



SEWAGE SYSTEMS®

**PVC (KG) PIPES & FITTINGS
FOR DOMESTIC & STREET SEWAGE SYSTEMS**

 **PEŠTAN**

Reliability. Quality. Innovation.



PEŠTAN WORLDWIDE



PEŠTAN Company holds leading position in the production of plastic pipes and PVC profiles in South Eastern Europe. In order to meet high requirements of European standards, the Company significantly invests in modernization and automation of the equipment to representatively present its prestigious quality on markets worldwide.

PEŠTAN distributes their products through the sales network which has over 5000 customers, in domestic sales, as well as export. The company is export-oriented and implements its sales in more than 40 countries all over the world, such as countries in the region, EU, Middle East countries, Russia, Australia, Africa, North and South America.

Maintenance of existing and development of new tools PEŠTAN Company implements in their own tool room which has the state of the art equipment and software programs for making and processing tools in 3D animation.

Logistic support has significant role in the company, production facilities were built, with the latest equipment, which occupies 30,000m² of closed and 40,000m² of open storage space.

The company employs 700 people in Serbia and 200 abroad Serbia. Innovations and improvements of personnel and equipment is a goal that company strives for, all that in order to create more satisfaction both with South Eastern Europeans and worldwide customers.

KG (PVC) PIPES & FITTINGS FOR DOMESTIC & STREET SEWAGE SYSTEMS

The pipes for domestic and street sewerage systems together with the appropriate coupling sleeves are intended to be used for the removal of all kinds of waste water. Assembly of the pipeline is extremely easy , pipes are connected to one another with fittings while complete seal is achieved with use of rubber

bands. Maximum temperature of application is +60oC. Pipes are resistant to salt water, alcohol, acids, alkalis, sulphates, aggressive gas and all kinds of detergents. On the other hand, they cannot be used for the transport of water which contains high percentage of benzene, benzine (petrol) or acetone.





ADVANTAGES & OWNER BENEFITS

- » Very light material
- » Simple and easy way of both transport and manipulation
- » Fast and cheap assembling
- » Pipe connections are resistant to water and other type of fluids
- » They are resistant to corrosion in alkaline, acid or aggressive environment
- » They are fine electrical insulator, and also resistant to mechanical impact
- » Guaranteed life time of more than 50 years
- » Practically no costs of pipeline maintenance
- » Connection with muffs and gaskets made of EPDM or rubber (EN 681)
- » SRPS EN 1401
SRPS EN 13476
DIN19531

DRAIN MANHOLES

These products are mainly designed to collect rainwater in the rainwater sewage systems for individual home installations and also in systems of civil engineering (collecting rain water from and near the roads, etc.) In addition it is possible to use drain manholes as revision as well which is particularly important during installation of home sewer and connection of multiple objects before joining the main line etc.

With this, relevant joining standards are met, with additional reductions in joining costs and installation time, while corrections of the mistakes on terrain (such as axel and angle issues as well as height of connecting lines) are facilitated by its flexibility.



SPECIFICATION OF MATERIAL

PVC-pipes and fittings are made from compound of non-softened PVC material with $\sigma = 10\text{ MPa}$ mixed with necessary additives.

- » Specific mass 1,38 ÷ 1,45gr/cm³
- » Tensile strength 50-60 MPa
- » Thermal stability: according to Vicat min 79°C

- » Thermal conductivity 0,54 KJ/mh/°C
- » Linear ratio of thermal extension 0,08 mm/m/°C
- » Water absorption 4 mg/cm²

PIPE SERIES SPECIFICATION

Pipe series S-25 (SDR 51) SN 2 KN/m²

- » Depth of pipe trench min 1,2 ÷ 4 m max
- » Maximum loading max 12t/axel
- » Ring stiffness SN 2 KN/m²
- » Connection with EPDM or rubber (EN 681)
 seal in socket
- » Length 1 ÷ 6m

Pipe series S-20 (SDR 41) SN 4 KN/m²

- » Depth of pipe trench min 1,2 ÷ 6 m max
- » Maximum loading max 18t/axel
- » Ring stiffness SN 4 KN/m²
- » Connection with EPDM or rubber (EN 681)
 seal in socket
- » Length 1 ÷ 6m

Pipe series S-16 (SDR 34) SN 8 KN/m²

- » Depth of pipe trench min 1,2 ÷ 6 m max
- » Maximum loading max 18t/axel
- » Ring stiffness SN 8 KN/m²
- » Connection with EPDM or rubber (EN 681)
 seal in socket
- » Length 1 ÷ 6m



APPLICATION AND STATIC RECOMENDATION

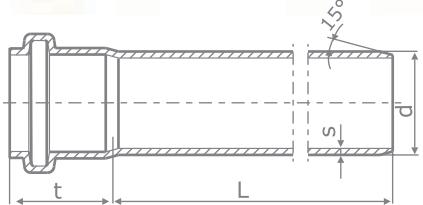
What pipe series should be used depends on location, ground quality and type of foundation, other various conditions, etc. Pipe series S-20 and S-16 are used in normal conditions, i.e. for normal type of ground, trenches, burial methods and ground compression. Pipe series S-25 are laid in terrains with extremely incoherent material. Deformation of the cross section is checked after one to three months from laying of pipeline. With pipe series S-20 and S-16 deformation cannot be higher than 5% of outer pipe diameter,

while the maximum deformation after two years cannot be higher than 10% of diameter. With pipe series S-25, after one to three months from laying of pipeline, maximum deformation will not be higher than 5%, while deformation after 2 years is allowed to be up to 8%.

Laying of sewerage pipes and fittings is allowed without any specific static evidence, and in accordance with the following conditions:

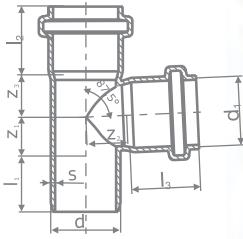
- » Below traffic surfaces with traffic loading up to 30 tons, minimum covering layer should be 1,5 m.
- » Below non-traffic surfaces or surfaces which are temporarily exposed to light vehicle traffic, minimum covering layer should be 0,8m.
- » While laying the pipeline below the buildings, covering layer above the pipe socket must be at least 150mm.
- » Protection pipes should be used if the loading from the mounted construction parts cannot be avoided.
- » While laying the pipeline in the trenches with minimum width, covering layer must not be higher than 6m; on the other hand, while laying the pipeline below the protective dam and in wide trenches, covering layer should not be higher than 4m.
- » Filling soil should have the following approximate characteristics: $8 \leq 20,5 \text{ KN/m}^2$ $8 \leq 22,50$ (angle \emptyset)
- » Laying the pipeline in the area with ground water is allowed only if the removal of the filling material is prevented. Removal is prevented by laying the pipeline in the filter layer made of gravel or concrete.
- » If not acting completely in accordance with these norms it is necessary to calculate the pipe carrying ability, while standard conditions of filling and ground compression should be provided (DIN 4033, EN); this means that in the pipeline zone, from the bottom of the trench up to at least 30cm above the vertex of the pipe the following ground compression values should be achieved:
 - 97% density of un shoveled soil for binding ground.
 - 95% density of unshoveled soil for binding ground.
 All values of ground compression should be proven during handling.
- » Pipeline zone (from the bottom of the trench up to at least 30cm above the vertex of the pipe) is filled with material which does not contain stones and at the same time can be compressed. Filling material, which will be in direct contact with the pipe, can be taken from the ground pile came from shoveled trench, which should be previously cleared from large pieces. Ground compression around the pipe can be done manually or by using hydraulic tools. Each time material is filled only up to vertex of the pipe while the ground compression is being done sidewise, never in the zone occupied by the pipe. Filling material is being compressed until well sidewise support of the sewerage trench is provided. Material is being filled above the vertex of the pipe in layers, in a way that the higher layers are compressing the lower ones.

SEWAGE SYSTEMS®

Item Description	Picture	CODE	d	s	t
STREET SEWAGE SYSTEMS SRPS-EN 1401, SRPS-EN 13476	 	KG PIPE SDR51 SN2			
		10400044	160	3,2	86
		10400054	200	3,9	106
		10400074	250	4,9	128
		10400104	315	6,2	155
		10400144	400	7,9	183
		10400184	500	9,8	210
		10410560	630	12,3	188
KG PIPE SDR41 SN4					
		10400304	110	3,2	61
		10400324	125	3,2	72
		10400344	160	4,0	86
		10400364	200	4,9	106
		10400384	250	6,2	128
		10400404	315	7,7	155
		10400444	400	9,8	183
		10400484	500	12,3	210
		10410360	630	15,4	188
KG PIPE SDR34 SN8					
		10400604	110	3,2	61
		10400624	125	3,7	72
		10400644	160	4,7	86
		10400664	200	5,9	106
		10400684	250	7,3	128
		10400704	315	9,2	155
		10400744	400	11,7	183
		10400784	500	14,6	210
		10410160	630	18,4	188
HOME SEWAGE SYSTEMS DIN 19531		KG PIPE SDR51 SN2			
		10100004	32	1,8	41
		10100024	40	1,8	47
		10100044	50	1,8	48
		10100104	75	1,8	55
		10100204	110	2,2	61
		10100224	125	2,5	72

Item Description	Picture	CODE	d	s	Z1	Z2	I1min	I2
KGB BEND 15°		10401362 10401363 10401360 10401361 *11500002 *11500003 *11500005 *11500007	110 125 160 200 250 315 400 500	3,2 3,2 4 4,9 6,2 	6,1 7,9 10,1 26 18 	20 21 26,2 30 30 	61 68 81 99 125 	49,1 54,6 86 106 128
KGB BEND 30°		10401020 10401021 10401022 10401023 *11500102 *11500103 *11500105 *11500107	110 125 160 200 250 315 400 500	3,2 3,2 4 4,9 6,2 	14,7 16,7 24 30 37 	27,1 29,1 30 39 49 	61 68 81 99 125 	49,6 54,6 86 106 128
KGB BEND 45°		10401120 10401121 10401102 10401103 10401104 10401105 10401106 *11500205	110 125 160 200 250 315 400 500	3,3 3,3 4 4,9 6,2 7,7 9,8 	22,9 26 36 46 57 72 83,3 	34,7 37,8 44 55 69 86 117,9 	61 68 81 99 125 132 150 	49,1 54,6 86 106 128 155 119
KGB BEND 87.5°		10401320 10401321 10401302 10401303 10401304 10401305 10401326 *11500405	110 125 160 200 250 315 400 500	3,3 3,3 4 4,9 6,2 7,7 9,8 	53,2 60,4 83 105 131 165 193,3 	62,8 70 89 114 143 180 121,2 	61 68 81 99 125 132 150 	49,1 54,6 86 106 128 155 119

* WELDED FITTING

Item Description	Picture	CODE	d/d1	s	Z ₁	Z ₂	Z ₃	I _{1min}	I ₂	I ₃
KGEA BRANCH 87,5°										
		10401630	110/110	3,3	52,7	67,3	67,3	61	49,1	49,1
		10401631	125/110	3,3	52,4	67,6	67,6	68	54,6	49,1
		10401632	125/125	3,3	59,9	75,1	75,1	68	54,6	54,6
		10401603	160/110	4	58	86	64	81	86	61
		10401604	160/125	4	66	87	71	81	86	72
		10401605	160/160	4	83	89	89	81	86	86
		10401606	200/110	4,9	62	105	64	99	106	61
		10401607	200/125	4,9	69	75	101	75	106	72
		10401608	200/160	4,9	86	108	90	99	106	86
		10401609	200/200	4,9	106	111	111	99	106	106
		10401619	250/110	6,2	90	132	100	120	128	61
		10401620	250/125	6,2	90	132	100	120	128	72
		10401610	250/160	6,2	89	132	91	125	128	86
		10401611	250/200	6,2	108	134	111	125	128	106
		10401612	250/250	6,2	131	138	138	125	128	128
		10401618	315/110	7,7	93	162	104	134	155	61
		10401617	315/125	7,7	93	162	104	134	155	72
		10401613	315/160	7,7	93	164	104	134	155	86
		10401614	315/200	7,7	111	165	113	132	155	106
		10401615	315/250	7,7	134	169	139	132	155	128
		10401616	315/315	7,7	165	173	173	132	155	155
		10401621	400/110	9,8	106	206,5	131,8	150	124,2	51,3
		10401622	400/160	9,8	106	209,7	131,8	150	124,2	65
		10401623	400/200	9,8	106	214,5	131,8	150	124,2	77,5
		*11501232	400/110							
		*11501233	400/125							
		*11501234	400/160							
		*11501235	400/200							
		*11501236	400/250							
		*11501237	400/315							
		*11501239	400/400							
		*11501249	500/110							
		*11501250	500/125							
		*11501251	500/160							
		*11501252	500/200							
		*11501253	500/250							
		*11501254	500/315							
		*11501256	500/400							
		*11501258	500/500							
		*11501056	500/400							
		*11501058	500/500							

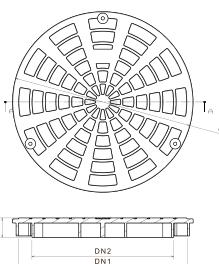
Item Description	Picture	CODE	d/d1	s	Z ₁	Z ₂	Z ₃	I _{1min}	I ₂	I ₃
KGEA BRANCH 45°		10401430	110/110	3,3	22,8	138,2	138,2	61	49,1	49,1
		10401431	125/110	3,3	15,3	148,8	145,7	68	54,6	49,1
		10401432	125/125	3,3	25,9	156,3	156,3	68	54,6	54,6
		10401403	160/110	4	1	168	159	81	86	61
		10401404	160/125	4	12	176	169	81	86	72
		10401405	160/160	4	36	194	194	81	86	86
		10401406	200/110	4,9	-16	195	177	99	106	61
		10401407	200/125	4,9	7	212	201	81	106	72
		10401408	200/160	4,9	19	220	213	99	106	86
		10401409	200/200	4,9	46	241	241	99	106	106
		10401419	250/110	6,2	32	228	209	165	128	61
		10401420	250/125	6,2	21	236	220	154	128	72
		10401410	250/160	6,2	-4	253	236	125	128	86
		10401411	250/200	6,2	23	274	264	125	128	106
		10401412	250/250	6,2	57	300	300	125	128	128
		10401418	315/110	7,7	2	272	244	160	155	61
		10401417	315/125	7,7	-8	279	254	154	155	72
		10401413	315/160	7,7	-32	297	278	126	155	86
		10401414	315/200	7,7	-6	318	295	132	155	106
		10401415	315/250	7,7	28	344	331	132	155	128
		10401416	315/315	7,7	72	378	378	132	155	155
		10203703	400/160	15,3	22	370	255	178	155	75
		10203703	400/200	15,3	62	390	215	178	155	90
		*11501032	400/110							
		*11501033	400/125							
		*11501034	400/160							
		*11501035	400/200							
		*11501036	400/250							
		*11501037	400/315							
		*11501039	400/400							
		*11501049	500/110							
		*11501050	500/125							
		*11501051	500/160							
		*11501052	500/200							
		*11501053	500/250							
		*11501054	500/315							
		*11501056	500/400							
		*11501058	500/500							

* WELDED FITTING

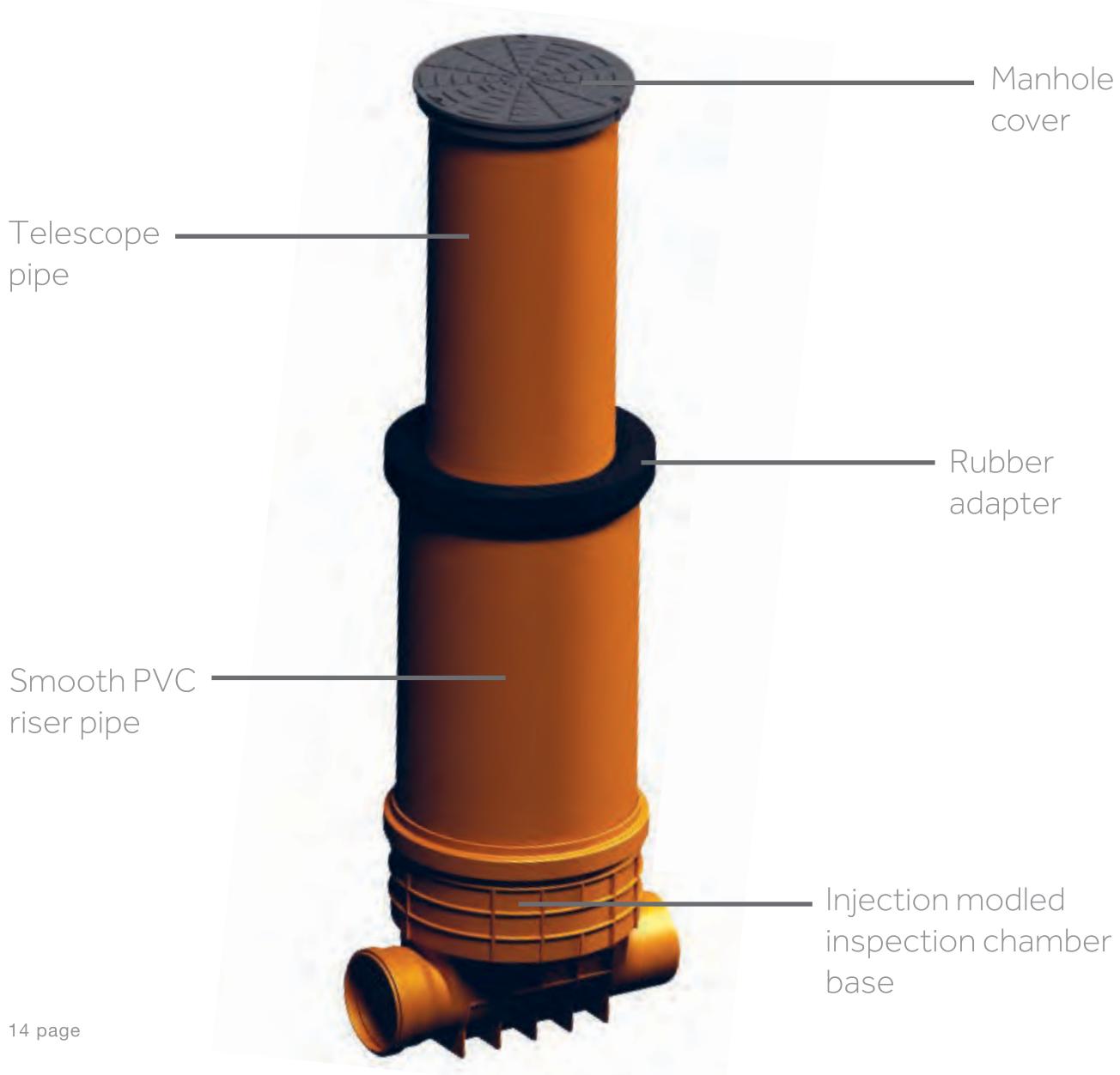
Item Description	Picture	CODE	d (d/d1)	s	Z1	I _{1min}	I ₂
KGU SLEEVE SOCKET 		10402720 10402721 10402702 10402703 10402704 10402705 10402706 *11502310	110 125 160 200 250 315 400 500		122,2 131,2 158 158 250 293 244		
KGU DOUBLE SOCKET 		10402620 10402621 10402602 10402604 10402605 10402626 *11502410	110 125 160 250 315 400 500		122,2 131,2 158 250 293 244		
KGR EXCENTRIC REDUCER 		10401730 10401701 10401702 10401703 10401705 10401709 10401714	125/110 160/110 160/125 200/110 200/160 250/200 315/250	3,3 4 4 4,9 4,9 6,2 7,7	23,3 34 27 26 32 38 46	67 81 81 125 99 125 132	49,1 61 72 61 86 106 128
KGR REDUCER 		*10401750 *10401800 *10401810 *10401820 *10401751 *10401801 *10401811 *10401821 *10401802 *10401812 *10401822 *10401813 *10401823 *10401824 *11503027 *11503044	110/200 110/250 110/315 110/400 125/200 125/250 125/315 125/400 160/250 160/315 160/400 200/315 200/400 250/400 315/400 400/500	4,9 6,1 7,7 6 4,9 6,1 7,7 9,8 6,1 7,7 9,8 7,7 50 50 50 106 106 128	5 7 40 40 5 7 40 40 8 7 50 7 50 50 106 106 95	61 61 61 61 72 72 72 72 86 86 86 86 106 106 128 93	59 90 93 95 59 90 93 95 90 93 95 93 95 95 95

Item Description	Picture	CODE	d (d/d1)	S	Z ₁	Z ₂	I _{1min}	I ₂
INSPECTION PIPE		10401920 10401921 10401902 10401903 10401904 10401905 *11502603	110/110 125/110 160/160 200/160 250/160 315/160 400/160	3,3 3,3 4 4,9 6,2 7,7	51,7 51,7 83 86 89 93	52,68 51 89 111 91 104	67 72 81 99 125 134	49,1 54,6 86 106 128 155
NON-RETURN VALVE		10202502 10202503 10202504 10402000 10402001 10402002	110 125 160 200 250 315	4,0 4,0 4,0 4,5 6,2 7,7	64 68 68 100 144 160	64 65 103 86 104 116	320 318 350 455 566 728	189 226 248 300 365 454
KG END CAP		10402904 10402900 10402901 10402902 *11502504	200 250 315 400 500	4,9 6,2 7,7 9,8 12,3			51,5 90 92,5 95 120	
NON-RETURN VALVE WITH TWO CLAPS		10202505	110 160 200					
DRAIN MANHOLES LINEAR TRAY		10799220 10799221	400/160 400/200					
DRAIN MANHOLES		10799222 10799223	400/160 400/200					

* WELDED FITTING

Item Description	Picture	CODE
NEW PRODUCT - MANHOLE COVER  		

EXAMPLE OF MANHOLE DRAIN





Think Green!

Building owners are constantly “under green pressure” to make their buildings environmentally friendlier. Therefore, PESTAN offers piping systems with extended service life and advanced performance. In other words, the better pipes quality, the less environment impact.



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