



INTERNAL SEWAGE SYSTEM

ECO-ENVIRONMENTAL
AND QUALITY DEVELOPMENTS



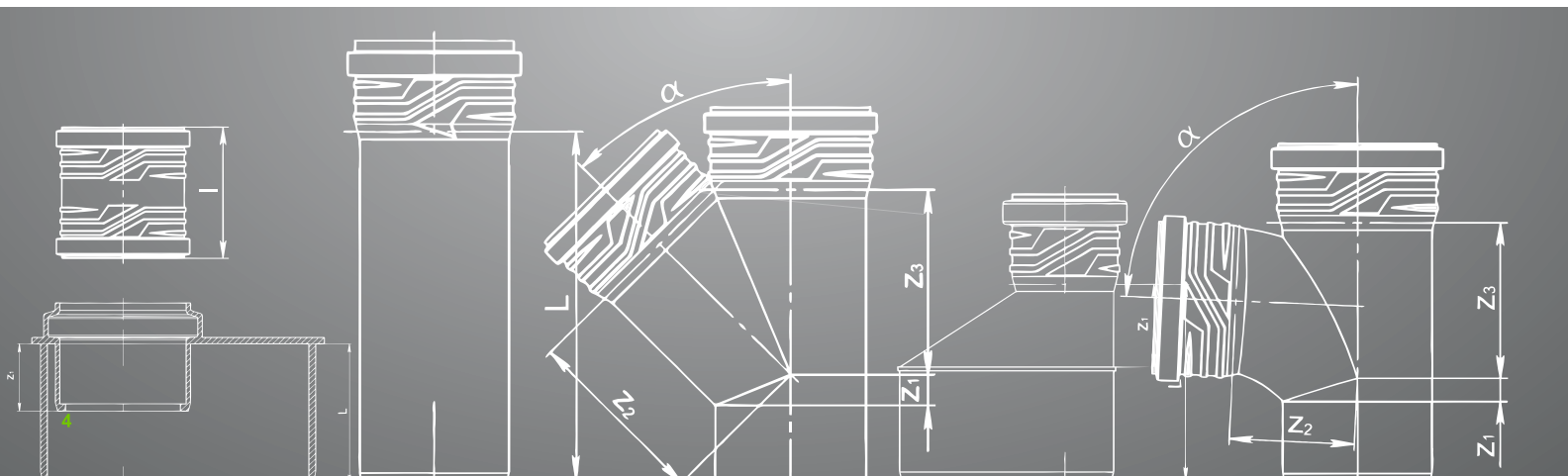
Internal sewerage ASG NANO HTR meets all modern requirements in residential and industrial construction.

Features of the design of sockets give pipes and fittings increased rigidity and reliability.

Carefully selected high-quality raw materials provide high impact resistance, excellent noise insulation, long-term fire resistance according to DIN 4102 class B1, as well as trouble-free operation at high temperatures.



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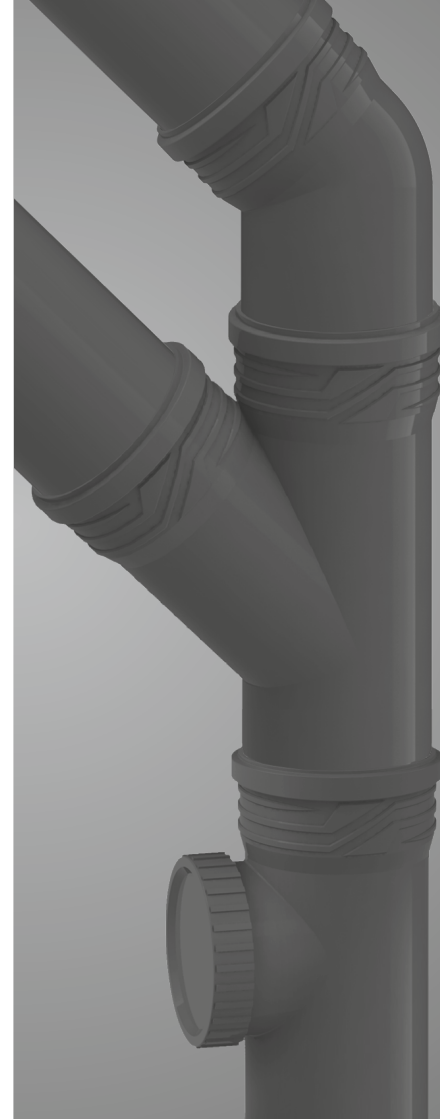


The ASG NANO HTR internal sewage system is a universal product and has a wide range of applications, namely: installation and reconstruction of household, fecal, storm sewers, water for technological purposes, offshore pipelines, drainage and reclamation networks, tunnels for communications, tanks, wells, pontoons

ADVANTAGES

The internal sewage system from ASG NANO HTR has the following advantages:

- high quality
- attractive appearance
- soundproofing material for pipes and fittings (21 dB) which corresponds // to the degree of soundproofing;
- optimally smooth wear-resistant inner layer of pipes, reducing the risk of clogging;
- high resistance to ultraviolet radiation;
- high impact strength - resistance to mechanical stress during transportation. storage and installation.
- fire safety and fire resistance (according to DIN 4102 class B1);
- versatility - can be used in non-pressure and pressure systems (up to 6 bar), internal sewage systems;
- chemical resistance (used for aggressive environments in the range from pH 2 to pH 12).



Characteristic	Signs
Density (g/cm ³)	1.1
Wick softening temperature (°C)	158-164
Thermal conductivity (W/K m)	0.22
Coefficient of linear thermal expansion (°C ⁻¹)	1,2* 10 ⁻⁴
Charpy impact strength (kJ/m ²) (at 20°C)	6.86
Bending strength (N/mm ²)	43,14
Yield point (N/mm ²)	30.39
Tensile strength (N/mm ²)	39.22
Elongation at break (%)	800
Modulus of elasticity (N/mm ²)	1275
Color	Ral 7037

Elements of the ASG NANO HTR system are made of polypropylene homopolymer (PP-H) (according to DIN EN1451-1 and DIN 19560-10).

Two-piece seals are combined from two materials:

- thermoplastic elastomer;
- polypropylene

ASG NANO HTR is a new generation pipe designed for the construction of pipelines, the disposal of domestic and industrial wastewater and rainwater inside the building. ASG NANO HTR pipes are made from an improved material formulation based on polypropylene and natural components, thanks to which they are distinguished by new beneficial properties that increase the functionality of the sewer. The heat-resistant stabilized polymer from which the system is made exhibits a very high resistance to the effects of various, including aggressive, chemical compounds and high and low temperature wastewater. The centimeter scale directly on the pipes makes the installation of the sewer system more comfortable.

**The pipe is a development of the enterprise
«SAN TEH RAI" patent N ° 132230**

**PIPE MARKING:
ASG NANO HTR PP-H DN XXxXXX LXXXXmm**



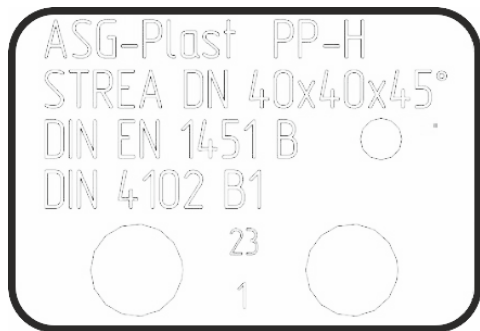
Made in Ukraine "SAN TEH RAI" LLC, 462km+100m road Ukraine, 67663, Odesa Region, Biliaivka District, Usatove Village Council, 462 KM Street + 100 M of the Kyiv-Odesa Highway



DSTU B V 2.7-140; EN 1451-1 B DIN 4102 B1 N°000000
Tmax*95°C, LOW NOISE 21 Db 00:00 01.01.2000 A1

Where: 1 - the value of the nominal diameter;
2 - the value of the wall thickness;
3 - the value of the construction length of the pipe;
4 - designation of the purpose of the product according to the method of application, according to EN 1451-1 (B - internal sewerage);
5 - flammability class according to DIN 4102;
6 - production batch number.





ASG NANO HTR fittings have a thoughtful design and attractive design.

To strengthen and increase the overall strength, the sockets of the fittings have a special profile.

Fittings are equipped with two-component O-rings. They are pre-installed at the factory.

Each fitting has its own marking. It includes information about:

- material;
- outer diameter;
- date of manufacture.

Type of product	AAAA	BBB	CC	DDD
Elbow	STRB	32	-	30
T-Joint	STREA	40	40	45
Coupling	STRU	110	-	-
Sliding coupling	STRMM	40	-	-
Long sleeve (expansion pipe)	STRL	110	-	-
Reduction	STRR	50	32	-
Revision	STRRE	110	-	-
Plug	STRM	40	-	-

Through the use of two-component O-rings, pipes and fittings can be installed in both pressure and non-pressure internal sewage systems. Two-piece O-rings are combined from two materials:

- thermostatic elastomer
- polypropylene.

Due to the carefully developed design and specially selected materials, the compounds have 100% tightness.



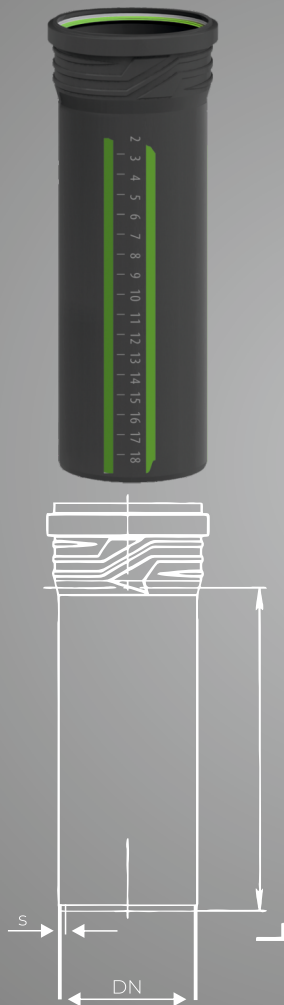
ASG NANO HTR sewer fittings and pipes are equipped with two-component sealing rings, which are pre-installed and lubricated on robotic lines.

The composition of the grease for sealing rings is the intellectual property of SAN TEH RAI

The substance has unique properties, which provide:

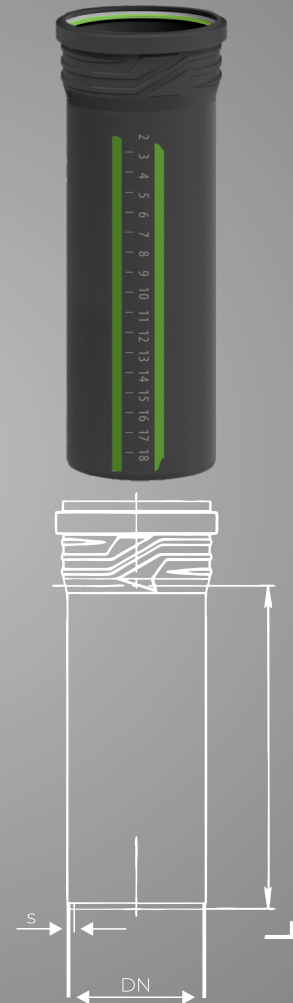
- Maximum slip and ease of installation.
- Retains its properties at temperatures from -40 to 95 °C.
- Provides the longest tightness of the connection.
- It is recommended to use this grease in countries with severe climatic conditions.

O-rings are the development of SAN TEH RAI, patent 40898



Article	DN	S, mm	L (mm)	Package
1416955596	32	1,8	150	45/4320
1414640444	32	1,8	250	30/2880
6531855	32	1,8	500	65/1820
1422396621	32	1,8	1000	12/300
6532154	32	1,8	1500	12/300
6532156	32	1,8	2000	12/300
1417543521	32	1,8	3000	12/300
6533096	40	1,8	150	25/2400
6533095	40	1,8	250	70/1960
6531631	40	1,8	500	45/1260
6532649	40	1,8	750	10/250
1419735936	40	1,8	1000	10/250
6176074	40	1,8	1500	10/250
6176077	40	1,8	2000	10/250
6533091	40	1,8	3000	10/250
6533092	50	1,8	150	60/1680
6533093	50	1,8	250	45/1260
6540548	50	1,8	500	45/720
6540552	50	1,8	750	10/200
6540561	50	1,8	1000	10/200
6540554	50	1,8	1500	10/200
6540555	50	1,8	2000	10/200
6540556	50	1,8	3000	10/200
6540557	75	1,9	150	25/700
6540558	75	1,9	250	30/480
6540559	75	1,9	500	20/320

Article	DN	S, mm	L (mm)	Package
6540560	75	1,9	750	4/112
6540561	75	1,9	1000	4/112
6540563	75	1,9	1500	4/112
6540562	75	1,9	2000	4/112
6540565	110	2,7	150	20/320
6540566	110	2,7	250	14/224
6540567	110	2,7	500	9/144
6540568	110	2,7	750	4/60
6540569	110	2,7	1000	4/60
6540570	110	2,7	1500	4/60
6540571	110	2,7	2000	4/60
6540572	110	2,7	3000	4/60
6540574	125	3,1	250	11/176
6540575	125	3,1	500	6/96
6540576	125	3,1	750	1/54
6540577	125	3,1	1000	1/54
6540578	125	3,1	1500	1/54
6540579	125	3,1	2000	1/54
6540593	160	3,9	500	4/64
6540594	160	3,9	750	1/35
6540595	160	3,9	1000	1/35
6540596	160	3,9	1500	1/35
6540597	160	3,9	2000	1/35
6540598	160	3,9	3000	1/35





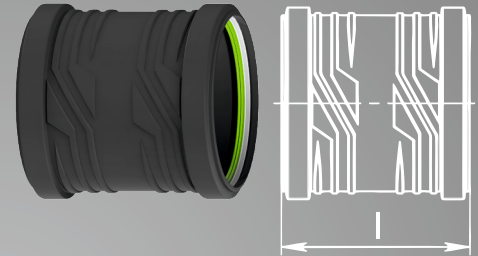
INTERNAL SEWAGE SYSTEM

**15 YEARS
WARRANTY
AND QUALITY**



COUPLING (sliding)

Article	DN	L (mm)	Package
6540666	50	106	25/2400
6540669	110	131	36/576



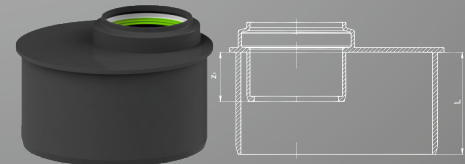
COUPLING (double spigot)

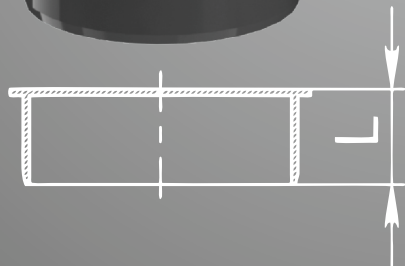
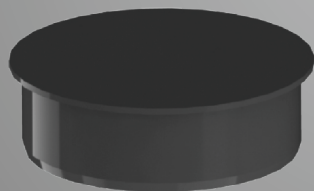
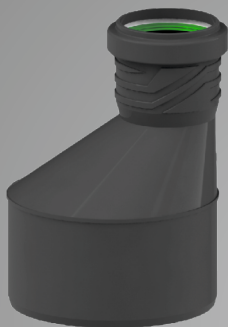
Article	DN	L (mm)	Package
6540669	32	93	20/1400
6540665	40	104	35/3360
6540666	50	106	25/2400
6541803	75	111	20/480
6540668	110	131	36/576
6541806	125	116	20/160
6541801	160	163	15/120



REDUCTION SHORT (reduction)

Article	DN	Z1	L (mm)	Package
6540663	110/50	30,51	60	30/840





ECCENTRIC TRANSITION (reduction)

Article	DN	Z1	L (mm)	Package
6540660	40/32		46	25/6900
6540661	50/32	17	65	45/4320
6540662	50/40	11	60,8	35/3360
6543099	75/50	21	72	20/480
6540664	110/50	40	102	45/1260
6543145	110/75	26	89	20/480
6543100	125/110	15	79	20/240
6543101	160/110	38,5	118	20/160
6543102	160/125	28	101	20/160

PLUG

Article	DN	L (mm)	Package
6540673	32	32,3	100/27600
6540674	40	33,5	30/8280
6540675	50	34,5	30/8280
6543103	75	39	20/2880
6540676	110	39,3	20/1920
6543104	125	43	20/480
6543105	160	60	20/480

REVISION

Article	DN	L (mm)	Package
6543106	75	138	20/480
6540671	110	181	20/320
6543107	125	191	5/60
6543108	160	203	5/60

CROSSPIECE 45°

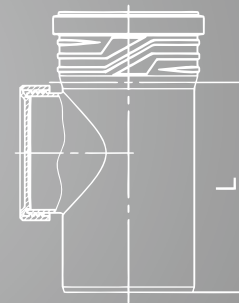
Article	DN	α	Z1	Z2	Z3	l1	Package
6543027	50/50/50	45°	11	62	62	121	35/980

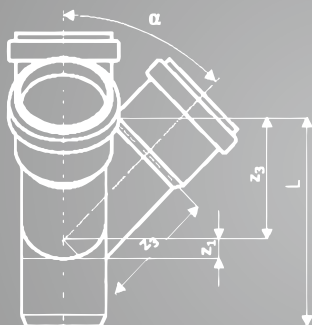
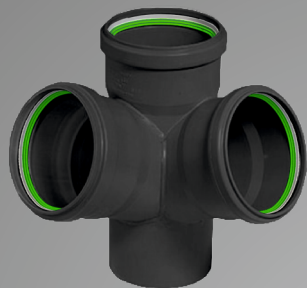
CROSSPIECE 67°

Article	DN	α	Z1	Z2	Z3	l1	Package
6543036	75/75/75	67°	28	55	55	138	20/240

CROSSPIECE 87,5°

Article	DN	α	Z1	Z2	Z3	l1	Package
6543028	110/110/110	87,5°	57	61	61	185	8/128
6543029	110/110/50	87,5°	57	61	33	185	8/128
6543035	50/50/50	87,5°	24	30	30	102	35/980





TWO-PLANE CROSSPIECE 87°

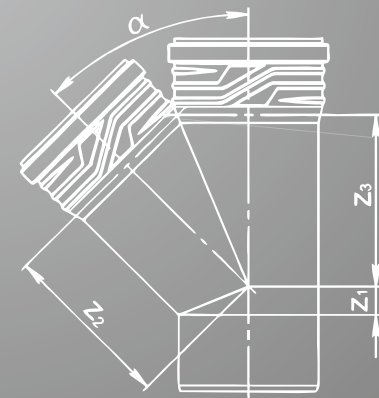
Article	DN	α	Z1	Z2	Z3	l1	Package
6543025 (left)	110/110/50	67°	40	86	86	148	10/80
6543024 (right)	110/110/50	67°	40	86	86	148	10/80

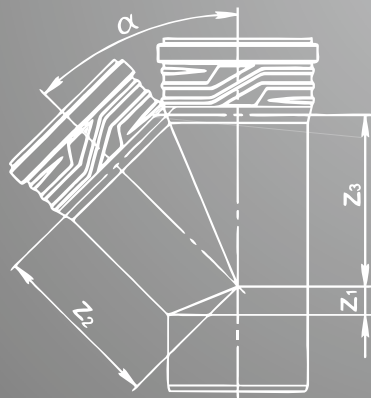
T-JOINT 45°

Article	DN	L (mm)	Z1	Z2	Z3	Package
6540642	32/32	94	7	43	43	35/3360
6540644	40/40	105	9	50	50	20/1920
6543121	50/40	106	5	57	55	20/480
6540647	50/50	121	11	62	62	45/1260
6543122	75/50	128	1	79	74	20/400
6543123	75/75	164	18	92	92	20/240
6540650	110/50	134	19	105	93	24/384
6543124	110/75	175	1	120	115	20/160
6540658	110/110	219	25	134	134	12/192
6543125	125/110	224	18	144	142	5/60
6543126	125/125	249	28	152	152	5/60
6543128	160/110	242	1	228	158	5/40
6543127	160/160	309	36	194	194	5/30

T-JOINT 67,5°

Article	DN	L (mm)	Z1	Z2	Z3	Package
6543129	32/32	86	14	27	27	20/960
6543130	40/40	99	16	33	33	20/960
6543131	50/40	35	14	39	35	20/480
6540647	50/50	106	17	41	41	50/1400
6543132	75/50	115	14	54	46	20/480
6543133	75/75	143	28	66	60	20/240
6543134	110/50	125	8	73	54	20/240
6543135	110/75	148	22	78	68	20/160
6543136	110/110	186	40	88	88	10/120





T-JOINT 87,5°

Article	DN	L (mm)	Z1	Z2	Z3	Package
6540643	32/32	81	16	21	21	40/3840
6540645	40/40	91	20	25	25	20/1920
6540646	50/40	93	20	30	25	65/1820
6540649	50/50	102	24	30	30	55/1540
6543137	75/50	112	27	43	31	20/240
6543138	75/75	138	40	43	43	20/240
6540657	110/50	117	24	60	33	24/384
6543139	110/75	113	40	60	46	20/160
6540650	110/110	197	18	92	120	12/192
6543140	125/110	191	58	70	64	5/60
6543141	125/125	205	65	71	71	5/60
6543143	160/110	219	66	87	64	5/60
6543142	160/160	253	83	91	91	4/48

ELBOW 15°

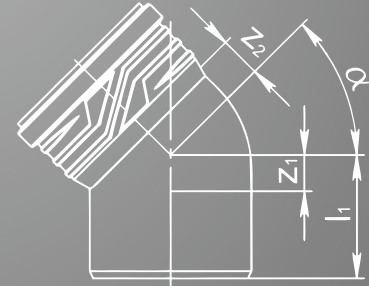
Article	DN	α	Z1	Z2	l1	Package
6543013	32	15°	3	8	42	20/1400
6512649	40	15°	5	9	44	20/960
6540610	50	15°	5	9	53	30/2880
6540637	110	15°	9	15	69	30/480

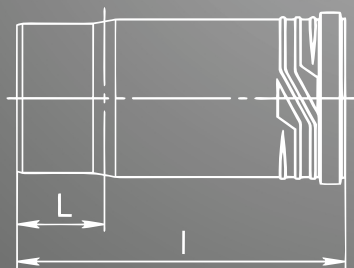
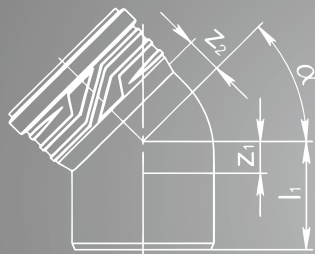
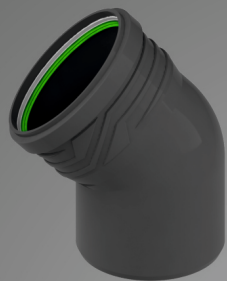
ELBOW 30°

Article	DN	α	Z1	Z2	l1	Package
6540599	32	30°	6	10	50	25/6900
6540606	40	30°	7	11	53	45/4320
6540611	50	30°	8	13	56	25/2400
6543054	75	30°	12	16	51	20/480
6540638	110	30°	17	22	77	30/480
6543112	160	30°	24	32	73	10/80

ELBOW 45°

Article	DN	α	Z1	Z2	l1	Package
6540600	32	45°	9	12	53	25/6900
6540607	40	45°	10	14	56	40/3840
6540612	50	45°	12	16	60	25/2400
6543113	75	45°	16	12	51	20/480
6540639	110	45°	25	31	85	25/400
6543114	125	45°	28	34	64	20/160
6543115	160	45°	36	46	73	5/60





ELBOW 67,5°

Article	DN	α	Z1	Z2	l1	Package
6540601	32	67,5°	14	17	58	20/5520
6540608	40	67,5°	16	20	62	40/3840
6540613	50	67,5°	21	23	69	25/2400
6543059	75	67,5°	28	31	51	20/480
6540640	110	67,5°	40	45	100	20/320

ELBOW 87,5°

Article	DN	α	Z1	Z2	l1	Package
6540602	32	87,5°	19	23	63	20/5520
6540609	40	87,5°	23	26	69	35/3360
6540613	50	87,5°	28	31	76	20/1920
6543118	75	87,5°	40	43	51	20/480
6540641	110	87,5°	58	63	118	20/320
6543119	125	87,5°	65	71	64	10/120
6543120	160	87,5°	83	96	73	5/60

LONG SLEEVE (expansion pipe)

Article	DN	l (mm)	L (mm)	Package
6540670	110	256	68	14/224

REVISION COVER

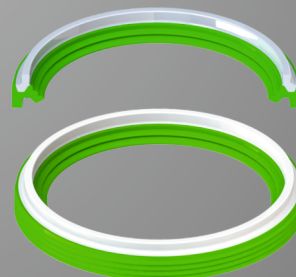
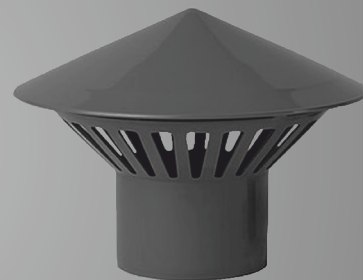
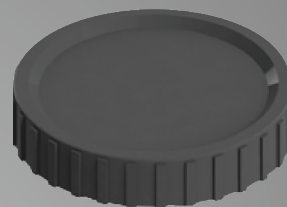
Article	DN	Package
6540672	110	A

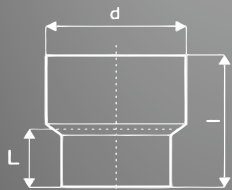
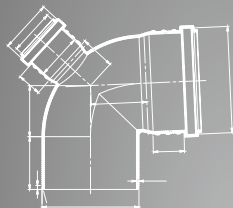
VENTILATION FUNGUS 87,5°

Article	DN	Package
6543037	110	15
	50	50

O-RING TWO-COMPONENT

Article	DN	Package
6540679	32	576
6540680	40	204
6540681	50	144
6540682	75	51
6540683	110	28
6540684	125	24





WITHDRAWAL 110

Article	D1 x D2 x Corner	L (mm)	Package
6543039	110x50x90°x90° left	A	1
6543040	110x50x90°x90° right	A	1
6543041	110x50x90°x90° backwards	A	1
6543042	110x50x45°x90° backwards	A	1
6543043	110x50x90°x180° backwards	A	1
6543044	50x50x90°x90°x90° two pull-backs	A	1

TRANSFER TO CAST-IRON PIPE

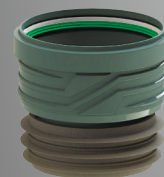
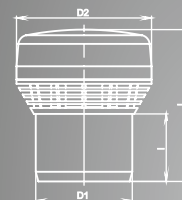
Article	DN	d (mm)	l1	l2	Package
6543045	50	72	116	61	20/960
6543046	110	124	130	64	20/480

AERATOR ASG NANO HTR

Article	DN	D1, mm	D2, mm	l, mm	L (mm)	Package
6551162	50	50	70	35	78,7	175
6551161	110	110	125	46	106	45

PLUG-IN COLLAR

Article	DN	D1, mm	D2, mm	D3, mm	L (mm)	Package
6550557	110/11	90	117	126,2	108,1	24



CONNECTING PIPES WITH FITTINGS

- Clean the O-ring, the inner surface of the socket and the end of the pipe from dirt.
- Check that the O-ring is installed correctly
- Lubricate the end of the pipe to be inserted with liquid soap (or a special lubricant) and insert into the socket until it stops
- In this position, make a mark with a pencil or felt-tip pen on the inserted end of the pipe along the edge of the socket.
- For long pipes (> 500 mm), push the plug-in end of the pipe 10 mm out of the socket to provide a gap to compensate for thermal expansion.
- For short pipes (< 500 mm) and fittings, push the insertion end of the pipe completely into the socket.

PIPING IN A BRICK WALL

The channels in the masonry should be made in such a way that the pipeline can be laid without internal stresses.

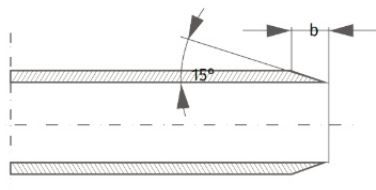
- Avoid sound-conducting bridges between the pipe and the wall.

If the pipes will be sealed without the use of reinforcing devices (for example, plaster or metal mesh) or without a sheath, then:

- Pipes and fittings must first be lined on all sides with flexible materials (mineral wool or thermal insulation)
- In the case of laying the foundation for plastering, the channel must first be covered. Due to this, when applying the plaster, it is possible to avoid the occurrence of sound-conducting bridges between the pipe and the masonry (wall).
- In places where, due to extraneous heat sources, the temperature may rise above 90 °C, pipes and fittings should be protected from overheating by means of additional thermal insulation

PIPE PROCESSING

Pipe cutting is done at a right angle with a pipe cutter or a fine-toothed saw. Burrs on cut edges must be deburred. The ends of the pipes must be chamfered at an angle of approximately 15°, as shown in the figure:



Pipes must be transported on pallets or have at least one support along their entire length. Avoid direct blows to pipes, especially at negative temperatures.

Actions leading to mechanical damage should be avoided.

Pipes and fittings with installed O-rings can be stored outdoors, if possible, for no more than 3 years, taking into account UV protection.

During storage, pipe sockets must not be subjected to horizontal or vertical loads. The height of the stacks should not exceed 1.5 m.

DN :	32	40	50	75	110	125	160
b (mm) :	3,5	3,5	3,5	3,5	4,5	5	6

CHEMICAL RESISTANCE OF PROPYLENE

Substances	Concentration %	Temperature °C		
		20	60	100
Acetone	100	+	0	
Aqueous solution of ammonia	10	+	+	
Pure amyl alcohol		+	+	
Acetic anhydride	100	+		
Benzene	100	-I	-	
Bromine is liquid	100	-		
Diethyl ether	100	0		
Ethanol	100	+		
Formaldehyde, aq.	40	+	+	
Glycerin	100	+	+	
Glycol	100	+	+	
Aqueous glycol (solution)	weak	+	+	
liquid chlorine	100	-		+
Isopropyl alcohol	100	+	+	
Citric acid aq.		+	+	+
Phosphoric acid	10	+	+	+
Hydrochloric acid		+	+	
Mercury	100	+	+	
Hydrocarbon (solution)	weak	+	+	
Toluene	100	0	-	
Water	100	+	+	+
Gasoline is clean	100	+	0	
Turpentine		+	+p	
Motor oils		+	0	
Liquid glass		+	+	
Shampoo		+	+	
Toothpaste		+	+	
Coca Cola		+		

+ Resilient
- Unsustainable

- □ Low Resistant
○ Resistant Resistant

+ □ Partially resistant

PASSAGES THROUGH THE OVERLAPPING

Pipe penetrations through ceilings must be waterproof and soundproof. To do this, you can use a suitable lining of the passages in the ceilings.

If hot asphalt is laid on the floor: open sections of the pipeline must be protected with fireclay, protective pipe or wrapping with heat-insulating materials.

If fire-technical requirements are imposed on the ceilings, then it is necessary to provide fire safety measures.

PIPING

Pipes and fittings of internal sewerage systems ASG-plast can be concreted:

- sections of pipelines should be fixed in such a way as to prevent their length from changing due to thermal elongation during concreting.

- when laying the pipeline, ensure that sufficient expansion gaps are created.

- the gap in the socket must be closed with adhesive tape so that concrete does not penetrate there.

- before concreting, it is necessary to close the openings of the pipes.



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