

LORO compound pipes

LORO compound pipes DN 40 - DN 150

- **for interior drainage**
- **for exterior drainage**

“Standard” execution

- **thermally insulated**
- **optionally with trace heating**

“SILENT” execution

- **thermally insulated**
- **sound damped**



LORO®



LORO compound pipes and fittings, DN 40 - DN 150

- for interior drainage
- for exterior drainage

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LORO compound pipes and fittings DN 40 - DN 150

- **for interior drainage**
- **for exterior drainage**



with factory-fitted insulation layer and increased sound-damping, also with trace heating.

DN 200 available on enquiry.

System description

The LORO compound pipe is a double-walled, thermally insulated and/or sound-damped wastewater pipe with internal LORO-X push-fit socket connection.

Inner pipe

LORO-X steel discharge pipe according to DIN EN 1123/DIN EN ISO 1461, hot-dip galvanised with additional inside coating (standard execution). Additionally equipped externally with noise protection foil for higher noise control requirements ("SILENT" execution). Available custom-made on enquiry: LORO-XCL stainless steel pipe.

Insulation layer

The bond between the inner and outer pipe is created by foaming in the factory with CFC-free polyurethane hard foam.

Outer pipe

Steel, hot-dip galvanised (standard execution). Available custom-made on enquiry:
– LORO-XCL stainless steel pipe.



Advantages:

- Thermally insulated in the factory with PU hard foam.
- Impact and shock-proof.
- Simple installation thanks to push-fit socket connection.
- Incombustible according to DIN 4102 and DIN 1986.
- Available with self-regulating pipe trace heating.
- Wide range of uses thanks to various pipe materials.
- Considerably improved sound-damping values in the "SILENT" execution.

LORO compound pipes, thermally insulated and sound-damped pipes that don't need to be hidden: in front of the wall, under the ceiling, in the open air.

All technical data, references to standards, test reports, technical specifications etc. correspond to the status at the time of going to print.
No rights can be derived from this technical information.



System overview

LORO compound pipes (Standard) DN		40	50	70	80	100	125	150	200
	Pipes	●	●	●	●	●	●	●	○
	Pipes with trace heating			○		○	○	○	
	Branches	●	●	●	●	●	●	●	○
	Reducing branches	●	●	●	●	●	●	●	○
	Bends	●	●	●	●	●	●	●	○
	Pipes with clean-out opening		●	●		●	●	●	
	Double sockets		●	●		●	●		
	Transition pipes			●		●	●	●	○
	Connectors					●			
	Fire-protection fitting			●		●			
	Sealing elements	-	●	●	●	●	●	●	○
	Pipe clips	●	●	●	●	●	●	●	○
	Broadband clips	●	●	●	●	●	●	●	○
	Closing plugs					●	●		

LORO-SILENT compound pipes		40	50	70	80	100	125	150	200
	Pipes		○	○		○	○	○	○
	Branches		○	○		○	○	○	○
	Reducing branches			○		○	○	○	○
	Bends		○	○		○	○	○	○
	Transition pipes			○		○	○	○	○
	Sealing elements		○	○		○	○	○	○
	Pipe clips		○	○		○	○	○	○

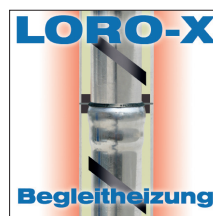
● = Standard range ○ = Available on enquiry

Material combinations

Outer pipe	Inner pipe	LORO-X steel discharge pipe	LORO-XCL stainless steel pipe 1.4301 / 1.4404
LORO-X steel discharge pipe		●	○
LORO-XCL stainless steel pipe 1.4301 / 1.4404		○	○
Polyethylene		○	○

● = Standard range ○ = Enquire for execution options and delivery times

Technical data



Building material class
normally flammable
(DIN 4102-B2)



Fire resistance

According to DIN 4102 LORO-X steel discharge pipes are to be assigned to building material class A 1, incombustible, and are classified as incombustible according to DIN 1986 Part 4.

The thermal insulation made of PU hard foam is self-extinguishing according to ASTM 1692-74 T.

Sound-damping

LORO-X steel discharge pipes exhibit a favourable acoustic behaviour due to the high specific weight of the steel. Comparative scientific investigations confirm the low-noise behaviour of steel discharge pipes. The requirements of DIN 4109 are met if assembled properly. Expert's reports regarding sound are available on enquiry. The sound-damping is increased in the "SILENT" execution by an additional 2.5-mm thick foil on a bitumen/plastic basis on the inner pipe.

Insulation layer

PU hard foam, CFC-free.

Foam structure:

90% closed cells.

Thickness: 12 - 28 mm on faces directly exposed to water.

Coefficient of thermal conductivity:
0.035 W/m x K.

Heating

Self-regulating radiant heating band on inner pipe (pipes only), consisting of 2 parallel running, multi-strand, tinned copper wires and the heating element located in-between. The heating element is electrically insulated by a plastic sheath made of modified polyolefin. With connecting cable (as "cold end") = standard execution or with connection box. See also page 77.

As trace heating for frost protection and temperature maintenance. Without pre-transformer. 220 V. VDE-approved. Earth leakage circuit breaker (30 mA) and thermostat are recommended.

Supervision

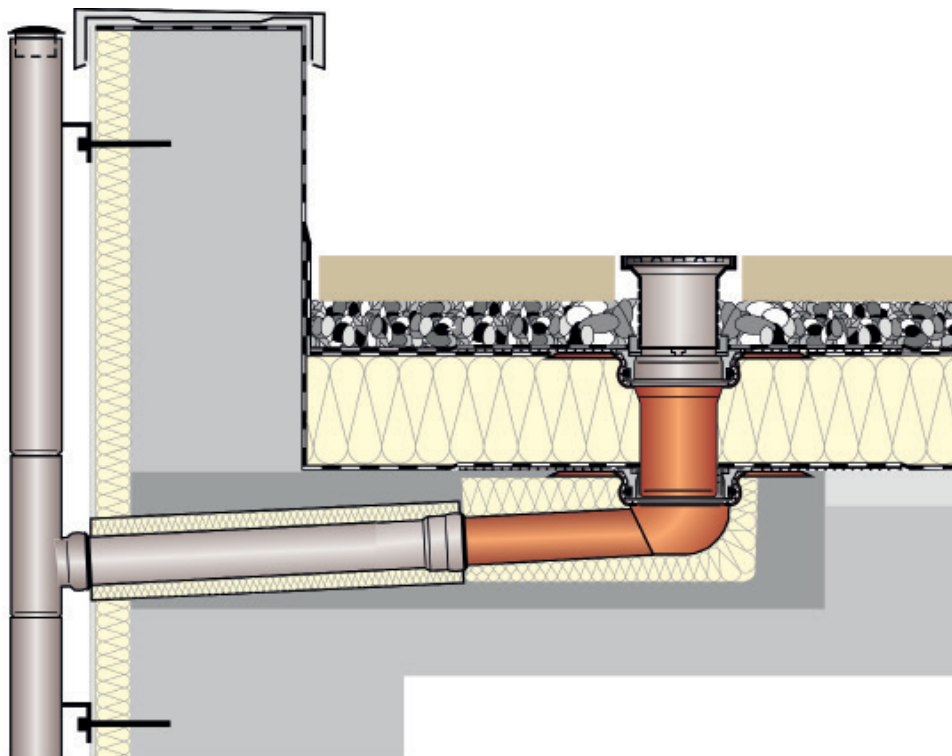
LORO-X steel discharge pipes are manufactured according to DIN EN 1123. The manufacturing supervision for pipes and fittings is performed by the Würzburg Materials Testing Office of LGA QualiTest GmbH and for sealing elements by the State Materials Testing Office of North Rhine-Westphalia in Dortmund (external supervision).



Example applications

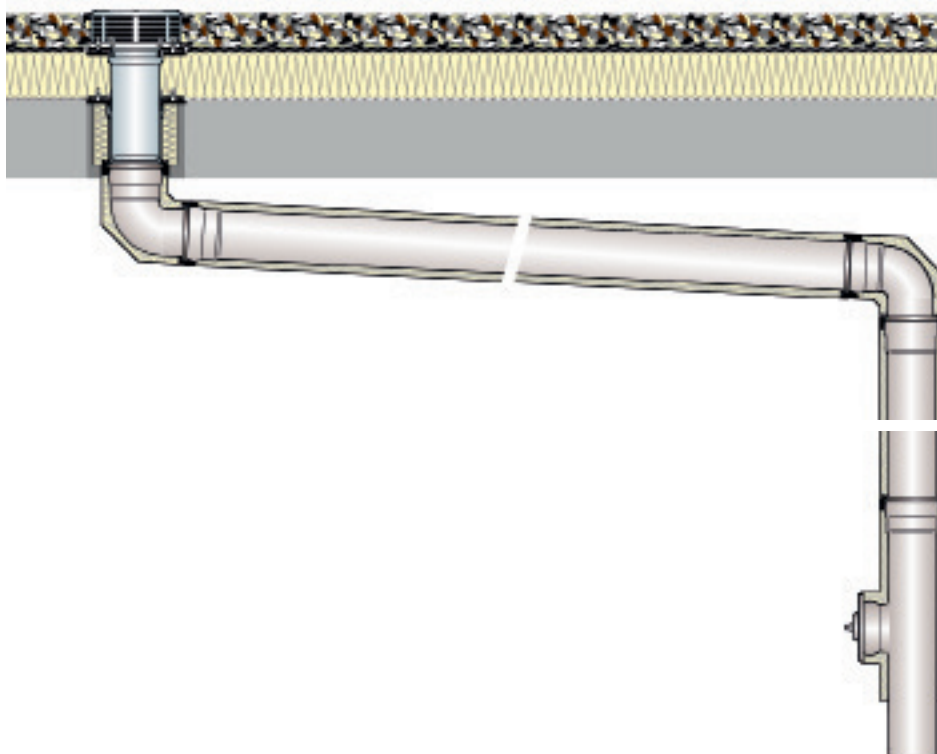
Application example for balcony drainage

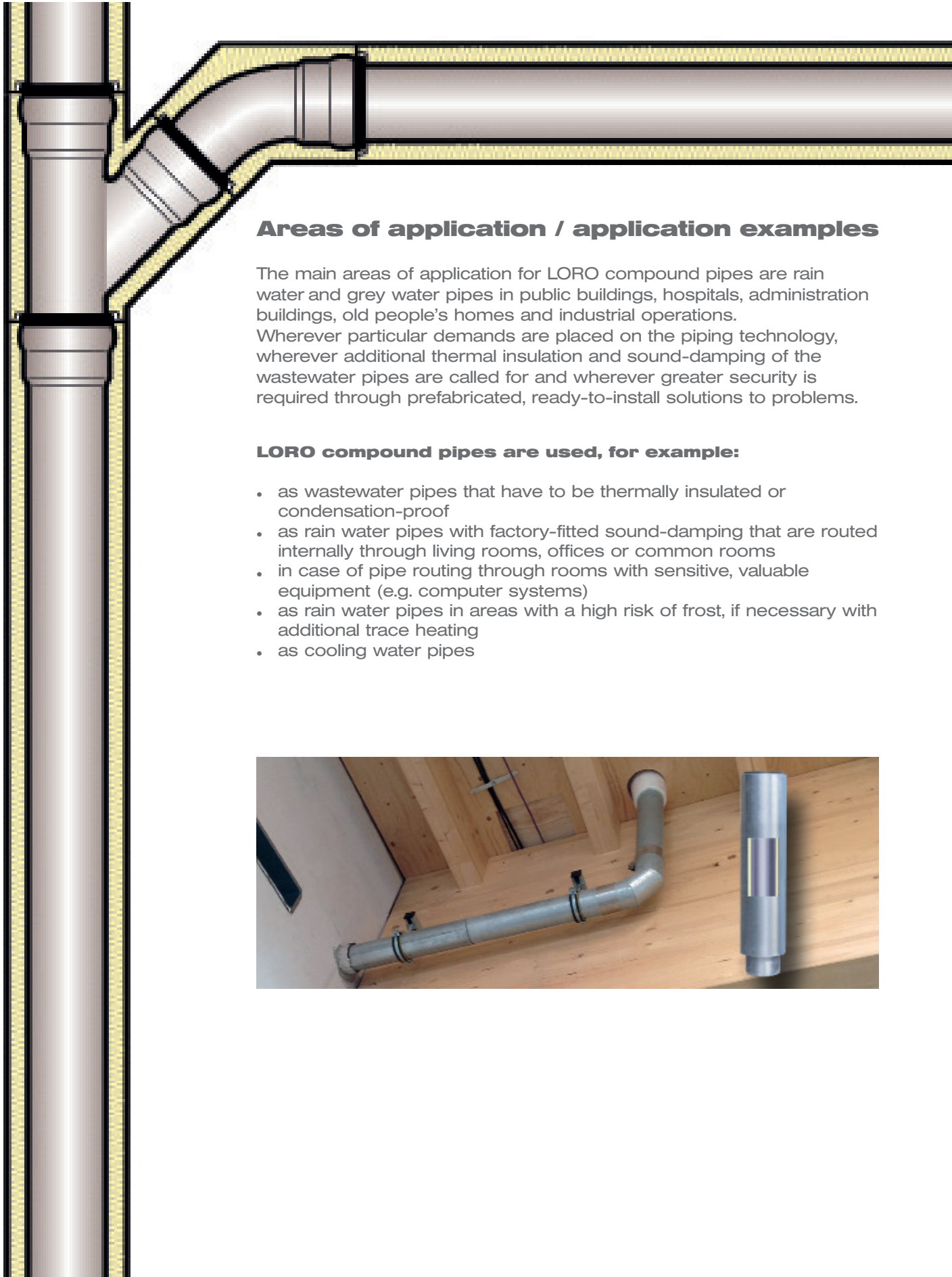
LORO compound pipe in conjunction with LORO balcony drains, series F



Application example for flat roof drainage

LORO compound pipe in conjunction with LORO-DRAINLET[®] roof drains





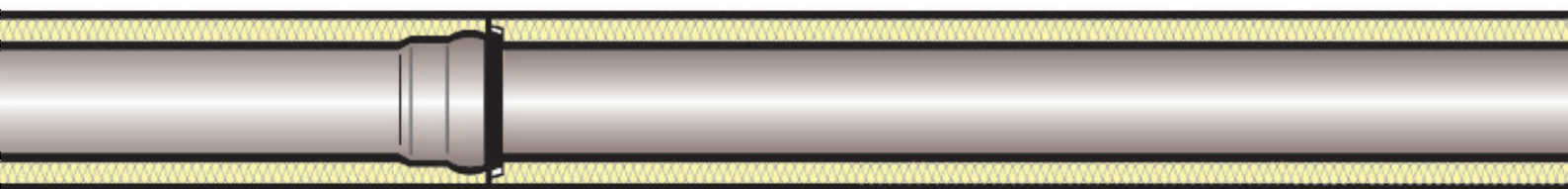
Areas of application / application examples

The main areas of application for LORO compound pipes are rain water and grey water pipes in public buildings, hospitals, administration buildings, old people's homes and industrial operations. Wherever particular demands are placed on the piping technology, wherever additional thermal insulation and sound-damping of the wastewater pipes are called for and wherever greater security is required through prefabricated, ready-to-install solutions to problems.

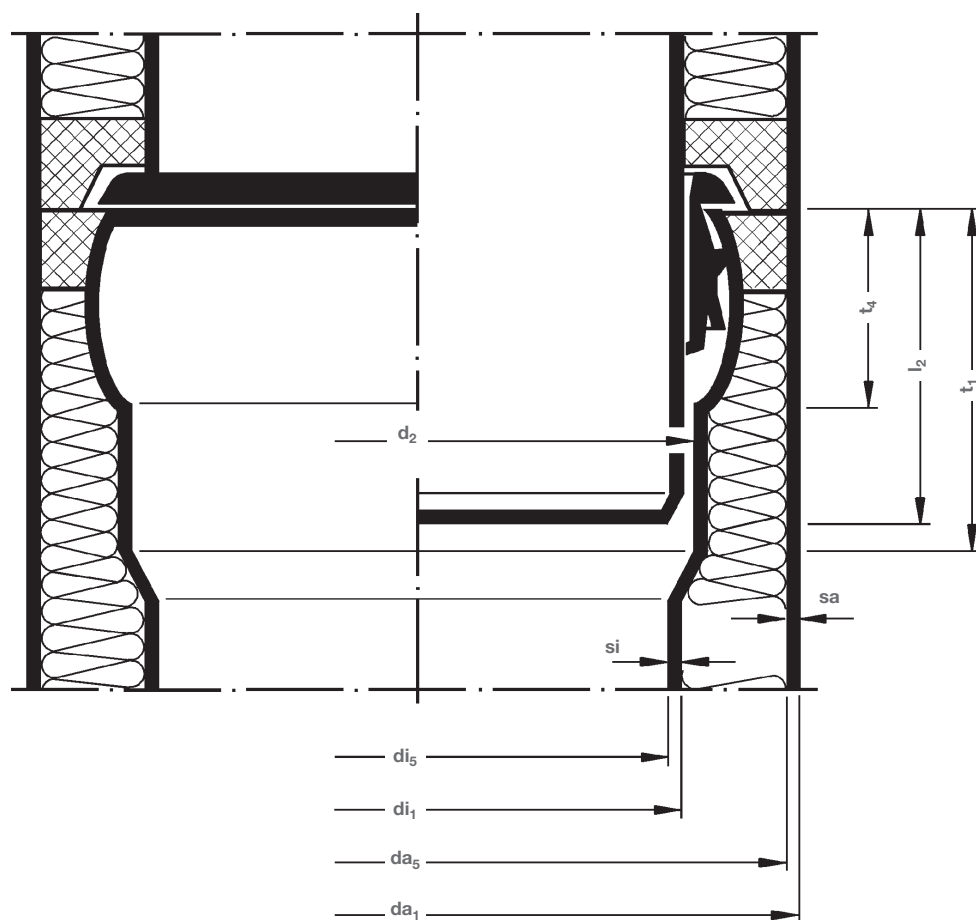
LORO compound pipes are used, for example:

- as wastewater pipes that have to be thermally insulated or condensation-proof
- as rain water pipes with factory-fitted sound-damping that are routed internally through living rooms, offices or common rooms
- in case of pipe routing through rooms with sensitive, valuable equipment (e.g. computer systems)
- as rain water pipes in areas with a high risk of frost, if necessary with additional trace heating
- as cooling water pipes





Dimensions and weights

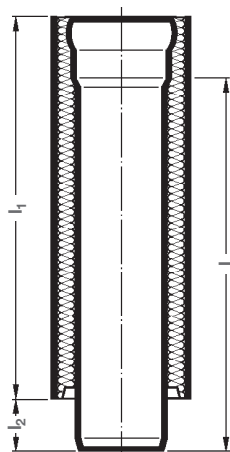


Pipe and socket dimensions (in mm)

DN	d_{i1}	d_{a1}	d_2	d_{i5}	d_{a5}	l_2	t_1	t_2	si	sa	F*
40	42	89	45	39.2	85.8	25	30	16	1.5	1.6	1194.6
50	53	89	56	50.2	85.8	30	38	19	1.5	1.6	1963.5
70	73	102	76	69.8	98.2	45	55	27	1.6	1.5	3826.5
80	89	133	92	85.8	128.2	50	60	31	1.6	2.5	5781.8
100	102	133	106	98.2	128.2	60	70	38	2.0	2.5	7543.0
125	133	168	138	128.2	163.2	60	75	41	2.5	2.5	12868.0
150	159	219	164	154.2	213.2	65	80	46	2.5	2.9	18626.5
200	219	273	224	213.2	267.2	100	120	76	2.9	3.0	35699.7

* F = free cross-section (mm²) of inner pipe.

Dimensional tolerances for pipes and fittings according to DIN EN 1123 Part 2.

Pipes, standard execution
Silent execution


Item no.		I = 150 mm			
Standard	Silent	DN	l ₁	l ₂	kg
58009.050X	-	50	158	30	1.6
58009.070X	-	70	160	45	2.0
58009.100X	-	100	160	60	3.0
58009.125X	-	125	165	60	5.0

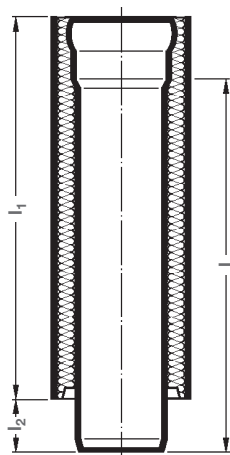
Item no.		I = 250 mm			
Standard	Silent	DN	l ₁	l ₂	kg
58014.040X	-	40	255	25	1.4
58014.050X	58314.050X	50	258	30	1.8
58014.070X	58314.070X	70	260	45	2.5
58014.100X	58314.100X	100	260	60	4.0
58014.125X	58314.125X	125	265	60	6.7
58014.150X	58314.150X	150	265	65	8.5

Item no.		I = 500 mm			
Standard	Silent	DN	l ₁	l ₂	kg
58013.040X	-	40	505	25	3.0
58013.050X	58313.050X	50	508	30	3.5
58013.070X	58313.070X	70	510	45	4.7
58013.080X	-	80	510	50	6.0
58013.100X	58313.100X	100	510	60	8.0
58013.125X	58313.125X	125	515	60	12.5
58013.150X	58313.150X	150	515	65	15.0

Item no.		I = 1000 mm			
Standard	Silent	DN	l ₁	l ₂	kg
58012.040X	-	40	1005	25	5.0
58012.050X	58312.050X	50	1008	30	6.3
58012.070X	58312.070X	70	1010	45	10.0
58012.080X	-	80	1010	50	12.0
58012.100X	58312.100X	100	1010	60	15.0
58012.125X	58312.125X	125	1015	60	24.0
58012.150X	58312.150X	150	1015	65	30.5

Item no.		I = 1500 mm			
Standard	Silent	DN	l ₁	l ₂	kg
58015.040X	-	40	1505	25	7.0
58015.050X	58315.050X	50	1508	30	9.7
58015.070X	58315.070X	70	1510	45	14.0
58015.080X	-	80	1510	50	18.0
58015.100X	58315.100X	100	1510	60	22.5
58015.125X	58315.125X	125	1515	60	36.0
58015.150X	58315.150X	150	1515	65	45.0

Item no.		I = 2000 mm			
Standard	Silent	DN	l ₁	l ₂	kg
58011.040X	-	40	2005	25	10.0
58011.050X	58311.050X	50	2008	30	13.0
58011.070X	58311.070X	70	2010	45	18.0
58011.080X	-	80	2010	50	26.0
58011.100X	58311.100X	100	2010	60	30.0
58011.125X	58311.125X	125	2015	60	48.8
58011.150X	58311.150X	150	2015	65	60.0

Pipes, standard execution
Silent execution


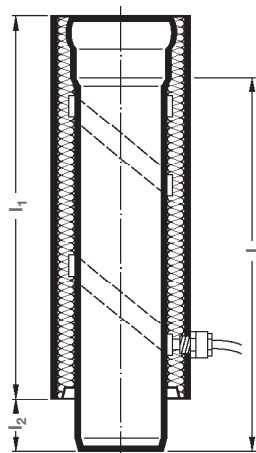
Item no.		l = 2500 mm			
Standard	Silent	DN	I ₁	I ₂	kg
58016.070X	58316.070X	70	2510	45	22.5
58016.100X	58316.100X	100	2510	60	37.0
58016.125X	58316.125X	125	2515	60	60.7
58016.150X	58316.150X	150	2515	65	75.0

Item no.		l = 3000 mm			
Standard	Silent	DN	I ₁	I ₂	kg
58010.040X	-	40	3005	25	15.0
58010.050X	58310.050X	50	3008	30	19.0
58010.070X	58310.070X	70	3010	45	27.0
58010.080X	-	80	3010	50	40.0
58010.100X	58310.100X	100	3010	60	44.0
58010.125X	58310.125X	125	3015	60	72.0
58010.150X	58310.150X	150	3015	65	86.0

Item no.		l = 4000 mm			
Standard	Silent	DN	I ₁	I ₂	kg
58019.050X	-	50	4008	30	25.0
58019.070X	58319.070X	70	4010	45	35.5
58019.100X	58319.100X	100	4010	60	58.0
58019.100X	58319.125X	125	4015	60	93.0

Available on enquiry:

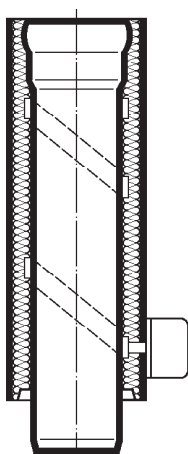
Pipes with self-regulating trace heating (single pipe heater) with connection cable = standard execution



l = 1000 mm				
Item no.	DN	l ₁	l ₂	kg
58112.070X	70	1010	45	10.2
58112.100X	100	1010	60	15.2
58112.125X	125	1015	60	24.2
58112.150X	150	1015	65	30.7

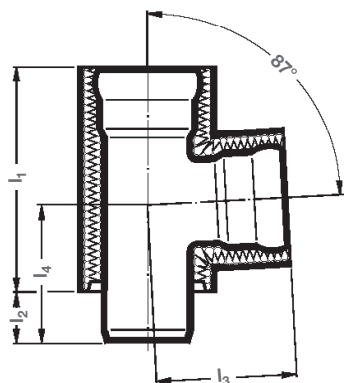
l = 2000 mm				
Item no.	DN	l ₁	l ₂	kg
58111.070X	70	2010	45	18.4
58111.100X	100	2010	60	30.4
58111.125X	125	2015	60	47.4
58111.150X	150	2015	65	61.9

l = 3000 mm				
Item no.	DN	l ₁	l ₂	kg
58110.070X	70	3010	45	27.6
58110.100X	100	3010	60	44.6
58110.125X	125	3015	60	70.6
58110.150X	150	3015	65	93.1



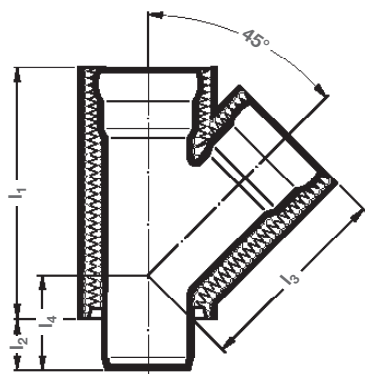
Pipes with self-regulating trace heating (single pipe heater) with connection box

Branches 87°



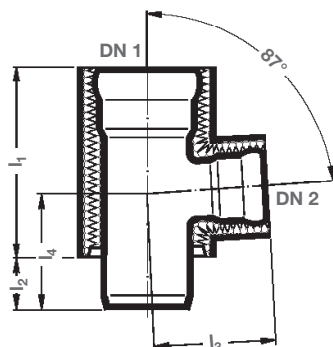
Item no.							
Standard	Silent	DN	l ₁	l ₂	l ₃	l ₄	kg
58020.BB0X	58320.BB0X	50	138	30	88	80	1.3
58020.CC0X	58320.CC0X	70	185	45	120	110	3.1
58020.DD0X	58320.DD0X	100	240	60	160	140	6.4
58020.EE0X	58320.EE0X	125	300	60	195	170	11.7
58020.FF0X	58320.FF0X	150	335	65	215	190	13.8

Branches 45°



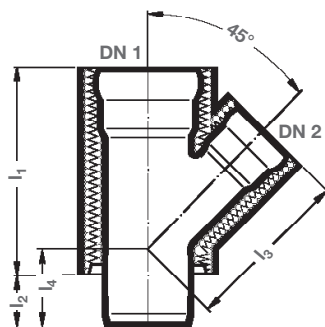
Item no.							
Standard	Silent	DN	l ₁	l ₂	l ₃	l ₄	kg
58022.AA0X	-	40	173	25	150	55	1.2
58022.BB0X	58322.BB0X	50	158	30	128	65	1.6
58022.CC0X	58322.CC0X	70	210	45	170	85	3.6
58022.MM0X	-	80	265	50	228	105	6.5
58022.DD0X	58322.DD0X	100	275	60	225	110	7.6
58022.EE0X	58322.EE0X	125	355	60	285	130	13.1
58022.FF0X	58322.FF0X	150	395	65	320	140	21.5

Reducing branches 87°

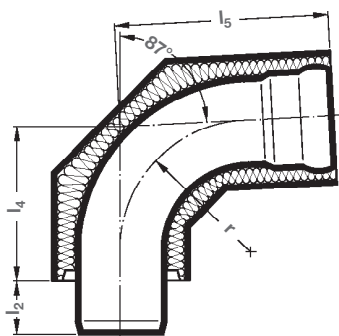


Item no.								
Standard	Silent	DN 1	DN 2	l ₁	l ₂	l ₃	l ₄	kg
58023.CB0X	58323.CB0X	70	50	160	45	99	100	3.0
58023.DB0X	58323.DB0X	100	50	200	60	125	125	6.5
58023.DC0X	58323.DC0X	100	70	210	60	135	125	6.5
58023.ED0X	58323.ED0X	125	100	270	60	175	155	10.5
58023.FD0X	58323.FD0X	150	100	270	65	189	155	9.8
58023.FE0X	58323.FE0X	150	125	305	65	209	175	11.0

Reducing branches 45°

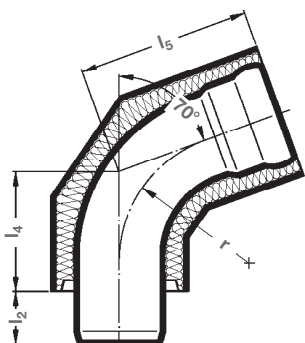


Item no.								
Standard	Silent	DN 1	DN 2	l ₁	l ₂	l ₃	l ₄	kg
58025.BA0X	-	50	40	197	30	173	74	1.5
58025.CB0X	58325.CB0X	70	50	185	45	144	75	3.0
58025.MC0X	-	80	70	210	50	195	85	4.7
58025.DB0X	58325.DB0X	100	50	210	60	165	75	6.5
58025.DC0X	58325.DC0X	100	70	240	60	191	90	6.5
58025.ED0X	58325.ED0X	125	100	305	60	246	105	10.5
58025.FD0X	58325.FD0X	150	100	305	65	265	95	15.0
58025.FE0X	58325.FE0X	150	125	355	65	305	120	15.5



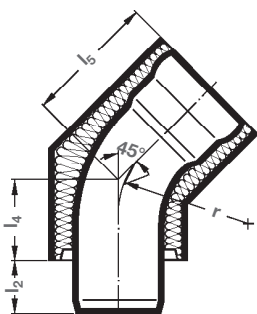
Bends 87°

Item no.		DN	l ₂	l ₄	l ₅	r	kg
Standard	Silent						
58030.040X	-	40	25	97	122	67.5	1.2
58030.050X	58330.050X	50	30	118	158	82.5	1.7
58030.070X	58330.070X	70	45	140	201	117.5	2.8
58030.080X	-	80	50	157	237	133.5	3.8
58030.100X	58330.100X	100	60	101	161	70.0	4.5
58030.125X	58330.125X	125	60	120	172	90.0	8.4
58030.150X	58330.150X	150	65	155	213	105.0	11.5



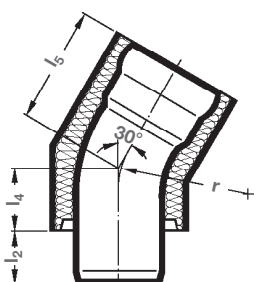
Bends 70°

Item no.		DN	l ₂	l ₄	l ₅	r	kg
Standard	Silent						
58031.050X	58331.050X	50	30	98	138	82.5	1.6
58031.070X	58331.070X	70	45	112	173	117.5	3.1
58031.100X	58331.100X	100	60	84	144	70.0	4.5
58031.125X	58331.125X	125	60	97	150	90.0	8.4



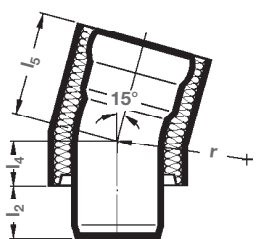
Bends 45°

Item no.		DN	l ₂	l ₄	l ₅	r	kg
Standard	Silent						
58032.040X	-	40	25	61	86	67.5	1.0
58032.050X	58332.050X	50	30	74	114	82.5	1.3
58032.070X	58332.070X	70	45	77	138	117.5	2.3
58032.080X	-	80	50	85	164	133.5	3.2
58032.100X	58332.100X	100	60	64	124	70.0	3.8
58032.125X	58332.125X	125	60	71	133	90.0	6.3
58032.150X	58332.150X	150	65	99	156	105.0	8.0



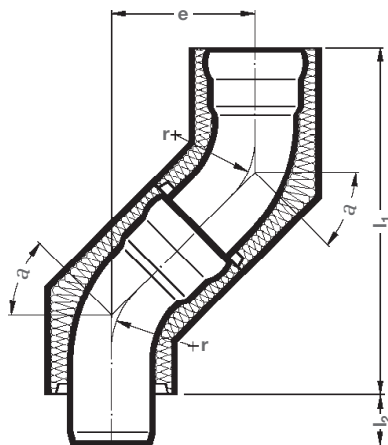
Bends 30°

Item no.		DN	l ₂	l ₄	l ₅	r	kg
Standard	Silent						
58033.040X	-	40	25	51	76	67.5	0.9
58033.050X	58333.050X	50	30	62	102	82.5	1.1
58033.070X	58333.070X	70	45	60	121	117.5	1.8
58033.100X	58333.100X	100	60	54	114	70.0	3.3
58033.125X	58333.125X	125	60	58	120	105.0	5.5



Bends 15°

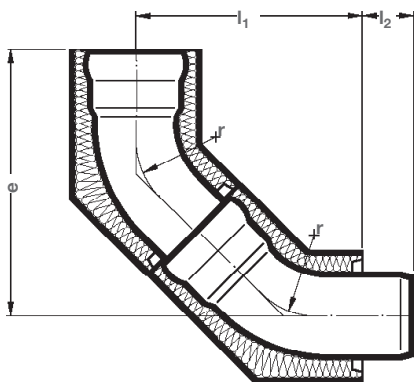
Item no.		DN	l ₂	l ₄	l ₅	r	kg
Standard	Silent						
58034.050X	58334.050X	50	30	51	91	82.5	1.0
58034.070X	58334.070X	70	45	44	105	117.5	1.6
58034.100X	58334.100X	100	60	44	104	70.0	2.8
58034.125X	58334.125X	125	60	52	112	90.0	5.0



Offset installation dimensions when using 2 bends with the same angle a

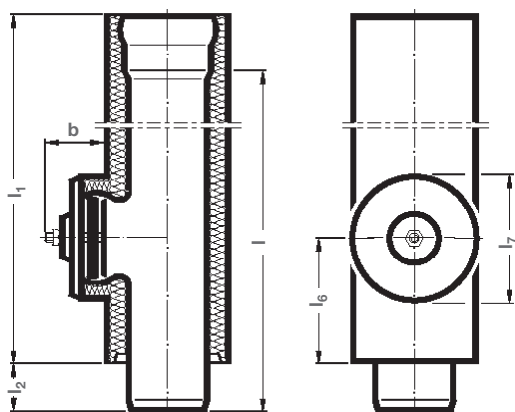
a		15°				30°				45°			
DN	r	e	l_1	l_2	kg	e	l_1	l_2	kg	e	l_1	l_2	kg
40	67.5	-	-	-	-	64	238	25	1.8	104	251	25	2.0
50	82.5	37	280	30	2.0	82	306	30	2.2	133	321	30	2.6
70	117.5	39	292	45	3.2	91	338	45	3.6	152	367	45	4.6
80	133.5	-	-	-	-	-	-	-	-	176	425	50	6.4
100	70.0	38	290	60	5.6	84	314	60	6.6	133	321	60	7.6
125	90.0	42	322	60	10.0	89	332	60	11.0	144	348	60	12.6
150	105.0	-	-	-	-	-	-	-	-	180	435	65	16.0

a		70°				87°			
DN	r	e	l_1	l_2	kg	e	l_1	l_2	kg
40	67.5	-	-	-	-	218	230	25	2.4
50	82.5	222	317	30	3.2	275	290	30	3.8
70	117.5	268	382	45	5.4	340	358	45	6.2
80	133.5	-	-	-	-	393	415	50	7.6
100	70.0	214	306	60	8.4	261	176	60	9.0
125	90.0	232	331	60	14.8	291	307	60	16.8
150	105.0	-	-	-	-	367	367	65	23.0



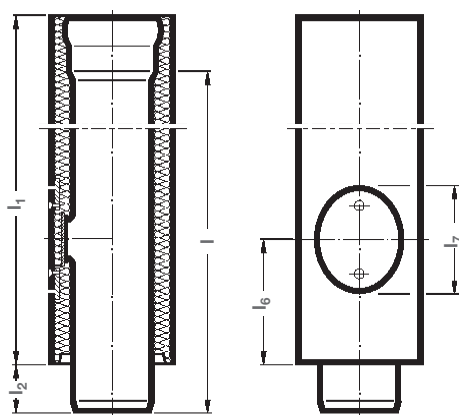
Installation dimensions when using 2 bends with the same angle $a = 45^\circ$

a		45°			
DN	r	e	l_1	l_2	kg
40	67.5	190	165	25	2.0
50	82.5	247	207	30	2.6
70	117.5	290	229	45	4.6
80	133.5	340	261	50	6.4
100	70.0	257	197	60	7.6
125	90.0	277	215	60	12.6
150	105.0	336	279	65	16.0



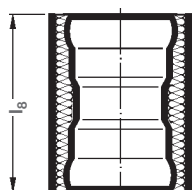
Cleaning pipes with round clean-out opening

l = 500 mm							
Item no.	DN	l ₁	l ₂	l ₆	l ₇	b	kg
58054.050X	50	508	30	330	66	34	3.2
58054.070X	70	510	45	300	88	34	5.0
58054.100X	100	510	60	300	125	45	8.0
58054.125X	125	515	60	300	158	45	13.0
58054.150X	150	515	65	295	190	55	17.0



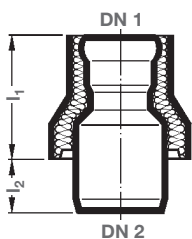
Cleaning pipes with recessed clean-out opening

l = 500 mm						
Item no.	DN	l ₁	l ₂	l ₆	l ₇	kg
58057.050X	50	508	30	330	90	3.2
58057.070X	70	510	45	300	95	5.0
58057.100X	100	510	60	300	115	8.0
58057.125X	125	515	60	300	140	13.0
58057.150X	150	515	65	295	160	17.0



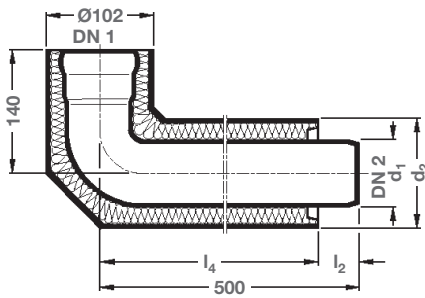
Double sockets

Item no.	DN	l ₈	kg
58056.050X	50	94	0.7
58056.070X	70	135	1.3
58056.100X	100	180	2.0
58056.125X	125	190	4.3



Transition pipes, concentric

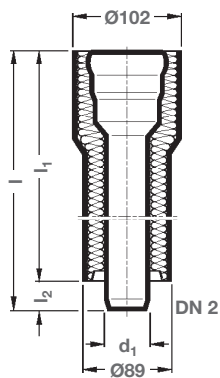
Item no.						
Standard	Silent	DN 1	DN 2	l ₁	l ₂	kg
58060.BC0X	58360.BC0X	50	70	103	45	0.8
58060.CD0X	58360.CD0X	70	100	135	60	1.8
58060.MD0X	-	80	100	140	60	2.0
58060.DE0X	58360.DE0X	100	125	170	60	3.5
58060.EF0X	58360.EF0X	125	150	160	65	5.1



LORO-DRAINJET® compound pipe connecting bend

Steel, hot-dip galvanised, with additional inside coating

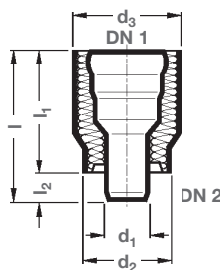
Item no.	DN 1	DN 2	d ₁	d ₂	l ₂	l ₄	kg
58042.CA0X	70	40	42	89	25	475	3.8
58042.CB0X	70	50	53	89	30	470	3.9
58042.CC0X	70	70	73	102	45	455	5.5



LORO-DRAINJET® compound pipe connectors

Steel, hot-dip galvanised, with additional inside coating

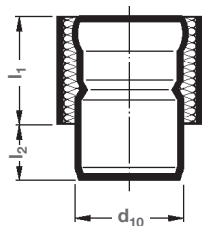
Item no.	DN 1	DN 2	d ₁	l	l ₁	l ₂	kg
58043.CL0X	70	32	32	305	285	20	0.6
58043.CA0X	70	40	42	305	280	25	0.7
58043.CB0X	70	50	53	305	275	30	0.8



LORO-DRAINJET® compound pipe adjustment pieces

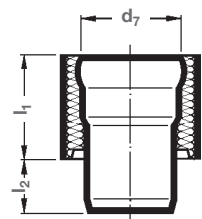
Steel, hot-dip galvanised, with additional inside coating

Item no.	DN 1	DN 2	d ₁	d ₂	d ₃	l	l ₁	l ₂	kg
58602.AL0X	40	32	32	89	89	110	90	20	0.5
58602.BA0X	50	40	42	89	89	132	107	25	0.8
58602.CB0X	70	50	53	89	102	168	138	30	1.2
58602.MB0X	80	50	53	89	133	178	148	30	1.4
58602.MC0X	80	70	73	102	133	195	150	45	1.5
58602.DB0X	100	50	53	89	133	195	165	30	2.5
58602.DC0X	100	70	73	102	133	210	165	45	2.6
58602.DM0X	100	80	89	133	133	210	160	50	2.8
58602.ED0X	125	100	102	133	168	260	200	60	4.0
58602.FE0X	150	125	133	168	229	285	225	60	6.0



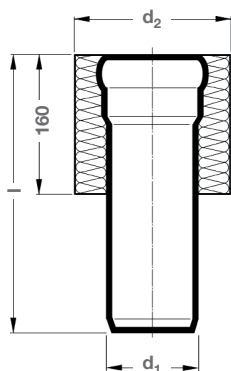
Connectors from LORO-X pipe (LX) to plastic discharge pipe socket (KA) according to DIN 19531 (hard PVC), DIN 19534 (hard PVC), DIN 19535 (hard PE), DIN 19560 (PP) and DIN 19561 (ABS/ASA)

Item no.	DN (LX)	DN (KA)	l ₁	l ₂	d ₁₀	kg
58063.100X	100	100	120	60	110	2.2



Connectors from plastic discharge pipe (KA) to LORO-X socket according to DIN 19531 (hard PVC), DIN 19534 (hard PVC), DIN 19535 (hard PE), DIN 19560 (PP) and DIN 19561 (ABS/ASA)

Item no.	DN (KA)	DN (LX)	l ₁	l ₂	d ₇	kg
58075.100X	100	100	120	60	115	3.2



LORO fire protection fitting*

LORO-X steel discharge pipe with ROCKWOOL CONLIT thermal insulation

Item no.	d ₁	d ₂	l	kg
58090.070X	73	150	305	1.2
58090.100X	102	180	320	2.2

* for installation in ceilings and walls R 30-R 90.



Sealing elements

Item no.	DN	kg
00911.040X	40	0.008
00911.050X	50	0.012
00911.070X	70	0.022
00911.080X	80	0.035
00911.100X	100	0.055
00911.125X	125	0.100
00911.150X	150	0.150

Sealing element for transition from LORO-X special socket to KA plastic pipe DN 100

Item no.	DN	kg
00933.100X	100	0.055

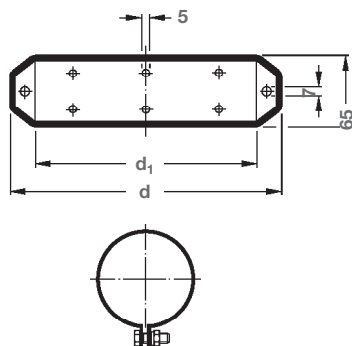
Sealing element for transition from KA socket DN 100 to LORO-X pipe

Item no.	DN	kg
00937.100X	100	0.055

Lubricant

Item no.	
00986.000X	250 g tube
09861.000X	1000 g can





Broadband clips for axial securing*

Item no.	DN	d	d ₁	kg
08065.040X	40	322	282	0.094
08065.050X	50	322	282	0.094
08065.070X	70	363	323	0.106
08065.080X	80	460	420	0.134
08065.100X	100	460	420	0.134
08065.125X	125	570	530	0.166
08065.150X	150	730	690	0.213

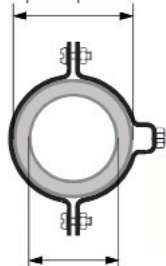
* incl. fastening materials, see installation instructions, page 86



Closing plugs with screw cap

Item no.	DN	kg
58085.100X	100	0.5
58085.125X	125	0.9

Outer pipe DN
=
Pipe clips DN



Nominal diameter

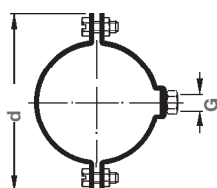
Fastening note:

The diameter of the pipe clips for LORO compound pipes does not correspond to the nominal size, but to the diameter of the outer pipe.

Pipe DN	40	50	70	80	100	-	125	150
Pipe clips DN	80	80	100	125	125	150	168	200

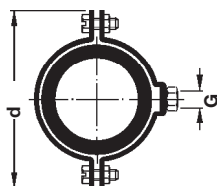
Pipe clips with connecting threaded socket, galvanised steel, for set screws or hanger bolts

without sound-damping



	Outer pipe	Inner pipe			
Item no.	DN	DN	d	G	kg
00975.080X	80	40	140	M 10	0.4
00975.080X	80	50	140	M 10	0.4
00975.100X	100	70	153	M 10	0.3
00977.125X	125	80	183	M 12	0.5
00977.125X	125	100	183	M 12	0.5
00977.168X	168	125	220	M 12	0.8
00977.200X	200	150	269	M 12	1.0

with sound-damping



	Outer pipe	Inner pipe			
Item no.	DN	DN	d	G	kg
00974.080X	80	40	148	M 10	0.4
00974.080X	80	50	148	M 10	0.4
00974.100X	100	70	168	M 10	0.5
00976.125X	125	80	205	M 12	0.8
00976.125X	125	100	205	M 12	0.8
00976.168X	168	125	233	M 12	0.8
00976.200X	200	150	287	M 12	1.0

LORO compound pipe fire protection solution for fire resistance class R90 according to DIN 4102-11

Wall and ceiling penetrations with LORO compound pipes

as single discharge pipe for interior drainage of incombustible media.

General building authority test certificate no. P-3317/086/08-MPA BS

“Standard” execution consisting of hot-dip galvanised steel inner pipe, PU insulating layer and hot-dip galvanised steel outer pipe

“Silent” execution consisting of hot-dip galvanised steel inner pipe, noise protection foil, PU insulating layer and hot-dip galvanised steel outer pipe

Note/installation conditions

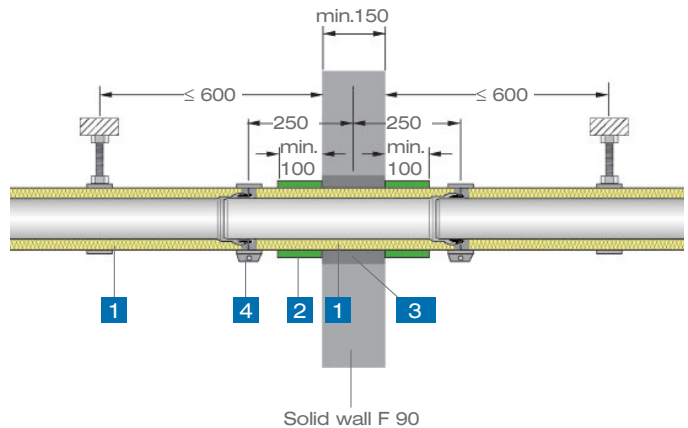
- 1.) The residual cross-section of the core drilling is to be completely sealed with mortar (e.g. Tangit® FP300 fire protection mortar) or Tangit® FP550 fire protection foam plus Tangit® FP800 fire protection coating.
- 2.) All socket joints are to be secured against axial thrust using the LORO-X anchor clip (item no. 00806X) or broadband clip (item no. 08065X) and if necessary insulated on site.
- 3.) The installation guidelines and specifications of the national technical approval must be followed.

Core drillings

DN	Core drilling (mm)
40	130,0
50	130,0
70	150,0
80	180,0
100	180,0
125	210,0

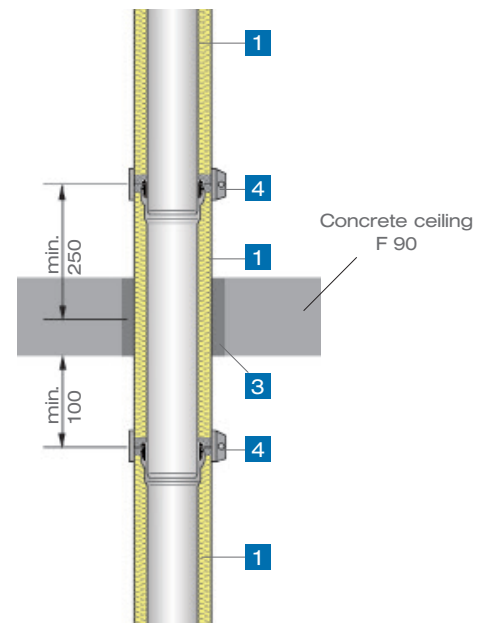
Wall penetration with LORO-X compound pipe

Continuative pipe: LORO-X compound pipe



Ceiling penetration with LORO-X compound pipe

Continuative pipe: LORO-X compound pipe



- 1 LORO compound pipe
- 2 Mineral wool >1000 °C, aluminium laminated
- 3 Complete filling of residual cross-section with dimensionally stable, incombustible building materials such as concrete, mortar or gypsum plaster,
alternatively:
Tangit® FP300 fire protection mortar (DN 70 - DN 125) or Tangit® FP550 fire protection foam (DN 70 - DN 100) plus Tangit® FP800 fire protection coating
- 4 Broadband clip, item no. 08065X

Assembly and installation instructions

LORO-X compound pipe DN 50 - DN 150

LORO-X compound pipes are planned and installed in accordance with the technical rules and regulations of DIN EN 12056 (Gravity Drainage Systems inside Buildings) and DIN 1986 Parts 3, 4 and 100 (Drainage Systems for Land and Buildings). Amongst others, DIN 4102 (Fire Prevention in Buildings) and DIN 4109 (Noise Control in Buildings) are also to be observed.

1. Making the push-fit socket connection with compound pipes

For LORO-X push-in joints we recommend to use original sealing elements with the manufacturer's mark LORO. With consistent use of all LORO-X system parts, we ensure the tightness of the LORO-X push-in joint.

Store LORO-X sealing elements at room temperature for easier assembly in case of lower outside temperatures.

1.1 Place sealing element in inclined position on the edge of the sealing chamber.

Push in top sealing element with your finger and let it engage in the sealing chamber until the collar of the sealing element lies level on the socket edge.

1.2 Smear only **original LORO-X lubricant** no. 986X or 9861X over the entire surface on the inside of the sealing element and the outside of the insert pipe. The use of other lubricants may lead to visual and technical impairments.

1.3 Line up the socket and insert pipe and push together, twisting gently.

Push in the insert pipe until the outer pipe seals flush. When installing LORO-X compound pipes of a nominal size DN 40 – DN 150, an assembly aid can be borrowed from LOROWERK.

1.4 When installing, make sure that the pipe axis remains straight. Do not allow offsets to form. Any assembly-related air gap in the outer pipe can be sealed using the LORO-X broadband clip no. 8065X.

1.5 To **secure the pipe connection against axial thrust**, the LORO-X broadband clip no. 8065X is placed centrally around the socket joint and fixed with a hexagonal bolt M 6 x 30.

1.6 3.0 mm diameter holes are drilled through the pre-drilled holes in the broadband clip.

Attention: So as not to damage the inner pipe, the drilling depth must not exceed 6 mm.

Axial securing is achieved by screwing the broadband clip to the jacket pipe with self-tapping screws 3.5 x 9.5 mm.

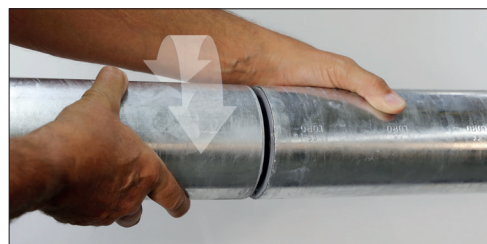
1.1



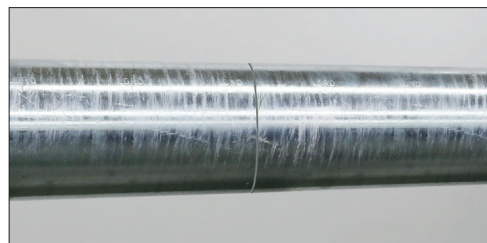
1.2



1.3



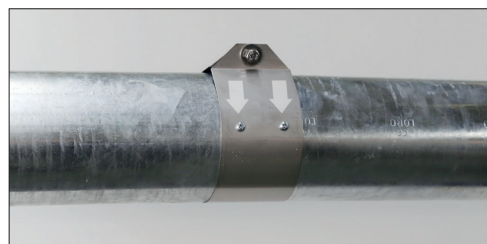
1.4



1.5



1.6



2. Cutting to length

It is best to use a pipe cutter to cut the LORO-X pipes to length. When cutting, the zinc coating provides cathodic protection for the inner pipe and prevents under-rusting.

They can also be cut at right angles to the pipe axis with an angle grinder with a parting wheel or saw. After chamfering, a post-treatment with cold zinc is recommended as additional corrosion protection.

The pipe ends must be deburred inside and outside.

If a pipe section has no socket, add a LORO compound pipe double socket no. 58056X, to turn it

into a socket pipe. Glue the double socket onto the remaining pipe with the LORO-X sealing element, no. 911X, and LORO-X adhesive no. 985X.

In frost-exposed areas, sockets (including double sockets) must not be facing opposite to the flow direction.

Do not cut to length compound pipes with trace heating.

Procedure for cutting to length:

- 2.1 Cut the outer pipe to length at the outlet end at a right angle to the pipe axis. When using a pipe cutter, care must be taken that the cut surface is not drawn tight due to excessive cutting pressure.
- 2.2 Cut the outer pipe open in the longitudinal direction at two opposite points using a cutting wheel.
- 2.3 Prise off the half shells of the outer pipe and remove the rest of the PU insulation layer from around the inner pipe. The zinc coating of the inner pipe should not be damaged.
- 2.4 In the case of the "SILENT" version, remove the additional sound insulation mat.
- 2.5 Cut the inner pipe to length using a pipe cutter or angle grinder according to the "Insertion depth" table (see page 3) and deburr it.
- 2.6 Make space for the sealing element in the PU insulating layer between the inner and outer pipe. This is done by cutting out the insulating layer with a sharp knife at an angle of 45° (see table on page 3). If necessary, seal the cut surface of the insulating layer with a thin coat of silicone. The grey spacer ring is omitted.

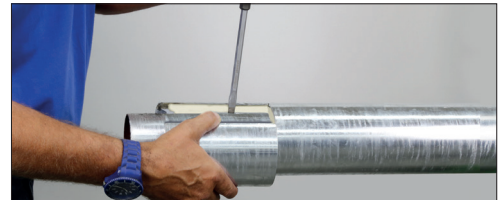
2.1



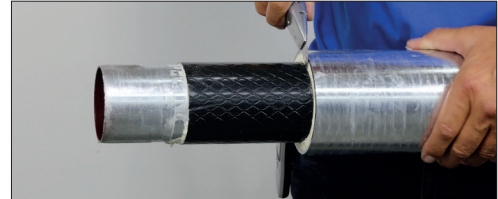
2.2



2.3



2.4



2.5



2.6



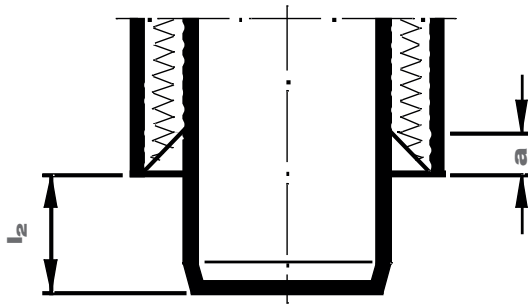


Table: insertion depths

DN Inner pipe	Length l_2 Insert pipe	Gap a Sealing element
40	25 mm	10 mm
50	30 mm	10 mm
70	45 mm	10 mm
80	50 mm	10 mm
100	60 mm	10 mm
125	60 mm	10 mm
150	65 mm	15 mm
200	100 mm	15 mm

3. Pipe fastening

When fitting LORO compound pipes the following weights must be taken into account for the mounting clamps and suspension mounting:

Weight of 1 m compound pipe completely filled with water:

DN 40 = 6.2 kg	DN 100 = 22.5 kg
DN 50 = 8.3 kg	DN 125 = 36.8 kg
DN 70 = 13.8 kg	DN 150 = 49.1 kg
DN 80 = 17.8 kg	

Pipe clips with connecting thread no. 974X and no. 976X with sound damping or no. 975X and no. 977X without sound damping are recommended.

4. Tightness values

The tightness values for the pressure-resistant LORO-X push-fit socket connection for all nominal widths are above the requirements of DIN 1986 (permanent tightness with inner and outer overpressure of 0 - 0.5 bar). Socket protection available on request for higher pressures.

5. Casting-in

The expansion coefficient of the steel discharge pipe corresponds approximately to that of the concrete. Casting-in of hot-dip galvanised steel discharge pipes has been state of the art for years.

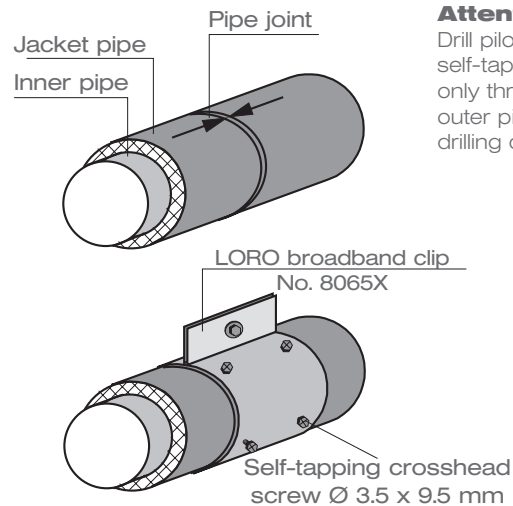
If additives are used in the concrete (frost protection, retarder, setting accelerator), the outer pipe must be given a coat of a standard building protection agent on site.

6. Painting

Hot-dip galvanised steel discharge pipes can be painted. Use paints specially designed for hot-dip galvanised pipes.

7. Other installation instructions

- 7.1 Pipes exposed to corrosion by electrical current, corrosive liquids, gases and fumes, must be protected in a suitable manner.
- 7.2 Pipes with corrosion protection (hot-dip galvanised with added inside coating) cannot be welded.
- 7.3 Roof drains and pipes in areas endangered by frost are recommended to be completed by a trace heating by customer (see EN 12056, Part 1, or DIN 1986, Part 100).
- 7.4 Additional axial securing: Use the LORO broadband clip no. 8065X (see p. 1: points 1.5 - 1.6).
- 7.5 **Attention:** LORO-X composite pipelines must be checked for leak-tightness by the installer after installation.



Attention:

Drill pilot holes for self-tapping screws only through the outer pipe (max. drilling depth 6 mm)

LORO broadband clip accessories

- 6 self-tapping crosshead screws DIN 7504 Ø 3.5 x 9.5
- 1 x hexagonal bolt M 6 x 30
- 1 x hexagonal nut M 6
- 1 x U-washer Ø 6.4

8. Auxiliary tools

Pipe cutters or assembly tools can be borrowed from LOROWERK for the assembly or disassembly of LORO-X socket joints from DN 40 – DN 200.

9. Trace heating

LORO composite pipes are available on request with self-regulating trace heating as single-pipe heating. The dimensioning of the electrical fusing and the maximum heating circuit length are determined from the requirements. The local electricity board regulations must be complied with.

Self-regulating single-pipe trace heating on request:



with
connecting cable



with
terminal box

Circuit diagram

