

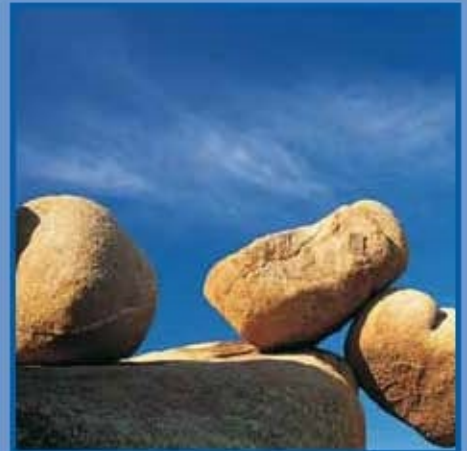
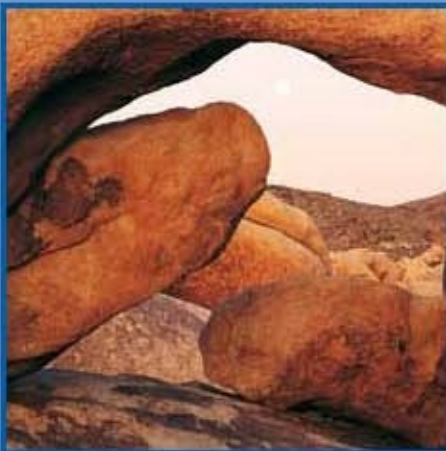
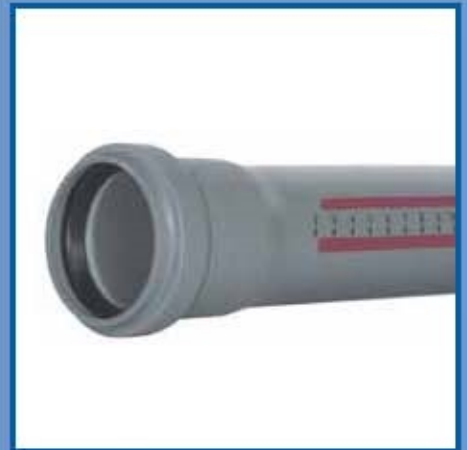
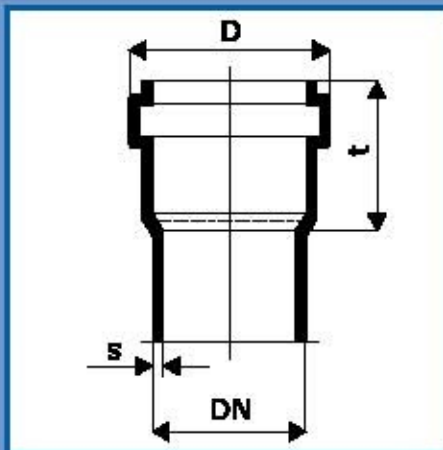
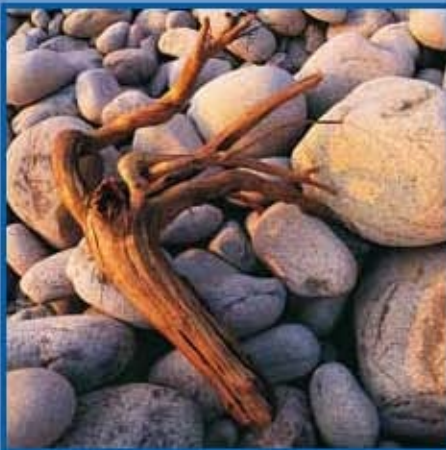
Emiplast[®]

HT-System (PPs)

Discharge pipes and fittings

HT-System (PPs)

The modified house discharge system from **Emiplast**. It unites all the requirements of a modern house discharge system from sound insulation/fire protection to easy centimeter-marking installation. Of course, all the established properties such as low inflammability, chemical resistance and hot water resistance have been taken on. What has come about is a qualitatively high-grade house discharge pipe system with a maximum degree of compliance to all the requirements.





Benefits and
Advantages of
the System
Material Properties

Just trust what you hear

Those wishing to live comfortably today want to avoid disturbing noises. This is where the **Emiplast** HT easy-to-install, corrosion-resistant house discharge pipe system helps to raise the quality of living.

- CAN BE USED IN ALL FIELDS OF BUILDING CONSTRUCTION
- EXCELLENT MECHANICAL AND ACOUSTIC PROPERTIES

How sound arises in the waste water pipe

Impact and flow noises result in airborne and structure-borne sounds at the piping walls. For instance, the impacting of water waste, which can reach relatively high speeds, induces noise at many points such as bends, branches and collecting lines. With **Emiplast** HT, the sanitary specialist has a soundproof house discharge pipe system which sets new standards.

- AIRBORNE NOISE
- STRUCTURE-BORNE NOISE

Emiplast HT avoids noise

The modified basic material formula in the HT house discharge pipe system provides reliable sound insulation. It is a hot water-resistant pipe system suitable for pressureless discharge of waste water, according to DIN EN 12056 and DIN 1986-100.

- SOUNDPROOF
- STOPS SOUND TRANSFER

Don't give noise a chance

A DIN EN 14366 sound insulation test carried out by the Fraunhofer Institut für Bauphysik in Stuttgart (Test report P-BA 45-1/2009 of the 10.09.2010) on the new **Emiplast** HT system came up with acoustic figures of 26 dB(A). Usual steel clamps with inlaid rubber and a 4 l/s flow rate were used in testing.

- 26 DB(A) ACCORDING TO DIN EN 14366

Strength and stability

Emiplast HT is corrosion-resistant, resistant to aggressive waste water and has a permanent low Inflammability as per DIN 4102 B1. There are no incrustations due to the smooth surface. **Emiplast** HT is available from DN 32 to DN 160. The reliable push-fit connection makes the system easy to install and fulfils all expectations.

- CORROSION RESISTANT
- EASY-TO-INSTALL
- B1 FLAME RESISTANT

Quality guarantee

Our HT pipes and fittings are quality labeled and are subject to constant quality checks. We run a certificated quality management system based on DIN EN ISO 9001 DQS, Reg. No. 289722-QM.

- DIN EN ISO 9001
- CONSTANT QUALITY CHECKS

Quality of living

Particularly in the matter of raised requirements in housing, **Emiplast** HT satisfies all ecological and economical expectations and contributes decisively to raising the quality of living – and thus the value of the property.

- RAISES THE PROPERTY VALUE
- MEETS BOTH ECONOMICAL AND ECOLOGICAL CRITERIA



HT-System (PPs)

Discharge pipes and fittings

Description

Polypropylene (PP), produced according to DIN EN 1451-1 respectively DIN 19560-10, resistant to hot water, permanent low inflammability as per DIN 4102 B1.

Application

Building drainage as

- Waste water pipe
- Rainwater pipe
- Ventilation pipe

(also see areas of use: DIN 1986-4).

Colour

Dusty grey RAL 7037
and cadmium-free.

Seal

Factory inlaid lip seal.

Chemical resistance

Discharge of aggressive media in the range of pH 2 to pH 12 – see chapter Chemical resistance page 124ff.

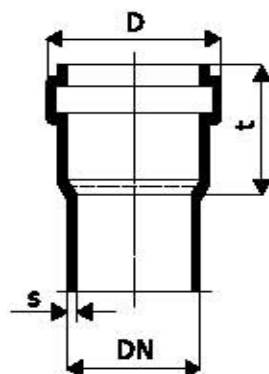
Commercial name

Emiplast High-Temperature Discharge Pipe

Marking

Pipes and fittings

Permanent marking with manufacturer label, nominal diameter, DIN standard (DIN EN 1451-1), date of manufacture, (fittings also marked with details).



Seals

Company label of the sealing ring manufacturer, nominal diameter, DIN standard (DIN EN 681), date of manufacture, number of the mould and mould cavity.

Central vacuum cleaning system

Test certificate from the Staatliche Material Prüfungsanstalt Darmstadt: "K 08.1177" and "K 04.1525"

Associated documents

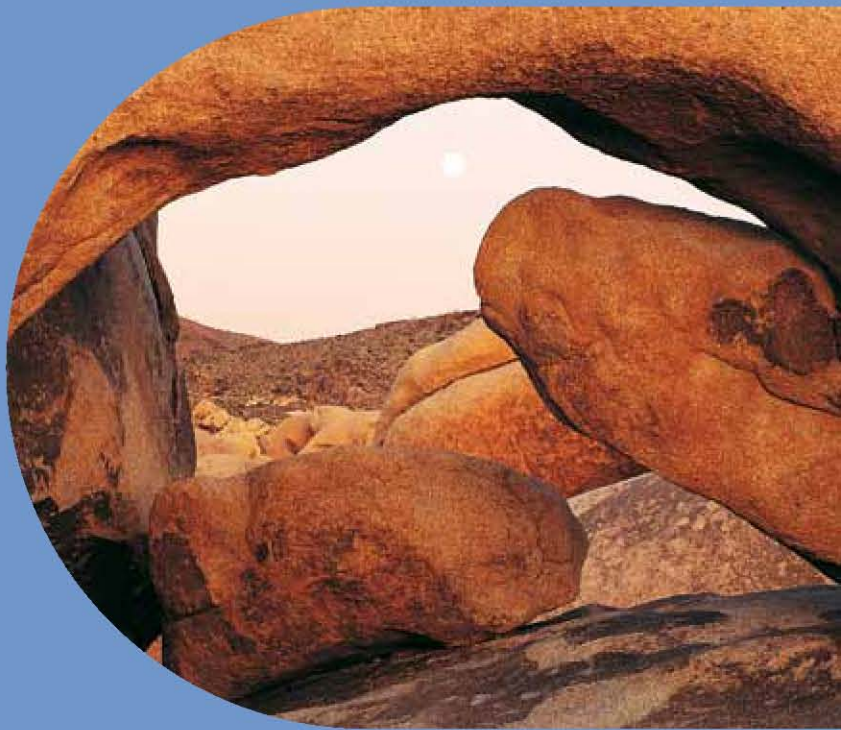
- a) Laying instruction of KRV e.V. Bonn
- b) List of the mechanical and thermal properties

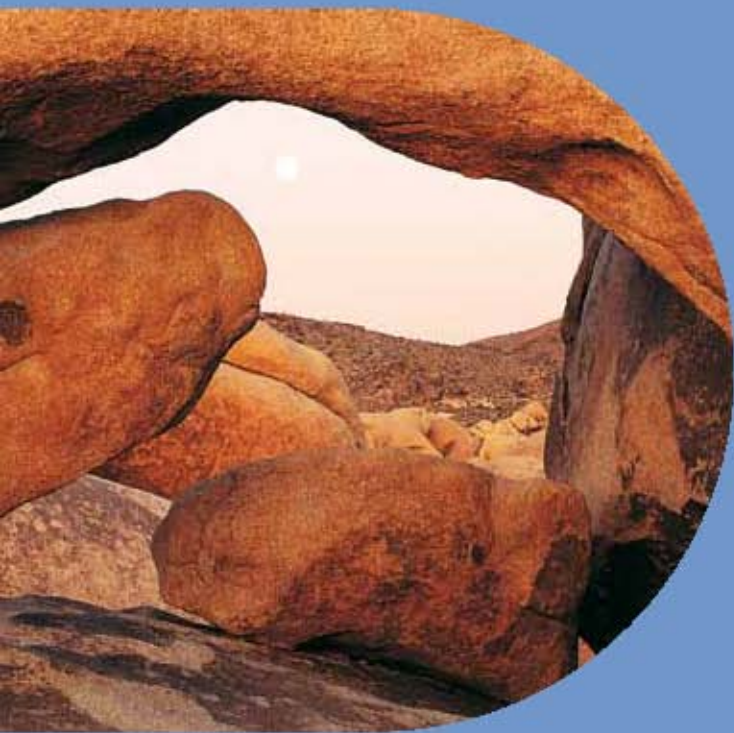
MECHANICAL AND THERMAL PROPERTIES				
Property	Measuring method		SYMBOL	VALUE
Density (g/cm ³)	ISO R 1183	DIN 53479	ρ	0,95
Notch impact resistance* as per Charpy (kJ/m ²)	ISO R 179 Test bar as per Fig. 2	DIN 53453 Standard small bar	a_k	6,86
Limit bending stress (N/mm ²)		DIN 53452 Standard small bar	$\sigma_{b,G}$	43,14
Yield stress (N/mm ²)	ISO R 527 Test speed C Test bar as per Fig. 2	DIN 53452 Test speed V Test bar 4	σ_s	30,39
Tear resistance (N/mm ²)			σ_k	39,22
Elongation at tear (%)			ϵ_k	800
Modulus of elasticity (N/mm ²)		DIN 53457 Section 2.3	E	1275
Vicat softening point (°C)	ISO R 306-1 kp	DIN 53460 Method A Silicone oil	VSP/A	158 – 164**
Thermal conductivity (W/Km)		DIN 52162	λ	0,22
Linear coefficient of thermal expansion (°C ⁻¹)		VDE 0304 Teil 1.4	α	1,2 · 10 ⁻⁴

* measured at 20°C

** applies to base material

DN(OD)	s [mm]	D [mm]	t [mm]
32	1,8	44	40
40	1,8	53	55
50	1,8	63	56
75	1,9	88	61
90	2,2	105	58
110	2,7	125	76
125	3,1	143	82
160	3,9	181	90



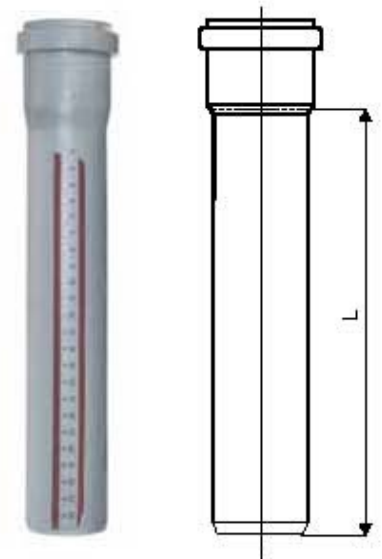


Product range
HT-System (PPs)

HTEM – Single socket pipe (push-fit)

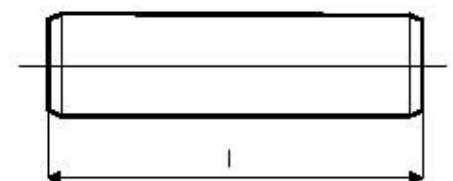
No.	DN	L [mm]	Unit
110000	32	150	20,960
110010	32	250	20,800
110020	32	500	20,320
110040	32	1000	10,300
110050	32	1500	10,300
110060	32	2000	10,300
111000	40	150	20,960
111010	40	250	20,960
111020	40	500	20,320
111030	40	750	10,260
111040	40	1000	10,260
111050	40	1500	10,260
111060	40	2000	10,260
112000	50	150	20,720
112010	50	250	20,720
112020	50	500	20,320
112030	50	750	10,200
112040	50	1000	10,200
112050	50	1500	10,200
112060	50	2000	10,200
113000	75	150	20,480
113010	75	250	20,320
113020	75	500	20,160
113030	75	750	6,120
113040	75	1000	6,120
113050	75	1500	6,120
113060	75	2000	6,120
114000	90	150	20,320
114010	90	250	20,240
114020	90	500	10,120
114030	90	750	4,96
114040	90	1000	4,96
114050	90	1500	4,96
114060	90	2000	4,96
115000	110	150	20,160
115010	110	250	20,160
115020	110	500	10,80
115030	110	750	4,60
115040	110	1000	4,60
115050	110	1500	4,60
115060	110	2000	4,60
116000	125	150	10,120
116010	125	250	10,120
116020	125	500	5,60
116030	125	750	1,54
116040	125	1000	1,54
116050	125	1500	1,54
116060	125	2000	1,54
117000	160	150	1,84
117010	160	250	1,66
117020	160	500	1,35
117030	160	750	1,35
117040	160	1000	1,35
117050	160	1500	1,35
117060	160	2000	1,35

HT – Pipe



HTGL – Plain ended pipe

No.	DN	l [mm]	Unit
110080	32	5000	1,300
111080	40	5000	1,260
112080	50	5000	1,200
113080	75	5000	1,120
114080	90	5000	1,96
115080	110	5000	1,60
116080	125	5000	1,54
117080	160	5000	1,35



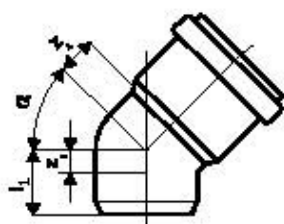
HT – Fitting

HTB – Bend 15°

No.	DN	α	z_1	z_2	l_1	Unit
110100	32	15°	3	8	42	20/1400
111100	40	15°	5	9	44	20/960
112100	50	15°	5	9	46	20/960
113100	75	15°	7	11	51	20/480
114100	90	15°	6	12	54	20/480
115100	110	15°	9	17	58	20/240
116100	125	15°	10	17	64	20/160
117100	160	15°	13	22	73	10/80

HTB – Bend 30°

No.	DN	α	z_1	z_2	l_1	Unit
110110	32	30°	6	10	42	20/1400
111110	40	30°	7	11	44	20/960
112110	50	30°	9	13	46	20/960
113110	75	30°	12	16	51	20/480
114110	90	30°	13	18	54	20/480
115110	110	30°	17	24	58	20/240
116110	125	30°	19	25	64	20/160
117110	160	30°	24	32	73	10/80



HTB – Bend 45°

No.	DN	α	z_1	z_2	l_1	Unit
110120	32	45°	9	12	42	20/1400
111120	40	45°	10	14	44	20/960
112120	50	45°	12	16	46	20/960
113120	75	45°	16	22	51	20/480
114120	90	45°	20	25	54	20/480
115120	110	45°	17	24	58	20/240
116120	125	45°	28	34	64	20/160
117120	160	45°	36	46	73	5/60



HTB – Bend 67°

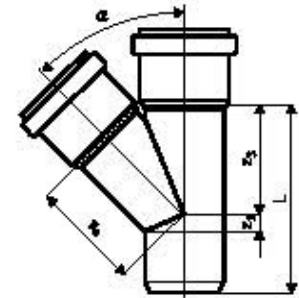
No.	DN	α	z_1	z_2	l_1	Unit
110130	32	67°	14	17	42	20/1400
111130	40	67°	16	20	44	20/960
112130	50	67°	22	23	46	20/960
113130	75	67°	28	31	51	20/480
114130	90	67°	32	36	54	20/240
115130	110	67°	40	44	58	20/160
116130	125	67°	40	44	58	20/120

HTB – Bend 87°

No.	DN	α	z_1	z_2	l_1	Unit
110140	32	87°	19	23	42	20/1400
111140	40	87°	23	26	42	20/960
112140	50	87°	28	31	46	20/960
113140	75	87°	40	43	51	20/480
114140	90	87°	46	49	54	20/240
115140	110	87°	57	61	58	20/160
116140	125	87°	66	71	64	10/120
117140	160	87°	83	96	73	5/60

HTEA – Branch 45°

No.	DN	α	z_1	z_2	z_3	L [mm]	Unit
110200	32/32	45°	9	40	40	95	20/960
111200	40/40	45°	10	50	50	104	20/960
112210	50/40	45°	5	57	55	105	20/480
112200	50/50	45°	12	62	62	125	20/480
113210	75/50	45°	1	79	74	128	20/400
113200	75/75	45°	18	92	92	154	20/240
114220	90/50	45°	9	90	82	127	20/240
114210	90/75	45°	9	103	100	153	20/240
114200	90/90	45°	20	110	110	184	20/160
115220	110/50	45°	17	104	94	152	20/240
115210	110/75	45°	1	120	115	175	20/160
115200	110/110	45°	25	135	135	218	10/80
116210	125/110	45°	18	144	142	224	5/60
116200	125/125	45°	28	152	152	249	5/60
117210	160/110	45°	1	228	158	242	5/40
117200	160/160	45°	35	194	194	309	5/30



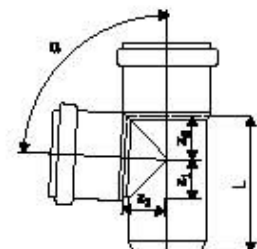
HTEA – Branch 67°

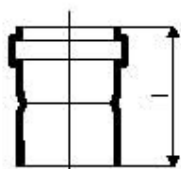
No.	DN	α	z_1	z_2	z_3	L [mm]	Unit
110300	32/32	67°	14	27	27	85	20/960
111300	40/40	67°	16	33	33	99	20/960
112310	50/40	67°	14	39	35	96	20/480
112300	50/50	67°	20	41	41	110	20/480
113310	75/50	67°	14	54	45	115	20/480
113300	75/75	67°	28	66	60	143	20/240
115320	110/50	67°	8	73	54	125	20/240
115310	110/75	67°	22	78	68	148	20/160
115300	110/110	67°	40	88	88	185	10/120



HTEA – Branch 87°

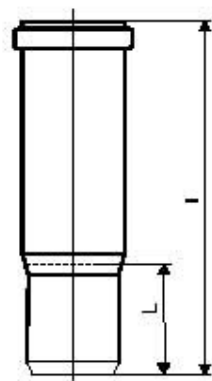
No.	DN	α	z_1	z_2	z_3	L [mm]	Unit
110400	32/32	87°	19	21	21	85	20/960
111400	40/40	87°	23	25	25	92	20/960
112410	50/40	87°	23	30	25	94	20/480
112400	50/50	87°	28	30	30	109	20/480
113410	75/50	87°	27	43	31	112	20/400
113400	75/75	87°	40	43	43	138	20/240
114420	90/50	87°	26	50	31	111	20/240
114410	90/75	87°	39	51	44	137	20/240
114400	90/90	87°	55	70	51	151	20/160
115420	110/50	87°	28	60	34	120	20/240
115410	110/75	87°	40	60	45	113	20/160
115400	110/110	87°	57	64	64	183	10/120
116410	125/110	87°	58	70	64	191	5/60
116400	125/125	87°	65	71	71	205	5/60
117410	160/110	87°	65	87	64	219	5/60
117400	160/160	87°	83	91	91	253	4/48





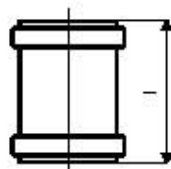
HTAM – Single socket

No.	DN	l [mm]	Unit
111810	40	113	20/1200
112810	50	116	20/480
113810	75	96,5	20/480
115810	110	123	20/240



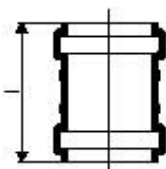
HTL – Long socket

No.	DN	l [mm]	L [mm]	Unit
111800	40	155	48	20/960
112800	50	211	54	20/480
113800	75	222	57	20/480
114800	90	151	60	20/480
115800	110	255	68	20/160



HTU – Coupler

No.	DN	l [mm]	Unit
110500	32	93	20/1400
111500	40	103	20/960
112500	50	105	20/960
113500	75	111	20/480
114500	90	98	20/480
115500	110	128	20/240
116500	125	120	20/160
117500	160	163	15/120

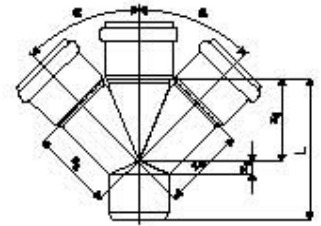


HTMM – Double socket

No.	DN	l [mm]	Unit
110510	32	93	20/1400
111510	40	103	20/960
112510	50	105	20/960
113510	75	111	20/480
114510	90	98	20/480
115510	110	128	20/240
116510	125	116	20/160
117510	160	163	15/120

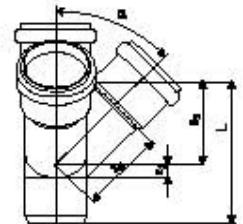
HTDA – Double branch

No.	DN	α	z_1	z_2	z_3	L [mm]	Unit
112900	50/50/50	67°	20	41	41	107	20/480
113900	75/75/75	67°	28	55	55	138	20/240
115910	110/50/50	67°	8	73	73	121	10/120
115900	110/110/110	67°	40	87	87	189	5,60
114900	90/90/90	87°	46	51	51	151	20/160



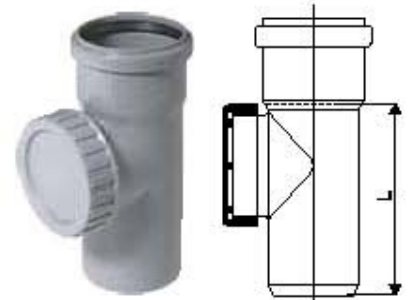
HTED – Double corner branch

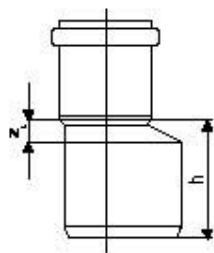
No.	DN	α	z_1	z_2	z_3	L [mm]	Unit
115920	110/110/110	67°	40	86	86	148	10/80



HTRE – Inspection pipe

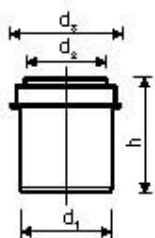
No.	DN	L [mm]	Unit
112600	50	110	20/480
113600	75	138	20/480
114600	90	171	20/240
115600	110	179	20/160
116600	125	191	5,60
117600	160	203	5,60





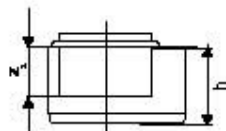
HTR – Reducer, eccentric

No.	DN	z_1	h [mm]	Unit
112720	50/32	17	68	20/960
112710	50/40	12	64	20/960
113710	75/50	21	72	20/480
114720	90/50	29	83	20/480
114710	90/75	17	71	20/480
115720	110/50	40	102	20/480
115710	110/75	26	89	20/480
115700	110/90	17	75	20/240
116710	125/110	15	79	20/240
117710	160/110	38,5	118	20/160
117700	160/125	28	101	20/160



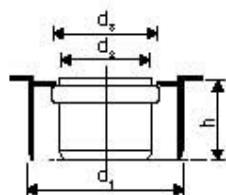
HT – Reducer DN 50/40 short

No.	DN	d_1	d_2	d_3	h [mm]	Unit
112715	50/40	50	41,2	59,5	61,5	20/1400



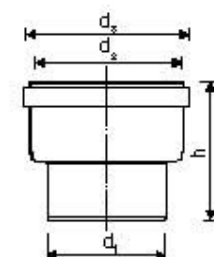
HTR – Reducer, eccentric, short

No.	DN	z_1	h [mm]	Unit
111710	40/32	31,5	50,5	20/1400
113715	75/50	30,9	53	20/480
115725	110/50	30,5	58	20/480
115715	110/75	39,4	59	20/480



HTRI – Inner reducer

No.	DN	d_1	d_2	d_3	h [mm]	Unit
115770	110/50	90	50,8	60,3	44	20/960
115760	110/75	90	75,9	85,1	49,2	20/480

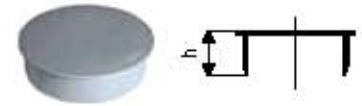


HT – Plug-in socket DN 110/110

No.	DN	d_1	d_2	d_3	h [mm]	Unit
115750	110/110	90	111,5	126,7	108	20/240

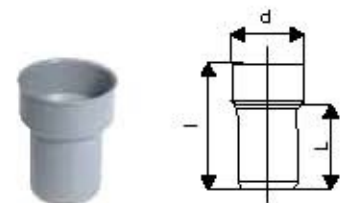
HTM – Plug

No.	DN	h [mm]	Unit
110520	32	39	100/7000
111620	40	33,5	20/2880
112520	50	34	20/2880
113520	75	39	20/2880
114520	90	39	20/960
115520	110	39	20/960
116520	125	43	20/480
117520	160	60	20/480



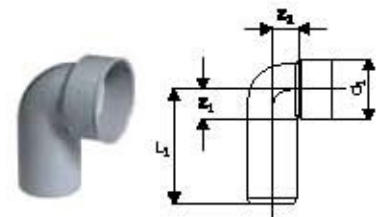
HTS – Connection piece to iron pipes

No.	DN	d [mm]	l [mm]	L [mm]	Unit
111900	40/40	50	80	45	20/2880
112910	50/40	50	75	45	20/2880
112920	50/50	60	80	50	20/960



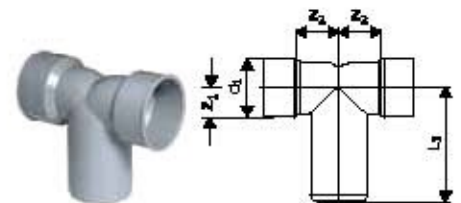
HTSW – Siphon bend

No.	DN	d ₁	z ₁	z ₂	L ₁	Unit
111910	40/30	40	24,5	22	75	20/960
111920	40/40	50	25	25	75,5	20/960
112930	50/30	47	23,5	23	86,4	1120/20
112940	50/40	50	30	32	81,5	20/960
112950	50/50	60	28	30	81	20/960



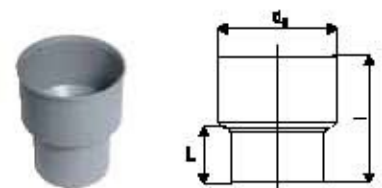
HTDSW – Double siphon bend 90°

No.	DN	d ₁	z ₁	z ₂	L ₁	Unit
112970	40/50/40	50	28,5	33	75,5	20/480



HTUG – Connection piece to cast-iron pipe

No.	DN	d _e	l [mm]	L [mm]	Unit
112820	50	72	115	51	20/960
113820	75	92	118	57	20/480
115820	110	124	130	64	20/480



HT – Accessories

HT – Lip seal

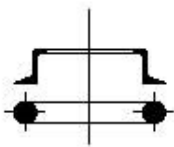


No.	DN	Unit
880000	32	40
880010	40	33
880020	50	34
880030	75	34
880040	90	32
880050	110	39
880070	125	25
880080	160	31

HT – NBR gasket (oil resistant)



No.	DN	Unit
880210	40	40
880220	50	34
880230	75	50
880240	90	32
880250	110	39
880270	125	38
880280	160	31



HT – GA-Set gasket

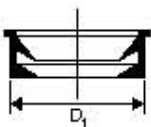
No.	DN	Unit
881000	50	50
881010	75	30
881020	110	20

HT – Replacement cover for inspection pipe



No.	DN	Unit
812600	50	-
813600	75	-
815600	110	-

HTGM – Gasket for siphon bend



No.	DN	D ₁	D ₂	Unit
881200	40/30 A	40	28-34	20
881210	40/30 B	50	28-34	20
881220	40/40 C	50	36-44	20
881230	40/50/1 1/4	47	28-34	20
881240	50/30 D	60	28-34	20
881250	50/40 E	60	36-44	20
881260	50/50 F	60	46-54	20

HT – Gasket for Single sockets

No.	DN	Unit
881400	40	-
881410	50	-
881420	75	-
881430	110	-



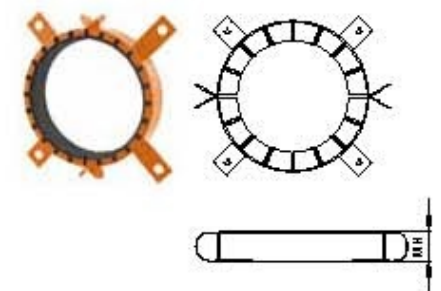
HT – Pull-out protection

No.	DN	Sleeve size	Carton	Unit
881500	DN 50	50	50	1
881510	DN 75	75	30	1
881520	DN 90	90	20	1
881530	DN 110	110	20	1
881540	DN 125	125	9	1
881550	DN 160	160	10	1



HT – Ostendorf BS Fire protection sleeve

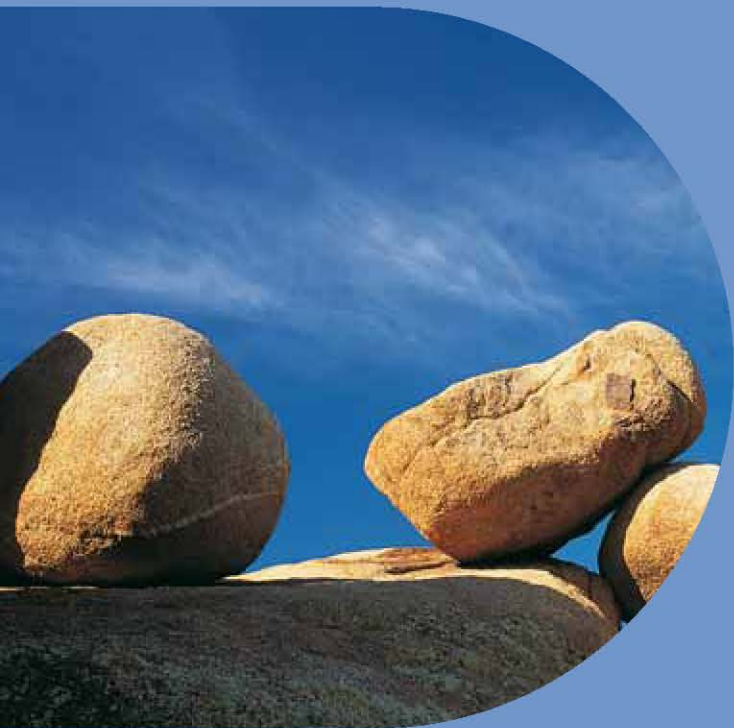
No.	Sleeve size	Carton	Unit
881600	50	25	1
881610	75-78	25	1
881620	90	10	1
881630	110	10	1
881650	160	5	1



HT – Lubricant

No.	ml	Unit
881800	150	50/1750
881810	250	50/1500
881820	500	24/720





Installation Instructions

1. FIELD OF APPLICATION

The following instruction describes how the HT pipes and fittings - for discharging media in foul water, rainwater and ventilation pipes inside buildings - are to be handled, stored and mounted.

Orders for laying the detailed waste water piping systems are only to be placed with companies with a pool of trained operating personnel. The instruction is only for installing genuine pipes and fittings involving the use of the genuine sealing elements and lubricants.

2. TRANSPORT, HANDLING AND STORAGE

Unpalletized pipes should be laid completely flat along their entire length during transport. Heavy shocks - especially in freezing temperatures - must be avoided. For loading and unloading wide carvass lifting harnesses must be used.

Pipes and fittings may be stored outdoors; pre-installed sealing elements should not be stored longer than three years.

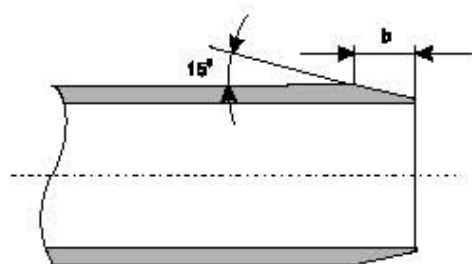
The following points must be observed when laying pipes:

- Pipes must be stored in a stable position so that no deformation or sagging can take place.
- The pipe sockets must be free, both in the vertical and horizontal directions.
- A stacking height of 1.5 meters should not be exceeded.

3. CUTTING TO LENGTH AND BEVELING

Cutting pipes to length is done at right angles by using a pipe cutter or a fine-toothed saw. The cut edges must be deburred. The pipe end is then beveled with a beveling tool or by using a coarse file at an angle of approx. 15° as shown in the following figure.

BEVELING DIMENSIONS								
DN	32	40	50	75	90	110	125	160
b [mm]	3,5	3,5	3,5	3,5	4,5	4,5	5,0	6,0



4. CONNECTING PIPES AND FITTINGS

- Clean the pipe spigot end and clean the socket.



- Check the condition and quality of the factory pre-installed sealing element.

- Apply factory supplied lubricant lightly and evenly on the bevelled surface only of the spigot end.



When inserting, the ring seal must be free of lubricant. Center up the spigot end of the pipe and push until the pipe end reaches the end of the socket.

- Length changes between pipes and fittings as well as between pipes within the spigot and socket connection are possible.

It is required that the pipe be pulled back a maximum of 10 mm. For normal HT pipes, that means a maximum length of 2 meters.

The spigot ends of fittings may remain fully pushed into the socket.

Pipes must be secured with pipe clamps to prevent slippage during subsequent installation work. This is done after taking into account the necessary measures concerning length changes.

5. PIPE CLAMPS

In general, plastic waste water pipe systems must be installed so that they are not under mechanical stresses and are allowed to undergo natural length changes. As a rule, securing pipes is done with pipe clamps that have an inner lining and that are appropriate for the given outer diameter and which completely circumvent the pipe. If no inner lining is used inside the clamp, then the inside edge of the clamp must be rounded off and the inside surface must be smooth. Only an inner lining that is recommended by the pipe manufacturer can be used. Inner linings made of PVC or pipe hooks must not be used!

5.1 FIXED CLAMPS

Fixed points are achieved by completely tightening the pipe clamps in a piping system. They must be positioned so that each pipe length is prevented from slipping. The fixed clamps must be positioned directly behind the socket for pipe with sockets.

Fittings or groups of fittings must always be laid out as fixed points.

5.2 LOOSE CLAMPS

Pipe clamps which are not completely tightened (loose clamps) must allow unimpaired longitudinal movement of the pipeline after installation. For this reason the inside diameter of the clamp must be slightly bigger than the outside diameter of the pipe when installed.

5.3 Distance between Pipe Clamps

RECOMMENDED PIPE CLAMP INTERVALS		
DN	Horizontal [m]	Vertical [m]
32	0,50	1,2
40	0,50	1,2
50	0,50	1,5
75	0,80	2,0
90	0,90	2,0
110	1,10	2,0
125	1,25	2,0
160	1,60	2,0

6. LAYING PIPE LINES IN MASONRY STRUCTURES

Slots in masonry must be made to allow stress and tension free pipe installation.

If the pipes must be embedded in mortar without the use of mortar carriers or enclosures, then the pipes and fittings must be completely wrapped in flexible material, such as cardboard, mineral or glass wool.

At areas where high temperatures can occur, appropriate measures must be taken to protect the pipes (insulation of heat carrying lines e.g. heating lines).

In addition, the ZVSHK guidelines "Vorwandinstallation" and the ZVSHK instruction manual "Entwässerungsleitungen" must be referred to.

Horizontally laid pipelines (connecting or collecting lines) which, for example, serve as a connection for multiple wall fixture elements should have a wrapping along the entire length. Linear expansion of the pipes and fixtures must not be hindered.

7. PIPE INSTALLATION IN CEILINGS AND FLOORS

Laying pipes in ceilings must be done so that they are moisture proof and sound proof. The appropriate wrapping material must be used. In case of floors using poured asphalt, the pipeline parts must be protected by using protective pipes or by wrapping with heat insulating materials.

If fire protection requirements are placed on ceilings, then the appropriate fire protection steps are to be observed.

8. INSTALLING PIPE SYSTEMS IN CONCRETE

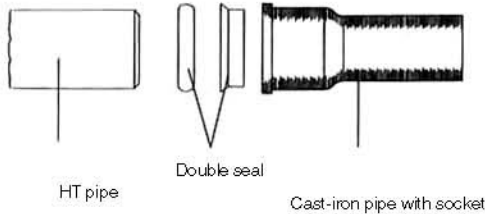
House waste water pipes and fittings may be embedded in concrete. Length changes of the pipes from thermal expansion must be considered as previously described.

The parts of the pipe system must be fastened so that movement and expansion is prevented during concrete pouring. To prevent penetration of concrete fluid into the gaps of connections, an adhesive tape strip must be used to seal the socket joint. All pipe openings must be closed off.

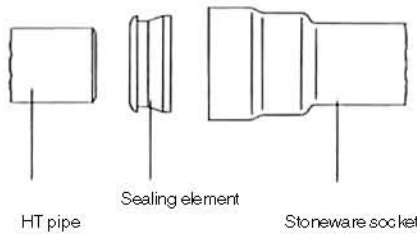
9. CONNECTION TO PIPES OF OTHER MATERIALS AND PIPE CUTTINGS

To connect HT pipes to other pipe system parts made of some other material, the appropriate fittings and sealing materials from the manufacturer must be used.

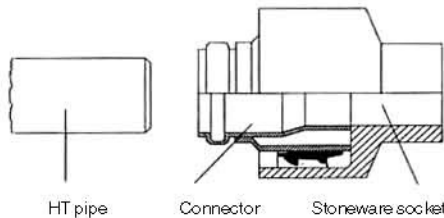
Connection to cast-iron pipe socket



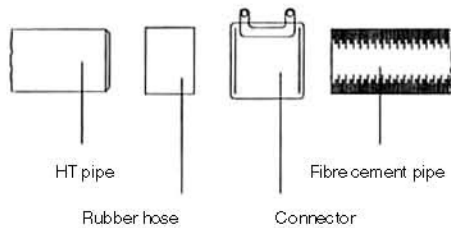
Connection to steel pipe socket



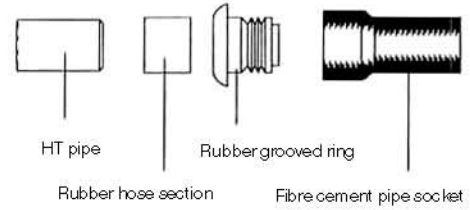
Connection to stoneware pipe socket



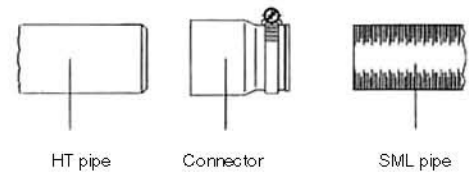
Connection to fibre cement pipe spigot end



Connection to fibre cement pipe socket



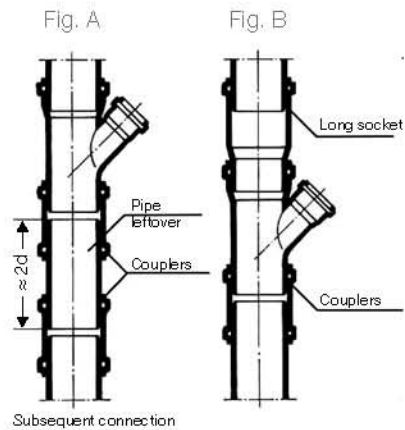
Connection to SML pipe



10. SUBSEQUENT CONNECTION OF PIPES AND FITTINGS

If a connection must be done to an existing line, then fittings and components made by the manufacturer must be used.

a) When using couplers a sufficiently long pipe length (length of the fitting 2d) is cut out, the ends of the pipe are then to be beveled and the branch connector is then installed. The remaining space in the line is closed off by inserting an appropriately long pipe length and two couplers (Fig A.).



b) If long sockets are used, then a length of pipe that equals the length of the fitting plus the insert depth is cut out. The long socket is then inserted all the way to the end and the fitting is installed by using a coupler. Afterwards the spigot end of the long socket is to be inserted in the other socket end of the fitting (Fig B).

11. PREPARING AND USING SMOOTH PIPES AND LEFTOVER PIECES

Cutting, using and preparing leftover pieces (pipes with plain ends) can be done by using double sockets, couplers and single sockets.

When using these connectors, a maximum length of 2 meters should not be exceeded when laying pipes with plain ends. They must be laid in accordance with the following installation regulation. It must be adhered to ensure compensation for expansion (see linear expansion).

The instructions of the pipe manufacturer in question are to be observed when using thick-walled, mineral-reinforced pipe systems and setting up welded joints. Decisive in horizontal installation are the pipe clamp intervals for horizontal pipe lines.

