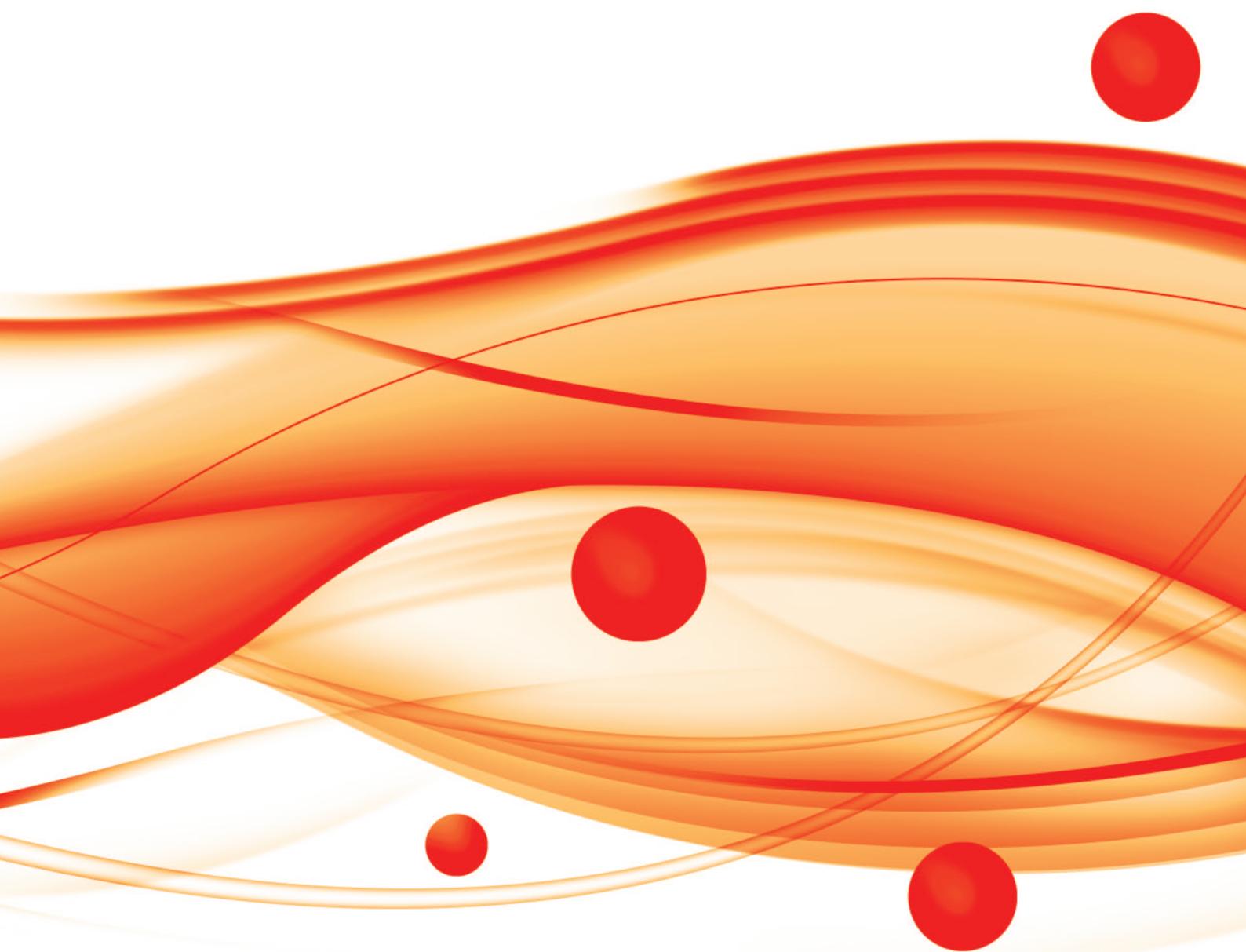
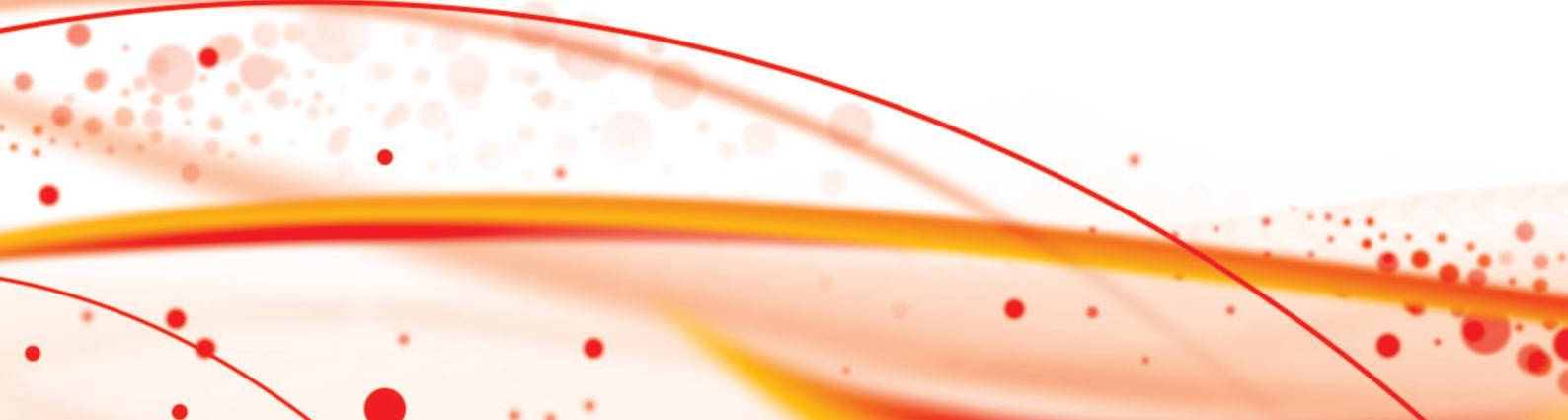




KG (PVC) PIPES & FITTINGS





KG (PVC) pipes & fittings for domestic and street sewerage systems

INTRODUCTION. 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 fitings 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.

BASIC CHARACTERISTICS, TECHNICAL DATA AND THE APPLICABILITY

- » 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





Material specification

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 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 recommendation

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%.

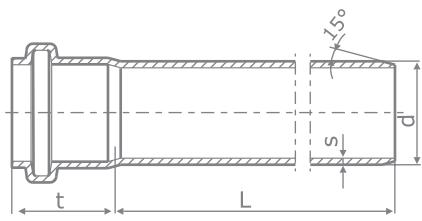
Laying of sewerage pipes and fittings is allowed without any specific static evidence, and in accordance with the following conditions:

- » 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 \varnothing)
- » 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.



Street sewerage systems

SRPS-EN 1401 , SRPS-EN 13476



KG PIPE SDR51 SN2

CODE	d	s	t
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

KG PIPE SDR41 SN4

CODE	d	s	t
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

KG PIPE SDR34 SN8

CODE	d	s	t
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

Home sewerage systems

DIN 19531

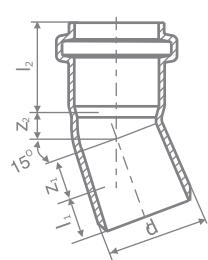


KG PIPE SDR51 SN2

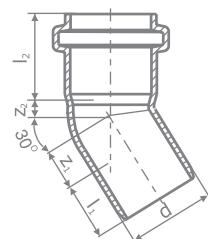
CODE	d	s	t
10100004	32	1,8	41
10100024	40	1,8	47
10100044	50	1,8	48
10100104	75	1,8	55
10100204	110	2,2	61
10100224	125	2,5	72

KGB BEND 15°

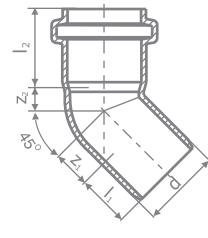
CODE	d	s	Z ₁	Z ₂	l _{1min}	l ₂
10400904	250	6,2	18	30	125	128

**KGB BEND 30°**

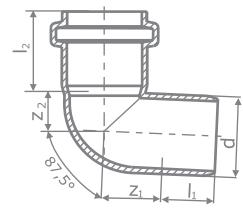
CODE	d	s	Z ₁	Z ₂	l _{1min}	l ₂
10401002	160	4	24	30	81	86
10401003	200	4,9	30	39	99	106
10401004	250	6,2	37	49	125	128

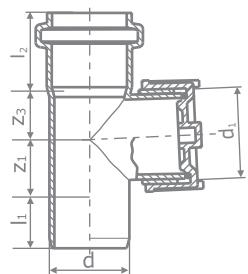
**KGB BEND 45°**

CODE	d	s	Z ₁	Z ₂	l _{1min}	l ₂
10401102	160	4	36	44	81	86
10401103	200	4,9	46	55	99	106
10401104	250	6,2	57	69	125	128
10401105	315	7,7	72	86	132	155

**KGB BEND 87,5°**

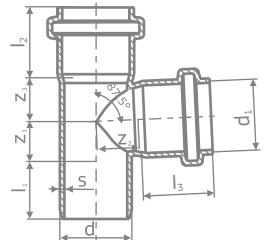
CODE	d	s	Z ₁	Z ₂	l _{1min}	l ₂
10401302	160	4	83	89	81	86
10401303	200	4,9	105	114	99	106
10401304	250	6,2	131	143	125	128
10401305	315	7,7	165	180	132	155





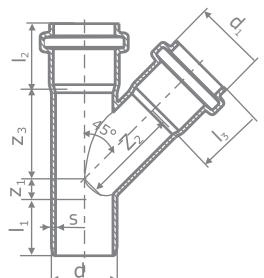
KGRE INSPECTION PIPE

CODE	d/d ₁	s	Z ₁	Z ₂	l _{1min}	l ₂
10401902	160/160	4	83	89	81	86
10401903	200/160	4,9	86	111	99	106
10401904	250/160	6,2	89	91	125	128
10401905	315/160	7,7	93	104	134	155



KGEA BRANCH 87,5°

CODE	d/d ₁	s	Z ₁	Z ₂	Z ₃	l _{1min}	l ₂	l ₃
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

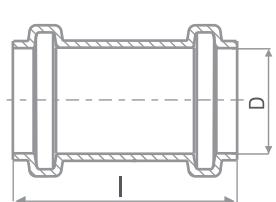


KGEA BRANCH 45°

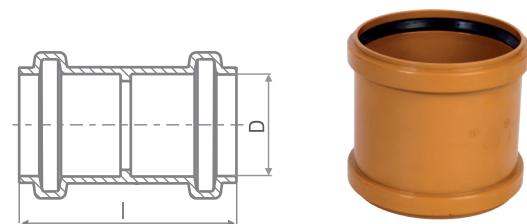
CODE	d/d ₁	s	Z ₁	Z ₂	Z ₃	l _{1min}	l ₂	l ₃
10401403	160/110	4	1	168	159	81	86	61
10401404	160/125	4	12	176	169	81	86	72
10401405	160/160	4	36	194	194	81	86	86
10401406	200/110	4,9	-16	195	177	99	106	61
10401407	200/125	4,9	7	212	201	81	106	72
10401408	200/160	4,9	19	220	213	99	106	86
10401409	200/200	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

KGU SLEEVE SOCKET

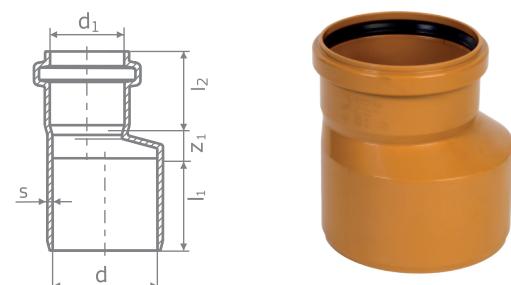
CODE	d	I
10402702	160	158
10402703	200	158
10402704	250	250
10402705	315	293

**KGU DOUBLE SOCKET**

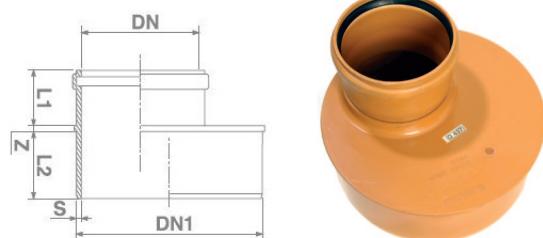
CODE	d	I
10402602	160	158
10402604	250	250
10402605	315	293

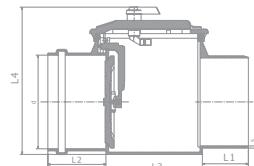
**KGR EXCENTRIC REDUCER**

CODE	d/d ₁	s	Z ₁	L _{1min}	L ₂
10401701	160/110	4	34	81	61
10401702	160/125	4	27	81	72
10401703	200/110	4,9	26	125	61
10401705	200/160	4,9	32	99	86
10401709	250/200	6,2	38	125	106
10401714	315/250	7,7	46	132	128

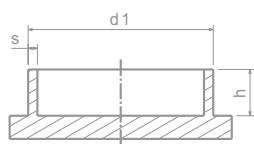
**KGR REDUCER**

CODE	DN	DN1	S	Z	L1	L2
10401750	110	200	4,9	5	61	59
10401800	110	250	6,1	7	61	90
10401810	110	315	7,7	40	61	93
10401820	110	400	6	40	61	95
10401751	125	200	4,9	5	72	59
10401801	125	250	6,1	7	72	90
10401811	125	315	7,7	40	72	93
10401821	125	400	9,8	40	72	95
10401802	160	250	6,1	8	86	90
10401812	160	315	7,7	7	86	93
10401822	160	400	9,8	50	86	95
10401813	200	315	7,7	7	106	93
10401823	200	400	9,8	50	106	95
10401824	250	400	9,8	50	128	95

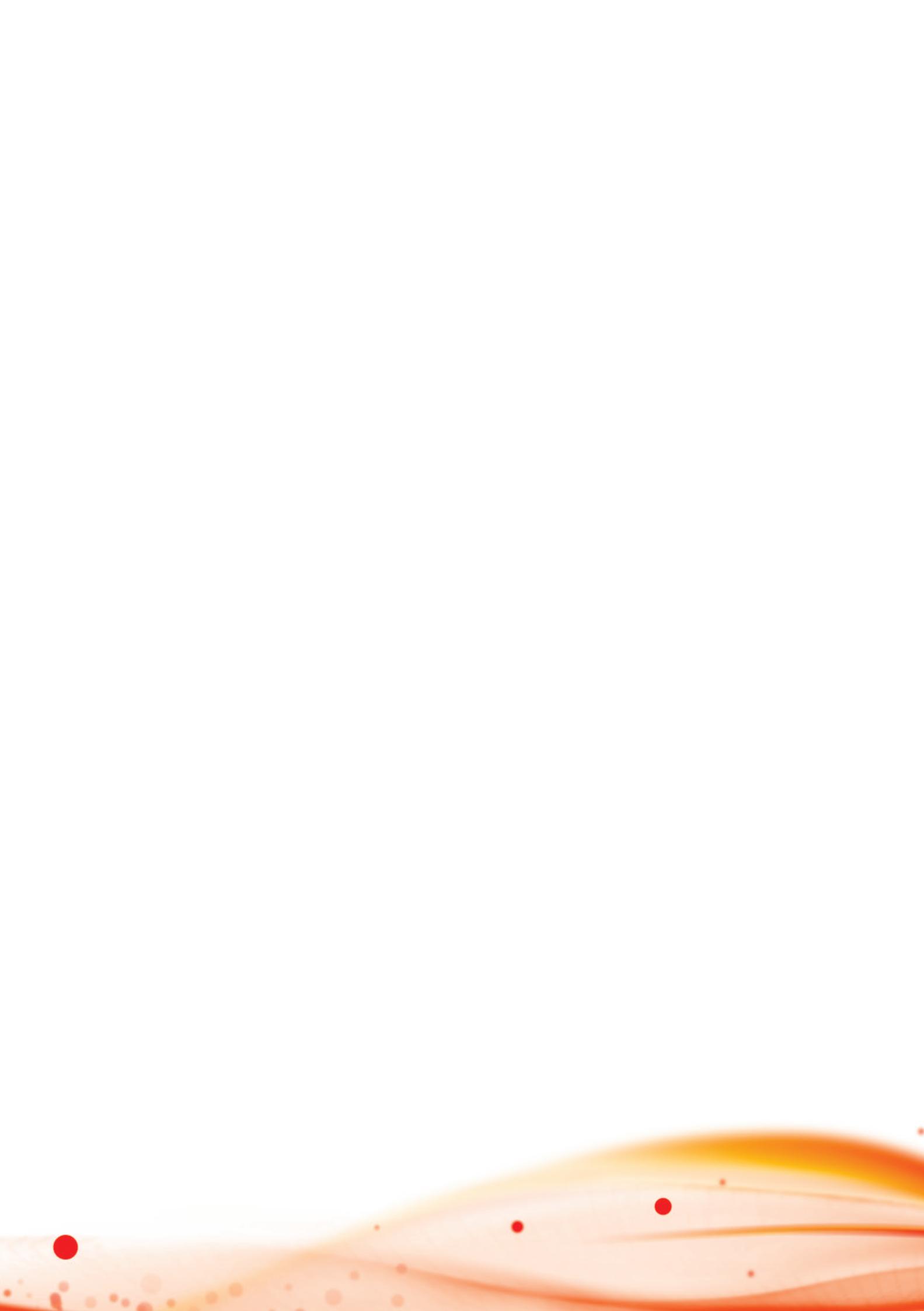


**KGRE NON-RETURN VALVE**

CODE	d	s	L ₁	L ₂	L ₃	L ₄
10202502	110	4,0	64	64	320	189
10202503	125	4,0	68	65	318	226
10202504	160	4,0	68	103	350	248
10402000	*	200	4,5	100	86	455
10402001	*	250	6,2	144	104	566
10402002	*	315	7,7	160	116	728
			SRPS-EN1455 - ABS,	*SRPS-EN 1401 - PVC, SRPS-EN 13564-1		

**KG END CAP**

CODE	dN	d ₁	h	s
10402904	200	200	51,5	4,9
-	250	250	90	6,2
-	315	315	92,5	7,7
-	400	400	95	9,8
-	500	500	120	12,3





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