125 PRESSURE PIPE

Socket pipe with rubber O-ring seal



	Dn, mm	Dint, mm	Dsocket, mm	E, mm	Lsocket, mm	Lpipe, mm	Part number
SDR 41 PN 6.3 Operating pressure MOP 0.63 MPa	90	85.6	115.1	2.2	100	6100	1191001
	110	104.6	138.0	2.7	120	3120	1191002
						6120	1191003
	160	152.0	194.0	4.0	140	3140	1191004
						6140	1191005
	225	214.0	265.5	5.5	160	6160	1191006
	315	299.6	366.7	7.7	190	6190	1191007
	400	380.4	462.7	9.8	220	6220	1191008
	500	475.4	549.6	12.3	260	6260	1191009
SDR 33 PN 8 Operating pressure MOP 0.8 MPa	110	103.2	141.0	3.4	120	3120	1191010
						6120	1191011
	160	150.2	195.8	4.9	140	6140	1191012
	225	211.2	268.3	6.9	160	6160	1191013
	315	295.6	370.7	9.7	190	6190	1191014
	400	375.4	467.7	12.3	220	6220	1191015
	500	469.4	574.2	15.3	260	6260	1191016
SDR 26 PN 10 Operating pressure MOP 1.0 MPa	110	101.6	141.0	4.2	120	3120	1191017
						6120	1191018
	160	147.6	198.4	6.2	140	3140	1191019
						6140	1191020
	225	207.8	270.0	8.6	160	6160	1191021
	315	290.8	375.5	12.1	190	6190	1191022
	400	369.4	473.7	15.3	220	6220	1191023
SDR 21 PN 12.5 Operating pressure MOP 1.25 MPa	90	81.4	143.0	4.3	100	6100	1191025
	110	99.4	132.5	5.3	120	3120	1191026
						6120	1191027
	160	144.6	201.4	7.7	140	3140	1191028
						6140	1191029
	225	203.4	276.0	10.8	160	6160	1191030
	315	285.0	381.3	15.0	190	6190	1191031
SDR 17 PN 16 Operating pressure MOP 1.6 MPa	400	361.8	481.3	19.1	220	6220	1191032
	500	452.2	578.8	23.9	260	6260	1191033
	110	96.8	145.7	6.6	120	3120	1191034
						6120	1191035
	160	141.0	186.0	9.5	140	3140	1191036
						6140	1191037
	225	198.2	281.3	13.4	160	6160	1191038
	315	277.6	388.7	18.7	190	6190	1191039
	400	352.6	490.4	23.7	220	6220	1191040

PVC-U 125 PRESSURE BEND



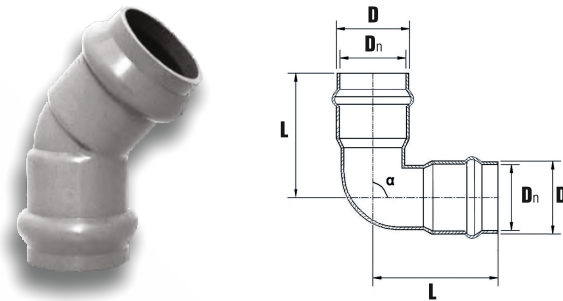
SDR 26 Operating pressure MOP 1.0 MPa

Dn, mm	α , degree	r, mm	Dint, mm	Dsocket, mm	Lsocket, mm	Z ₁ , mm	Z ₂ , mm	Part number
90	45	250	80.0	118	125	377	234	2181042
	90					527	380	2181043
110	11	300	97.8	142	135	341	209	2181044
	22					363	238	2181045
	30					393	260	2181046
	45					409	304	2181047
	60					479	353	2181048
	90					599	480	2181049
160	11	700	142.6	201	158	448	282	2181050
	22					482	351	2181051
	30					536	403	2181052
	45					605	505	2181053
	60					736	619	2181054
	90					1015	915	2181055
225	11	900	200.8	277	183	524	377	2181056
	22					589	465	2181057
	30					730	531	2181058
	45					826	663	2181059
	60					937	810	2181060
	90					1296	1190	2181061
315	11	1300	281.6	384	209	941	450	2181062
	22					1119	578	2181063
	30					1293	673	2181064
	45					1382	863	2181065
	60					1804	1076	2181066
	90					2123	1625	2181067
400	11	2000	357.4	488	234	1369	523	2181068
	22					1531	719	2181069
	30					1699	866	2181070
	45					1968	1158	2181071
	60					2270	1485	2181072
	90					2518	2330	2181073
500	45	2500	467.7	610	308	2102	1376	2181074
	90					*		2181075

* Shipment of the following item is available upon confirmed pre order.

PVC-U ELBOW

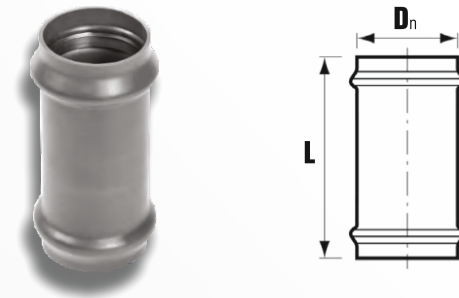
Two-socket elbow

**SDR 26** Operating pressure MOP 1.0 MPa

Dn, mm	α, degree	Dint, mm	L, mm	Part number
110	45	125.7	152.0	2181076
	90		188.5	2181077
160	45	181.5	183.5	2181078
	90		236.5	2181079

PVC-U COUPLING

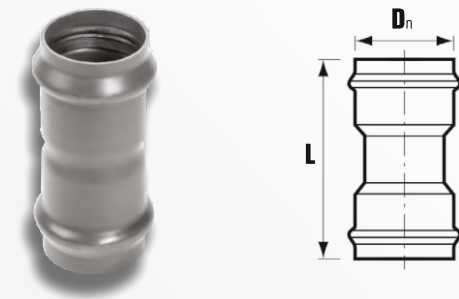
Sliding repair coupling

**SDR 26** Operating pressure MOP 1.0 MPa

Dn, mm	L, mm	Part number
90	261	2181106
110	283	2181107
160	336	2181108
225	400	2181109
315	456	2181110
400	495	2181111
500	740	2181112

PVC-U COUPLING

Connection coupling

**SDR 26** Operating pressure MOP 1.0 MPa

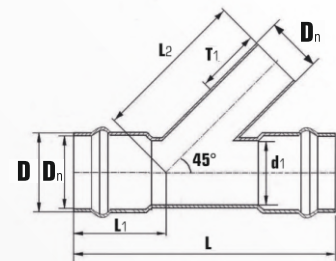
Dn, mm	L, mm	Part number
90	261	2181113
110	283	2181114
160	336	2181115
225	400	2181116

PVC-U TEE

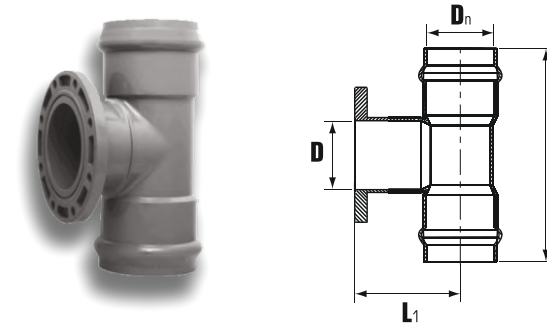
Socket tee 45°

SDR 26 Operating pressure MOP 1.0 MPa

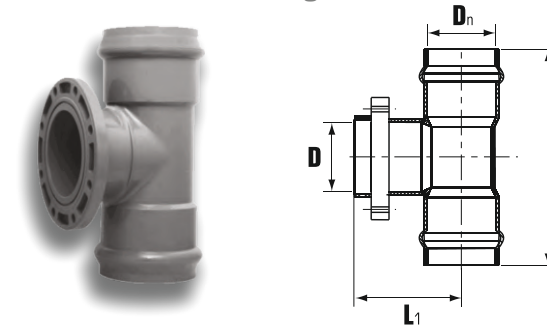
Dn, mm	D, mm	d ₁ , mm	T ₁ , mm	L ₁ , mm	L ₂ , mm	L, mm	Part number
110/110	125.7	108	125	160.8	282.0	455	2181136
160/160	181.5	158	145	194.0	371.2	575	2181137

**PVC-U TEE**

Tee with PVC-U flange

**PVC-U TEE**

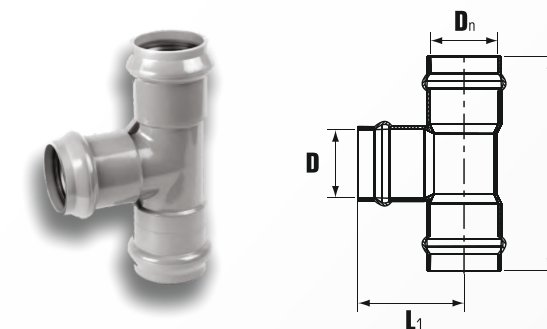
Tee with metal flange

**PVC-U TEE**

Tee with a threaded outlet

**PVC-U TEE**

Socket tee

**SDR 26** Operating pressure MOP 1.0 MPa

Dn, mm	D, mm	L, mm	L ₁ , mm	Part number
110	110	413.0	158.0	2181128
160	110	428.0	191.0	2181129
	150	475.0		2181130
225	110	490.0	225.0	2181131
	150	540.0	230.0	2181132
	200	611.0	260.0	2181133
315	100	580.5	279.0	2181134
	150	618.0	277.0	2181135

SDR 26 Operating pressure MOP 1.0 MPa

Dn, mm	D, mm	L, mm	L ₁ , mm	Part number
90	80	335.0	160.0	2181138
110	80	347.0	170.0	2181140
	100	372.0	180.0	2181139
160	100	452.0	210.0	2181141
	150	455.0	230.0	2181142
225	150	530.0	272.0	2181143
	200	580.0	282.0	2181144

SDR 26 Operating pressure MOP 1.0 MPa

Dn, mm	G	L, mm	L ₁ , mm	Артикул
110	2"	340	81.0	2181162
160	2"	380.0	103.0	2181163

SDR 26 Operating pressure MOP 1.0 MPa

Dn, mm	D, mm	L, mm	L ₁ , mm	Part number
90	90	330.0	165.0	2181117
110	90	340.0	197.0	2181119
	110	410.0	206.0	2181118
160	110	430.0	220.0	2181120
	160	473.0	238.0	2181121
225	110	492.0	250.0	2181122
	160	545.0	270.0	2181123
	225	615.0	308.0	2181124
315	110	570.0	312.0	2181125
	160	618.0	317.0	2181126
	315	780.0	390.0	2181127

PVC-U BRANCH

Plain pipe branch with metal flange

**SDR 26** Operating pressure MOP 1.0 MPa

Dn, mm	D, mm	L, mm	Part number
90	80	142.0	2181096
110	100	153.0	2181092
160	150	176.0	2181093
225	200	218.0	2181094
315	300	252.0	2181095

PVC-U BRANCH

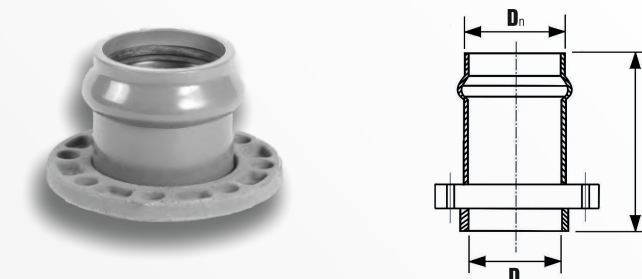
Plain pipe branch with PVC-U flange

**SDR 26** Operating pressure MOP 1.0 MPa

Dn, mm	D, mm	L, mm	Part number
110	100	167.0	2181087
160	150	196.0	2181088
225	200	226.5	2181089
315	300	297.5	2181090
400	400	303.0	2181091

PVC-U BRANCH

Socket pipe branch with metal flange

**SDR 26** Operating pressure MOP 1.0 MPa

Dn, mm	D, mm	L, mm	Part number
90	80	128.0	2181150
110	100	135.0	2181151
160	150	154.0	2181152
225	200	335.0	2181153
315	300	380.0	2181154

PVC-U BRANCH

Socket pipe branch with PVC-U flange

**SDR 26** Operating pressure MOP 1.0 MPa

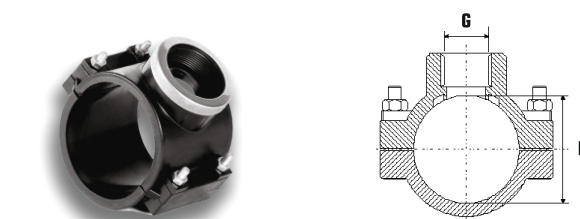
Dn, mm	D, mm	L, mm	Part number
110	100	148.0	2181145
160	150	154.0	2181146
225	200	173.5	2181147
315	300	215.0	2181148
400	400	247.5	2181149

PVC-U BRANCH

Reducing two-socket pipe branch

**SDR 26** Operating pressure MOP 1.0 MPa

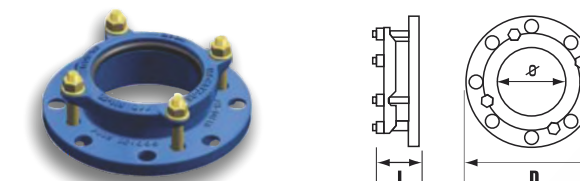
Dn, mm	D, mm	L, mm	Part number
110	90	255	2181099
160	110	305	2181100
225	110	362	2181101
	160	355	2181102
315	160	431	2181103

PVC-U SADDLE

Dn, mm	G	Part number
90	1"	2181080
110	1"	2181081
	2"	2181082
160	1"	2181083
	2"	2181084
225	2"	2181085
	4"	2181086

CAST IRON BRANCH

Plain pipe branch UR-Cast

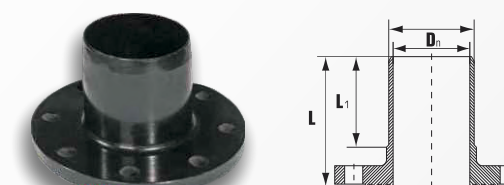


Dn, mm	D, mm	L, mm	Ø, mm	Part number
400	576	122.0	400	2180155
500	704	122.0	500	2180156

CAST IRON BRANCH

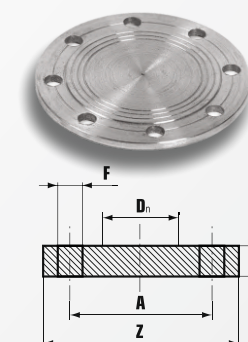
Socket pipe branch FW

Dn, mm	D, mm	L ₁ , mm	L, mm	m, mm	Part number
400	450	265	320	46	2181097
500	500	285	340	89	2181098

**STEEL FLANGE**

Blind flange

Dn, mm	A, mm	Z, mm	F, mm	n, mm	B, mm	Part number
80	160	200	18	8	20	2180157
100	180	220	18	8	20	2180158
150	240	285	23	8	22	2180159
200	395	340	23	8	24	2180160
300	400	445	23	12	26	2180161



INDOOR SEWERAGE SYSTEMS SHUMEKS

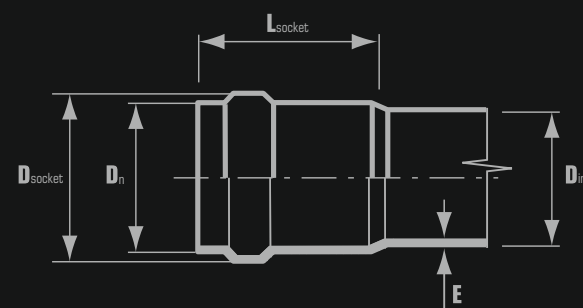
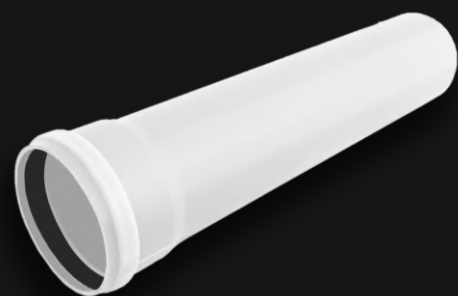
STATE STANDARD (GOST)
32412-2013

TECH. SPECS (TU)
2248-002-84300500-2012

EN 1401-1:2009

PVC-U PIPE

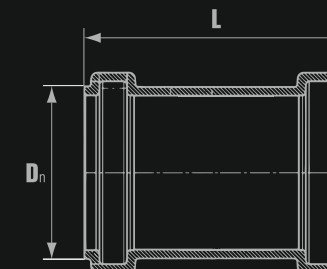
For indoor sewerage systems



Dn, mm	Dint, mm	Dsocket, mm	E, mm	Lsocket, mm	Lpipe, mm	Part number
50	43.6	66	3.2	50	500	1391021
					1000	1391022
					1500	1391023
					2000	1391024
					3000	1391025
110	103.6	125	3.2	47	500	1391026
					1000	1391027
					1500	1391028
					2000	1391029
					3000	1391030

PVC-U COUPLING

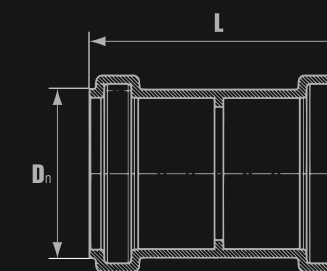
Sliding repair coupling



Dn, mm	L, mm	Part number
50	87.1	2391068
110	117.3	2391069

PVC-U COUPLING

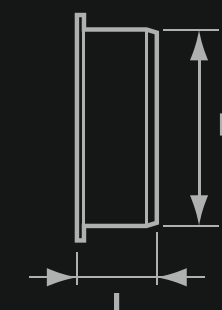
Connection coupling



Dn, mm	L, mm	Part number
50	87.1	2391070
110	117.3	2391071

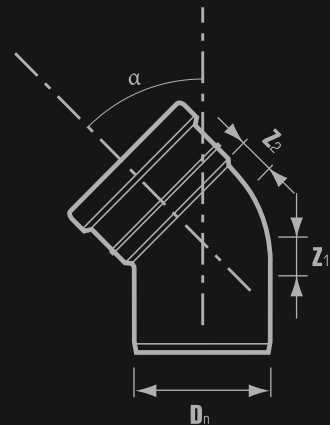
PVC-U SOCKET CAP

For a pipe socket



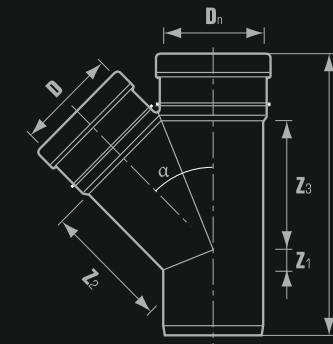
Dn, mm	L, mm	Part number
50	30.5	2390051
110	41.3	2390052

PVC-U ELBOW



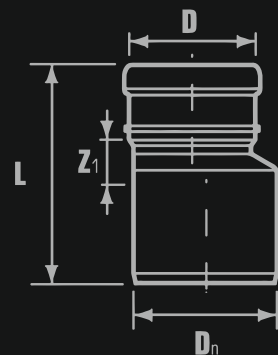
Dn, mm	α , degree	Z ₁ , mm	Z ₂ , mm	Part number
50	15	9	15	2381068
	30	16	22	2381069
	45	5	11	2391058
	87	8	14	2391059
110	15	25	29	2391053
	30	60	66	2391054
	45	13	19	2391056
	87	31	37	2391057

PVC-U TEE



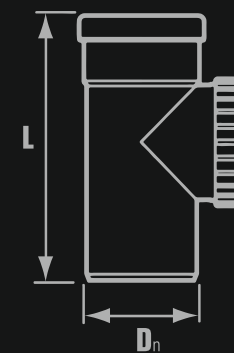
Dn, mm	D, mm	α , degree	L, mm	Z ₁ , mm	Z ₂ , mm	Z ₃ , mm	Part number
50	50	45	154	13	61	61	2391060
		87	144	31	31	31	2391061
110	50	45	189	17	91	103	2391062
		87	180	30	61	68	2391063
	110	45	271	25	134	134	2391064
		87	230	60	61	61	2391065

PVC-U REDUCER



Dn, mm	D, mm	L, mm	Z ₁ , mm	Part number
110	50	142.5	43	2391066

PVC-U REVISION TEE



Dn, mm	L, mm	Part number
50	147	2381067
110	238	2391055

OUTDOOR SEWERAGE SYSTEMS

STATE STANDARD (GOST R)
54475-2011

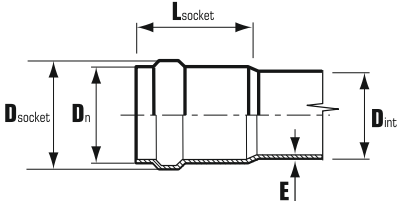
TECH. SPECS (TU)
2248-057-72311668-2007

TECH. SPECS (TU)
2248-002-84300500-2012

EN 1401-1:2009

PVC-U PIPE

For outdoor sewerage systems



Stiffness
class
SN 4

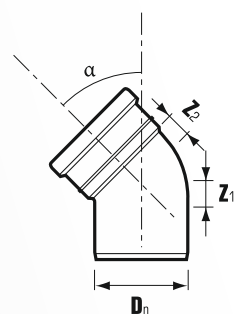
Dn, mm	E, mm	Dint, mm	Dsocket, mm	Lsocket, mm	Lpipe, mm	Part number
110	3.2	103.6	125	47	560	1491055
					1000	1491056
					1500	1491057
					2000	1491058
					3000	1491059
					4000	1491060
					6060	1491061
160	4.0	152.0	182	62	580	1491062
					1000	1491063
					2000	1491064
					3000	1491065
					4000	1491066
200	4.9	190.2	224	77	6080	1491067
					1200	1491068
					2000	1491069
					3000	1491070
					4000	1491071
250	6.2	237.6	240.2	93	6090	1491072
					1200	1491073
					2000	1491074
					3000	1491075
					4000	1491076
315	7.7	299.6	352	103	6130	1491077
					1200	1491078
					2000	1491079
					3000	1491080
400	9.8	380.4	444	127	6140	1491081
					1200	1491082
					2000	1491083
					3000	1491084
500	12.3	475.4	554	147	6150	1491085
					3000	1491086
					6160	1491087

Stiffness
class
SN 2

Dn, mm	E, mm	Dint, mm	Dsocket, mm	Lsocket, mm	Lpipe, mm	Part number
160	3.2	153.6	182	62	580	1491001
					1000	1491002
					2000	1491003
					3000	1491004
					6080	1491006
200	3.9	192.2	224	77	1200	1491007
					2000	1491008
					3000	1491009
					6090	1491011
250	4.9	240.2	284	93	1200	1491012
					2000	1491013
					3000	1491014
					6130	1491016
315	6.2	302.6	352	103	1200	1491017
					2000	1491018
					3000	1491019
					6140	1491020
400	7.9	384.2	444	127	1200	1491021
					2000	1491022
					3000	1491023
					6150	1491024
500	9.8	480.4	554	147	6160	1491126
110	3.2	103.6	125	47	560	1491025
					1000	1491026
					2000	1491027
					3000	1491028
					6060	1491030
160	4.7	150.6	182	62	580	1491031
					1000	1491032
					2000	1491033
					3000	1491034
					6080	1491036
200	5.9	188.2	224	77	1200	1491037
					2000	1491038
					3000	1491039
					6090	1491041
250	7.3	235.4	284	93	1200	1491042
					2000	1491043
					3000	1491044
					6130	1491046
315	9.2	296.6	352	103	1200	1491047
					2000	1491048
					3000	1491049
					6140	1491050
400	11.7	376.6	444	127	1200	1491051
					2000	1491052
					3000	1491053
					6150	1491054
500	14.6	470.8	554	147	6160	1491216

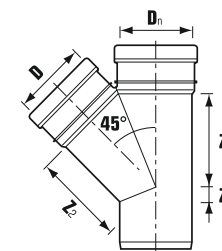
Stiffness
class
SN 8

PVC-U ELBOW



Dn, mm	α, degree	Z ₁ , mm	Z ₂ , mm	Part number
110	15	9	15	2491211
	30	17	22	2491212
	45	25	29	2491094
	60	41	47	2481154
	87	59	65	2491095
160	15	13	22	2481155
	30	24	30	2481156
	45	36	42	2491096
	60	59	65	2481157
	87	83	89	2491097
200	15	15	25	2481158
	30	30	38	2481159
	45	46	54	2481160
	60	75	84	2481196
	87	105	113	2481161
250	15	28	34	2481162
	30	46	50	2481163
	45	66	69	2481164
	87	141	143	2481165
315	15	35	42	2481166
	30	59	62	2481167
	45	84	86	2481168
	87	178	180	2481169
400	30	64	83	2481170
	45	96	110	2481171
	87	211	229	2481172
500	45	114	137	2481173
	87	390	410	2481174

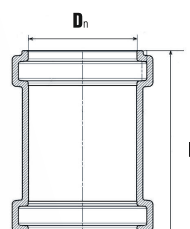
PVC-U TEE 45°



Dn, mm	D, mm	Z ₁ , mm	Z ₂ , mm	Z ₃ , mm	Part number
110	110	25	134	134	2491088
160	110	2	168	159	2491089
	160	36	194	194	2491090
200	110	-14	197	182	2481103
	160	21	223	216	2481104
	200	48	243	243	2481105
250	110	41	228	209	2481106
	160	6	254	244	2481107
	200	33	275	271	2481108
	250	66	304	304	2481109
315	110	-9	272	244	2481110
	160	-43	297	278	2481111
	200	7	318	305	2481112
	250	40	345	338	2481113
	315	84	382	382	2481114
400	110	-105	340	360	2481115
	160	-77	358	327	2481116
	200	-49	379	354	2481117
	250	-10	480	450	2481118
	315	34	540	500	2481119
	400	91	550	500	2481120
500	110	-150	440	435	2481121
	160	-77	420	370	2481122
	200	-88	470	510	2481123
	250	-55	550	530	2481124
	315	-11	560	583	2481125
	400	47	580	550	2481126
	500	114	650	680	2481127

PVC-U COUPLING

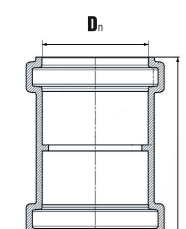
Sliding repair coupling



Dn, mm	L, mm	Part number
110	117.3	2491099
160	147.8	2491100
200	165.0	2481180
250	255.0	2481181
315	295.0	2481182
400	245.0	2481183
500	335.0	2481184

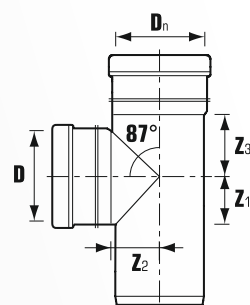
PVC-U COUPLING

Connection coupling



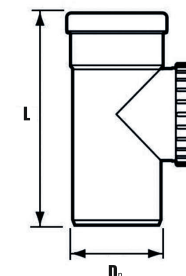
Dn, mm	L, mm	Part number
110	117.3	2491101
160	147.8	2491102

PVC-U TEE 87°



Dn, mm	D, mm	Z ₁ , mm	Z ₂ , mm	Z ₃ , mm	Part number
110	110	59	62	62	2491091
160	110	58	86	64	2491092
	160	83	89	89	2491093
200	110	63	108	69	2481128
	160	88	110	93	2481129
	200	107	113	113	2481130
250	110	90	132	100	2481131
	160	99	134	100	2481132
	200	99	136	143	2481133
	250	141	143	143	2481134
315	110	78	162	104	2481135
	160	78	164	104	2481136
	200	178	170	178	2481137
	250	178	174	178	2481138
	315	178	178	178	2481139
400	110	73	201	81	2481140
	160	97	203	105	2481141
	200	116	205	125	2481142
	250	139	209	148	2481143
	315	170	214	179	2481144
500	400	211	219	219	2481145
	160	90	220	283	2481146
	200	118	253	131	2481147
	250	144	257	155	2481148
	315	175	333	300	2481149
	400	216	267	226	2481150
	500	262	274	274	2481151

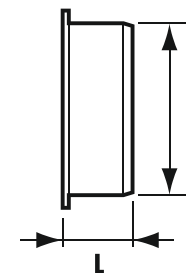
PVC-U REVISION TEE



Dn, mm	L, mm	Part number
110	238	2491207
160	328	2491208
200	369	2481187
250	433	2481188
315	465	2481189

PVC-U SOCKET CAP

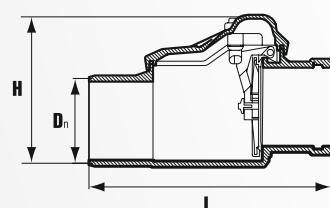
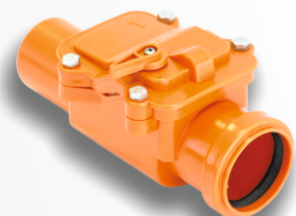
For a pipe socket



Dn, mm	L, mm	Part number
110	45	2490209
160	53	2490210
200	64	2480197
250	95	2480198
315	100	2480199
400	114	2480200
500	155	2480201

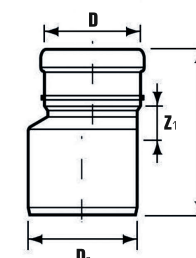
PVC-U VALVE

Check valve



Dn, mm	L, mm	H, mm	Part number
110	320	166	2481175
160	348	250	2481176
200	449	307	2481177
250	567	378	2481178
315	728	472	2481179

PVC-U REDUCER



Dn, mm	D, mm	L, mm	Z ₁ , mm	Part number
160	110	172	34	2491098
200	110	166	–	2481217
200	160	204	31	2481190
250	110	192	–	2481218
250	160	210	–	2481219
250	200	261	47	2481191
315	110	215	–	2481220
315	160	225	–	2481221
315	200	236	–	2481222
315	250	302	62	2481192
400	315	340	67	2481193
500	400	495	142	2481194

PRESSURE HOSES LayFlat (LF)

TECH. SPECS (TU)
2248-003-84300500-2017

PRESSURE HOSE LayFlat



PN 4
Operating pressure
MOP 0.4 MPa

PN 6
Operating pressure
MOP 0.6 MPa

Size		Wall Thickness	Burst pressure	Weight, 1 rm	Hose coil length	Part number
Dn, mm	Dn, inch	E, mm	P, MPa	m, kg	L, rm	No.
78	3	1.20	1.2	0.40	100	3590001
104	4	1.30	1.2	0.57	100	3590002
155	6	1.50	1.2	0.94	100	3590003
78	3	1.70	1.8	0.50	100	3590004
104	4	2.30	1.8	0.87	100	3590005
155	6	2.40	1.8	1.60	100	3590006



LayFlat hoses are lightweight and not subject to twisting, resistant to mechanical damage and abrasion during operation, and can be used in a wide temperature range. They do not deteriorate when moving equipment through the fields with the water supply turned off, there is no need to remove the hose when carrying out field work. Supplied in coils.

PVC-U PIPELINES INSTALLATION

Assembling and laying pipelines is a task that requires special attention. The uninterrupted operation of the system, as well as the safety and cost of its maintenance, depends on how competently it is implemented. Installation work is possible only if the conditions established by the regulatory documents are observed. Work is carried out at above zero air temperatures, installation work is also possible at below zero temperatures up to -15°C , in case of caution and accuracy of installation.

PVC-U PIPELINE SYSTEMS WAYS OF CONNECTING

SOCKET JOINT WITH O-RING SEAL

It is considered as the lightest and most reliable type of connection which does not require special knowledge and equipment, while providing absolute sealing of a pipeline. Applicable for the assembly of CHEMKOR pressure and sewerage (outdoor & indoor) systems. For connection, a tape-line, a marker, a mounting fluid and sometimes a lever are required only.

As a rule, technical glycerin or soap solution is used as mounting fluid. Recommended composition of the mounting fluid at below zero air temperatures (per 1 liter):

- technical glycerin – 450 g,
- water – 515 g
- soap powder (flakes) – 35 g.

PIPE CONNECTION SEQUENCE

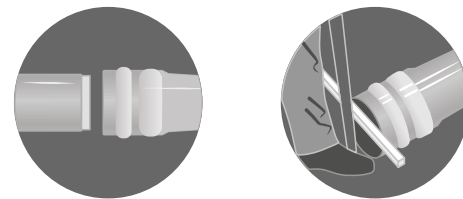
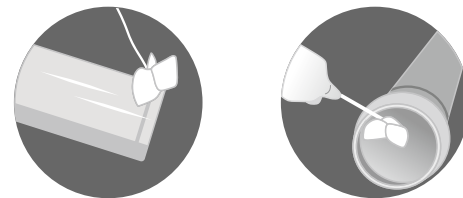
- Using a tape-line and a marker, apply a mounting mark to the plain end of the pipe, defining the maximum insertion depth. If necessary, apply mounting fluid to the plain pipe end and the inner surface of the pipe socket.

- Check the position of the O-ring seal in the socket.

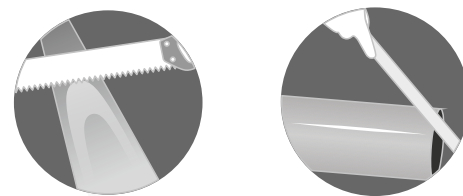
- Install the connecting elements. Insert the plain end of the pipe into the socket and push in until it reaches the mounting mark. The distance from the end of the pipe to the mark should be equal to the depth of the socket minus 5–10 mm, depending on the diameter of the pipe. This is necessary to ensure a thermal gap. To facilitate the joining of pipes, a crowbar, hand-lifting devices or a special line-up tool are allowed to be used. In order not to damage the pipe, it is necessary to use a block of wood between the end of the pipe and the lever.

- If irregular lengths of pipe are required, the pipe can be shortened with a fine-toothed saw. Important! The pipe cut must be filed to create a chamfer (tilt angle = 15°).

When using the «socket joint» method using an O-ring seal, any distortions and deviations from the central axis are undesirable. The slope of the assembly should not exceed the thickness of the pipe wall.

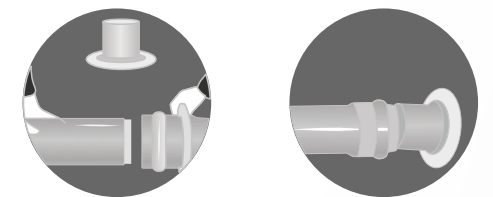


The thermal gap serves to compensate the linear elongation of the pipe in pipelines at changes in the temperature of the environment (soil) or the fluid being transported.



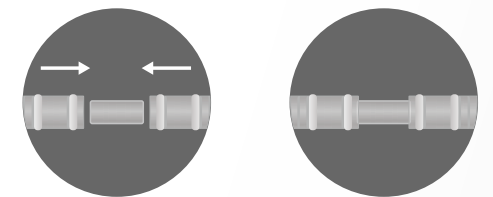
CONNECTION OF PVC-U PIPES WITH OTHER MATERIALS

PVC-U pipeline systems can be easily integrated with networks made of other materials (cast iron, steel, PE, PP, concrete, etc.). CHEMKOR offers a wide range of specialized fittings. Our experts are always ready to offer the necessary technical solution.



PIPELINE REPAIR

Repair of PVC-U pipelines is carried out by replacing the damaged section using a pipe offcut and two repair couplings.



SOCKET JOINT WITH TRAPEZOIDAL THREAD

It is suitable for CHEMKOR casing pipes which have a socket end with internal thread and a plain end with external thread. Assembly is carried out manually or by means of belt wrenches by screwing in. It is the most reliable and leak-proof method of connecting casing pipes, besides, it does not take much time.

COUPLING JOINT

This type of connection is used when installing CHEMKOR LayFlat hoses. Using the choke couplings and the clamps, the hoses are connected to each other, as well as connected to other elements of irrigation or construction supply systems.

LAYING OF PVC-U PIPELINES

- Installation and laying of pipelines is carried out in accordance with the detailed project execution plan, developed on the basis of detailed engineering documentation and applicable standards.

- Before pipeline is laid, connecting parts and elements are thoroughly inspected for cracks, chips, deep cuts, punctures and other surface damages.

- Attention! When installing PVC-U pipelines, it is not allowed to use fittings of other materials, except the recommended reducing fittings with metal elements.

- Earthworks, including excavation, displacement, laying and compaction, are carried out in accordance with the rules for the production and acceptance of earthworks.

PVC-U pipes during the construction of outdoor water supply and sewerage networks are laid in an open way in a trench or embankment.

Stages of work:

TRANCH DIGGING, LEVELING AND STRENGTHENING

The width of the trench along the bottom must be at least the outer diameter of the pipe $D + 0.5$ m.

TRANCH FILLING

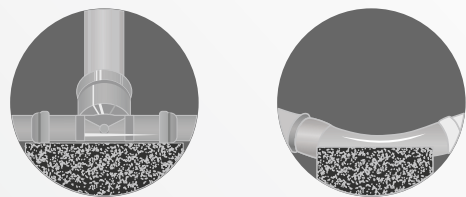
At the bottom of the trench, a sand filling of 0.10–0.15 m. is arranged, depending on the diameter of the pipe. In case of natural sandy or sandy-gravelly soil, the filling of the bottom of the trench can be omitted.

LAYING OF PIPES ON THE BOTTOM OF THE TRANCH AND THEIR INSTALLATION

The depth of laying the pipelines is determined by calculations that include the strength characteristics of the pipe and external loads on the soil surface (soil composition, traffic intensity), as well as the depth of soil freezing. The index of soil freezing varies in the southern regions from 0.5 m. to 1.2 m, in the northern regions – from 2 m. to 3.5 m. The most accurate information regarding the depth of soil freezing can be obtained from the local meteorological service.

It is recommended to lay pipes to a depth that exceeds the soil freezing rate by 30 cm. from the top of the pipe.

IMPORTANT !!! When laying pressure pipelines at the joints with bends, elbows, tees, branch pipes and pipe ends (plugs), it is recommended to install stops that can transfer to soil axial forces arising in pipelines under the influence of internal pressure, and thereby preserve its tightness. Concrete blocks are used as stops. A gasket of two layers of roofing felt or roofing material is placed between the blocks and the connecting part of the pipeline.



PIPELINE TESTS

Prior to the preliminary test, the pipeline is backfilled with a protective layer of soil, leaving the butt joints open for inspection.

A preliminary strength test is carried out at an excess hydraulic pressure equal to the design operating pressure multiplied by a factor of 1.5 for pressure pipelines and a pressure of 0.04 MPa for free-flow ones. The pipeline is considered to have passed the preliminary hydraulic test if no visible water leaks and/or ruptures of pipes, joints and connecting parts are found under the above pressure.

A preliminary pneumatic test is allowed, in which the test pressure of compressed air equal to 0.05 MPa is maintained in the pipeline for 15 minutes. In this case, leaks are detected by bubbles formed at the place of air leakage through butt joints covered with mounting fluid.

The final tightness test is performed after filling the trench and completing all work on this section of the pipeline in accordance with Set of Rules (SP) 40–102–2000.

BACKFILLING OF THE TRANCH

When backfilling, a protective layer of sandy soil of 0.15–0.30 m. which does not contain solid inclusions (crushed stone, stone, etc.) with its layer-by-layer compaction (especially the space between the pipes, as well as between the pipes and the trench wall) is made over the pipe.

BACKFILLING OF PIPELINE

It is carried out with layer-by-layer soil compaction of 0.2–0.4 m. up to the grade elevation, or without layer-by-layer compaction with the erection of an earth wall above the pipeline. The height of the earth wall is calculated taking into account the shrinkage of unconsolidated soil to the grade elevation within 1–2 years.

NOTES