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.

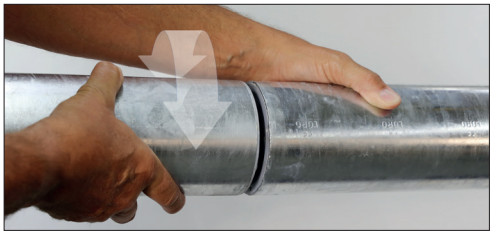
1.1

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.

1.2

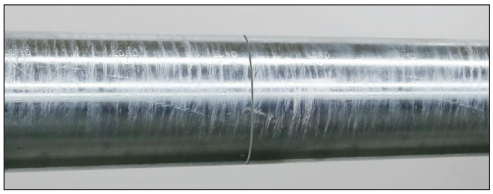
1.3 Line up the socket and insert pipe and push together, twisting gently.
Push in the insert pipe until the outer pipe seals flush.
When installing LORO-X compound pipes of a nominal size DN 40 – DN 150, an assembly aid can be borrowed from LOROWERK.

1.3



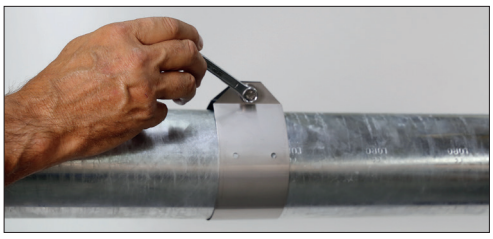
1.4 When installing, make sure that the pipe axis remains straight. Do not allow offsets to form.
Any assembly-related air gap in the outer pipe can be sealed using the LORO-X broadband clip no. 8065X.

1.4



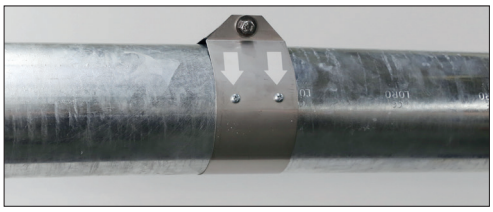
1.5 Complete LORO-X socket connection according to DIN 1986 (permanently leakproof for inside and outside overpressure of 0 - 0,5 bar).
If higher pressures are expected, the socket connection can be secured against axial thrust with the LORO-X broadband clamp No. 8065X and fixed with a hexagon screw M6 x 30.

1.5



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.

1.6



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.

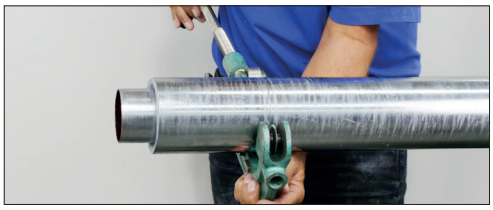
If a pipe section has no socket, add a LORO compound pipe double socket no. 58056X, to turn it into a socket pipe. Glue the double socket onto the remaining pipe with the LORO-X sealing element, no. 911X, and LORO-X adhesive no. 985X.

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:

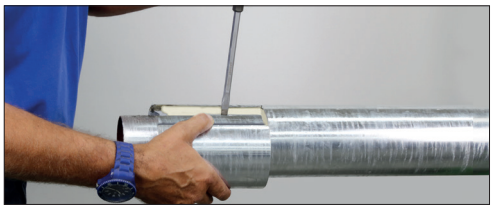
2.1 Cut the outer pipe to length at the outlet end at a right angle to the pipe axis. When using a pipe cutter, care must be taken that the cut surface is not drawn tight due to excessive cutting pressure.

2.1


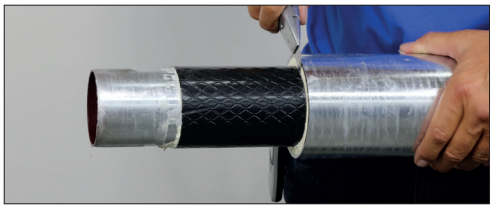
2.2 Cut the outer pipe open in the longitudinal direction at two opposite points using a cutting wheel.

2.2

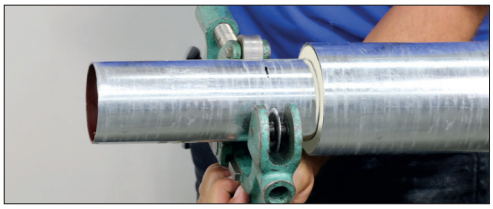

2.3 Prise off the half shells of the outer pipe and remove the rest of the PU insulation layer from around the inner pipe. The zinc coating of the inner pipe should not be damaged.

2.3


2.4 In the case of the "SILENT" version, remove the additional sound insulation mat.

2.4


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.

2.5


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.

2.6

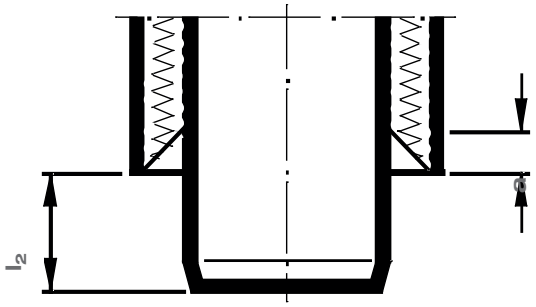



Table: insertion depths

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

The following pipe clips from our product range can be used for fastening the pipes:

- Pipe clips with knocking pin (if substrate is firm).
- Pipe clips with connecting threaded socket for hanger bolt or set screw, with/without sound-damping.
- Anchor clip up to DN 125 for suspension with perforated strap or flat bar. The firm seating of the anchor clip on the pipe and socket must not be impaired.

Fastening systems:

The pipe system has to be fastened in accordance with the requirements (e. g. fixed point, pipe clips etc.).
The following basically applies
for connecting and collector pipe:

- the distance between **fixed points** should be 12 m.
- the distance from **suspensions** should be

DN	32	40	50	70	80	100	125	150	200
X	2.0m	2.0m	2.0m	3.0m	3.0m	3.0m	3.0m	3.0m	3.0m

for downpipes:

- 3 m spacing.
- Downpipe supports can be placed every 12 m, if the weight of the downpipe is not lifted completely by the pipe clips.
- Fixed point at the transition of collector pipe and downpipe.

For the fastening of LORO-X pipes the following weights have to be taken into account:
1 m pipe completely filled with water weighs:

DN	LX steel discharge pipe kg/m	LX composite pipe kg/m
32	1.6	5.2
40	2.6	6.1
50	4.0	8.3
70	6.8	13.8
80	9.3	17.8
100	12.4	22.5
125	20.8	38.8
150	28.2	49.1
200	51.4	78.7
250	81.7	-
300	110.0	-

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

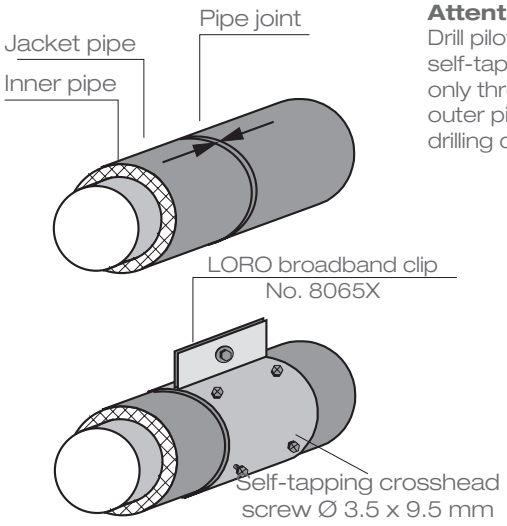
The expansion coefficient of the steel discharge pipe corresponds approximately to that of the concrete.
Casting-in of hot-dip galvanised steel discharge pipes has been state of the art for years.
If additives are used in the concrete (frost protection, retarder, setting accelerator), the outer pipe 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

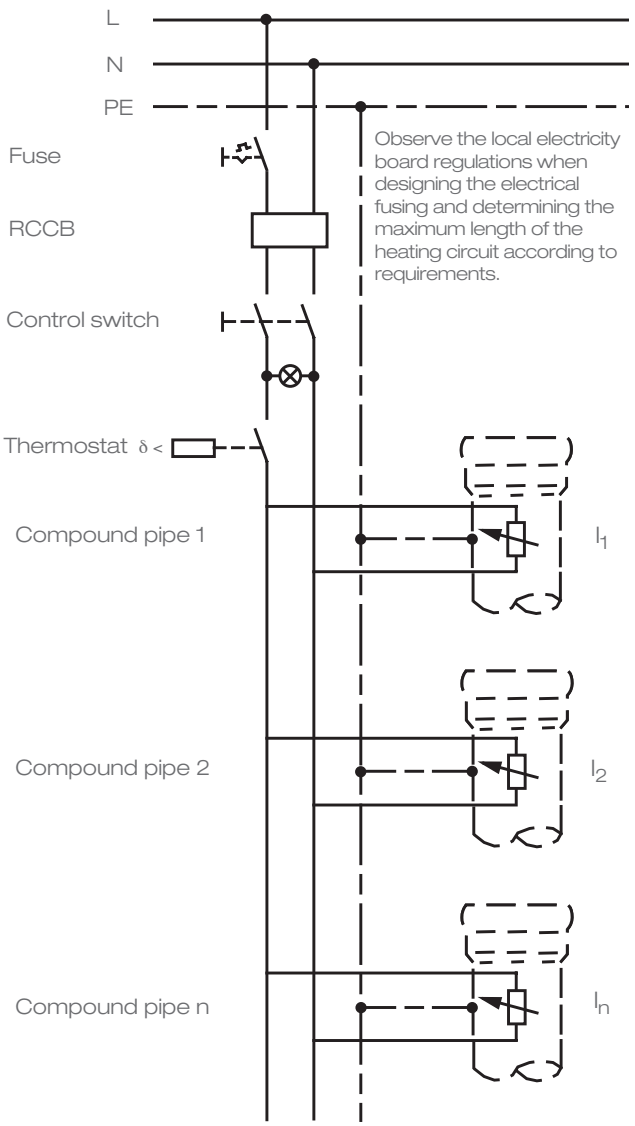
LORO composite pipes are available on request with self-regulating trace heating as single-pipe heating. The dimensioning of the electrical fusing and the maximum heating circuit length are determined from the requirements. The local electricity board regulations must be complied with.

Self-regulating single-pipe trace heating on request:

with connecting cable

with terminal box

Circuit diagram



LOROWERK K.H. Vahlbrauk GmbH & Co. KG
Kriegerweg 1 • 37581 Bad Gandersheim, Postfach 1380 • 37577 Bad Gandersheim • Germany
Tel. +49(5382)53 71 • Telefax +49(0)53 5382 • Internet: www.loro-x.com • e-mail: infocenter@lorowerk.de