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LORO[®]

LORO-X roof drainage systems

made of steel discharge pipe with LORO-X push-fit socket connector
LORO-X filling and venting lines and shipbuilding product range

Product range overview



Date December 2016

LORO-X parapet drainage

Parapet means "roof edge upstand as a wall-like structure at the edge of the roof of the building together with the roof edge closure instead of a gutter".

Parapet drainage -like channel drainage - is a completely external drainage system for flat roofs. The drainage system is mounted on the parapet upstand with a parapet drain from which the on-going pipe system leads horizontally through the parapet from the roof.

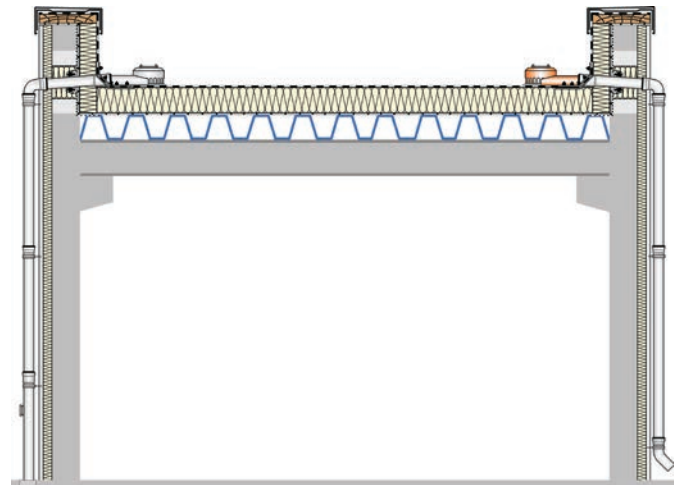
LORO-X roof drainage systems with siphonic flow

With the pressure-resistant LORO-X steel drainpipe, all buildings can be as reliably drained with siphonic flow via the parapet as in a normal gravity drain. Complete systems with siphonic flow are often more economical than conventional solutions!

Box gutters and low point lines on the roof enable simplification of the fall on the roof because they collect water from larger areas which can then be fed to the main- and emergency drains.

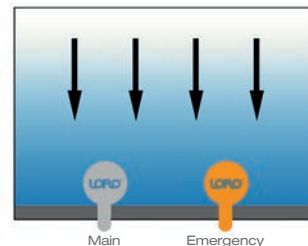
Advantages:

- no pipes inside the building
- no thermal bridges in the building
- rapid planning with LX datasheet
- high-drainage rate with siphonic flow
- complete system single sourced from LORO



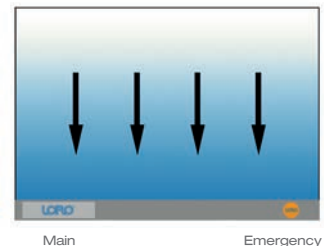
Parapet roof

Slope to parapet



Box gutter

Slope to box gutter



LORO-X flat roof drainage

Flat roofs are often drained with a so-called internal roof drainage system.

"Interior" refers to a roof drainage system in which a roof drain with a vertical connection to a pipe system is installed inside the building. This usually requires a core hole through which the roof drain is connected to the pipe system.

LORO-X roof drainage systems

feature space-saving dimensions and a high discharge capacity with a narrow pipe diameter.

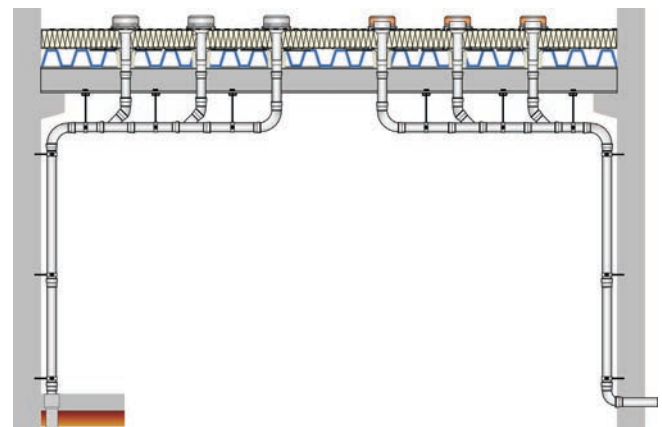
LORO offers the optimum roof drainage system for every roof structure. Choose from one-piece variant (for cold roofs) or two-piece variant (for roof with thermal insulation).

You may also select the system with additional thermal insulation at the drain or, in areas subject to heavy risk of frost, with trace heating.

Simply use the online configurator to select your optimum system.

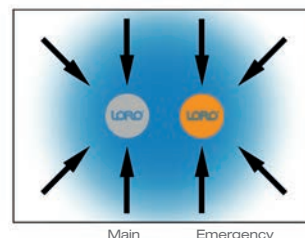
Advantages:

- shock resistant, backflow-safe, pressure resistant
- complete system single sourced from LORO
- several drains possible on one downpipe
- minimal expansion in heat and cold



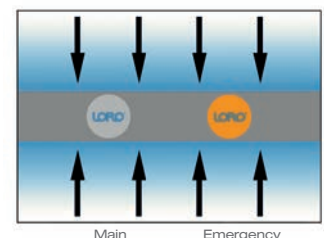
Low point

Slope to a point



Low point line

Slope to a line



LORO-X balcony drainage

A **balcony** is a "used and walkable roof surface" and is drained according to the standards applicable for flat roofs.

In **balcony drainage** the area to be drained is far smaller than on the roof so that usually lower drainage capacities are sufficient.

Balcony drainage systems normally drain with gravity flow in the nominal width DN 70.

LORO-X individual drains have a strainer without a pipe feedthrough and are connected "individually" with elbows or tees to the downpipe.

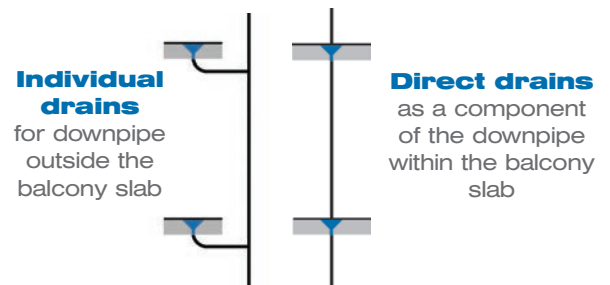
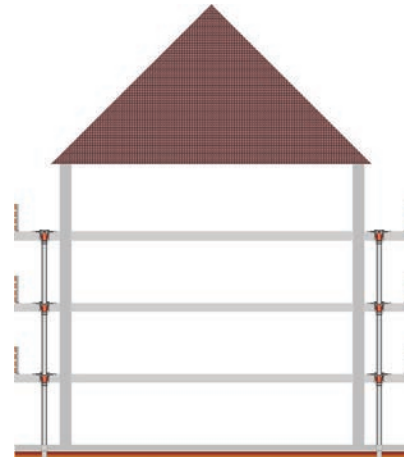
LORO-X direct drains have a strainer with a pipe feedthrough and are therefore a component of the downpipe. They are connected to a pipe which travels further upward and feeds the rainwater "directly" to the vertical downpipe.

LORO-X series V: The modular balcony drainage system made of stainless steel

With only one basic element and subsequently selectable attachments for practically all balcony structures, can be used as an individual drain or direct drain.

Advantages:

- protects facades from running water
- safety due to controlled drainage



LORO-X steel discharge pipes

LORO-X steel discharge pipes and fittings from DN 32 to DN 300, hot-dip galvanised with additional inside coating, have been tried and tested for more than 50 years in drainage systems in industry, for buildings and shipbuilding as well.

Fast installation: A key feature is the LORO-X two-compartment push-fit socket connection with special sealing elements for problem-free connection of the pipes. The decisive material- and installation benefits as well as the reliability have proved themselves hundreds of millions of times throughout the world.

Pressure-resistant and dimensionally stable: In combination with LORO-X anchor clips, LORO-X steel discharge pipes are also used as pressure pipes. LORO-X steel discharge pipes are impact proof, shockproof and frost proof, non-flammable and dimensionally stable.

2500 standard fittings: The extensive range of fittings for bends, branches, transition pieces, adjustment pieces and special fittings for special application areas solve practically every installation challenge.

Galvanised steel offers many advantages over other materials such as heavy cast-iron, melting plastic or thin-walled zinc sheet.

Various customer elements can also be made using sawing, bending and welding, i.e. no casting.



LORO-X steel discharge pipes

DN 32-300, pressure-resistant, shock resistant, backflow safe, fire protection class A1, UV resistant, heat- and frost resistant

LORO-X rainwater standpipes and downpipes

Whether there is a danger of mechanical damage in traffic areas or vandalism in traffic-calmed zones, you're on the safe side with LORO-X rainwater downpipes and standpipes.

In the external drainage of buildings the LORO-X brand stands for visually appealing, high-quality rainwater standpipes and downpipes.

The weatherproof LORO-X rainwater downpipes and standpipes are ideally suited to façade drainage of flat and steep roofs and blend optimally into the façade design.

Advantages:

- shock proof, dimensionally stable and backflow-safe
- not susceptible to heat or cold
- standpipe with and without clean-out opening
- round or square standpipe
- made of steel, stainless steel or copper
- DN 50 - DN 150



LORO-X compound pipes

The formation of condensation can be avoided and the transmission of heat or cold reduced through the use of LORO-X compound pipes, which consist of an inner and outer pipe as well as a layer of PU insulation layer. In cases of stricter noise control requirements, a noise protection film in the 'Silent' version provides for improved sound damping values.

Advantages:

- fast installation thanks to push-fit socket
- PU insulation between inner and outer pipe
- optimum sound damping in the 'SILENT' version
- optionally available with trace heating
- DN 40 - DN 150



Standard version

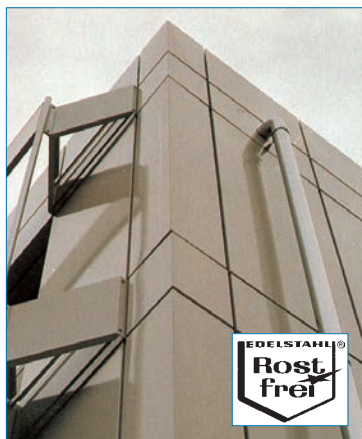
SILENT version

LORO-XCL stainless steel discharge pipes

The advantages of the LORO-X steel discharge pipe can also be transferred to the LORO-XCL stainless steel range. In addition, non-rusting stainless steel can also be used in connection with special sealing elements where aggressive media are used, for example in commercial kitchens or laundries.

Advantages:

- non-rusting stainless steel
- material no. 1.4301 (AISI 304)
- material no. 1.4404 (AISI 316L)
- Sealing elements made of SBR, NBR, SI, EPD and Viton (depending on the medium)
- DN 40 - DN 150

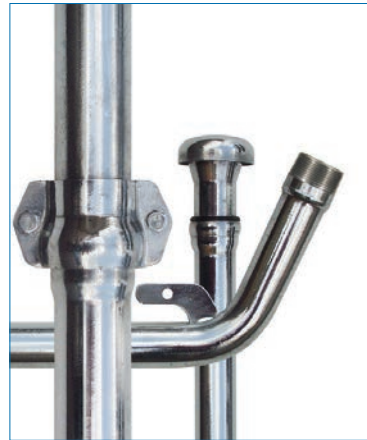


LORO-X filling and ventilating pipes

LORO-X filling and ventilating pipes with the easy-to-install LORO-X push-fit socket connection, special connectors and the LORO-X anchor clip have been proving their reliability in the filling and ventilating of fuel oil tanks for over 40 years.

LORO-X filling connectors with coupling and cover plus LORO-X pipes for continuation pipelines are also ideal for the filling and ventilating of pellet storerooms.

**No welding -
insertion only.**



LORO-X shipbuilding and offshore technology

The LORO-X shipbuilding product range is used with products specially developed for the drainage of decks and ship interiors in cruise liners as well as freight or river cruise ships. LORO-X steel discharge pipes carry the necessary approvals for grey water/ black water systems, for example for bulkhead decks or in waterproof compartments and engine rooms with no outboard connection. The use of LORO-XCL stainless steel discharge pipes is recommended for aggressive wastewater such as is found in commercial kitchens, for example.

Advantages at a glance:

- cost-saving, fast installation thanks to LORO-X push-fit socket connection
- approved by Germanic Lloyd and Lloyd's Register of Shipping
- also usable for fire extinguishing pipes with LORO-X pressure pipe clip
- according to DIN EN 1123, DIN 1986 and DIN EN ISO 15749
- high safety with low weight

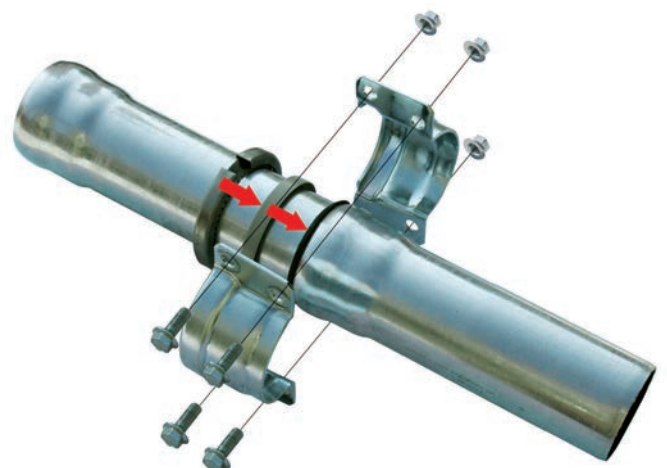


LORO-X pressure pipe clip

The LORO-X pressure pipe clip extends the area of application of LORO-X steel discharge pipes and LORO-XCL stainless steel pipes (AISI 316L) by pressurised pipes.

The pressure resistant LORO-X pipe connection requires no adaptors - pipes can simply be cut to length.

LORO-X pressure pipe clips PN 12 are tested according to IACS UR P2.11 rules at a test pressure of 48 bar. They are usable only in the LORO-X system with LORO-X precision pipes and fittings.



Corporate philosophy

"As is well known, entrepreneurialism is having commercially-promising ideas, finding the people and resources to put them into practice and using them to conquer the market in the long-term."

(Karl-Heinz Vahlbrauk, founder of LOROWERK, 1954)

Since it was founded and now in its 4th generation, LORO depends on a coherent vision of a company, its employees and its products, embedded within a challenging commercial environment.

At the LOROWERK site in Bad Gandersheim, research, development, production, sales and service work hand-in-hand (proprietary).



Test stands

On-going research and development on the LORO-X test stands is the basis for new technologies and products. Consideration of the system form of the complete (roof) drainage system is essential for a guaranteed and reliable system performance.

LORO, as a developer and producer of outlets, pipes and fittings, is able to supply the customer with reliable complete drainage systems with a guaranteed proof of performance.

Quality

Numerous European patents and active collaboration in various standardisation committees underlines the expertise of LORO, along with TÜV certification of the LOROWERK quality management system. The quality of many LORO products is regularly checked by external certifying bodies (LGA, GL, LR).

Member of the quality association:



Floor-, flat roof-and balcony drains, waste water pipes, steel fittings



Member of the trade association:

The company

Company organisation:

LOROWERK K.H.Vahlbrauk GmbH & Co.KG

Established: Management:

1954 in 31061 Alfeld/Leine
Dipl.-Ing. Wolfgang Vahlbrauk
Dipl.-Ök. Carlo Vahlbrauk

Employees:

approx. 230

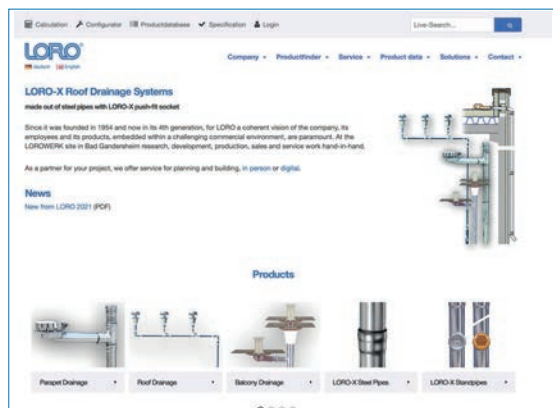


Numerous test stands at the LOROWERK enable the testing of all LORO-X systems. They are the basis of the LX data sheets.

LORO-X online service:

Complete roof drainage in just a few minutes at www.loro.de

- LORO-X online calculator
- LORO-X online configurator
- LORO-X online product database
- LORO-X online tender



LORO-X product advantages



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