

Sewer Sealing Cushions

with double cone

TÜVNORD

TÜV NORD CERT GmbH

ISO 9001

tuev-nord.de

Sewer Sealing Cushions: our original invention!



LAMPE Sewer Sealing Cushions for Temporary Pipe Closures and Pressure Testing

LAMPE Sewer Sealing Cushions do not expand by material stretching.

Inflatable pipe plugs – are things of the past!

LAMPE Sewer Sealing Cushions are simply better!
Their unique features and benefits:

- No bracing required to prevent displacement due to hydrostatic pressure.
- A single sealing cushion can be used to close off various pipe diameters.
- Can be used in non-circular cross sections (e.g. ovoid, kite-shaped, mouth, rectangular).
- Highly resistant to ageing (> 40 years)
- LAMPE Sewer Sealing Cushions are repairable.
- They are extremely lightweight.
- They take up little space in storage and/or transport.
- Their compact design permits insertion even into narrow manholes.
- They have outstanding chemical resistance.



Sewer Sealing Cushions: More than just products!



Inventor, Manufacturer and Supplier for over 70 Years: Your Single-Source Provider!

We promise to provide you more than just products! We also offer support in the following areas:

- **Questions concerning our products**
- **Product training** – safe use and occupational safety
- **Repairs and testing** – letting you get right back to work
- **Deliveries and questions** – short lead times and deliveries
- **Personalised requirements** – we can develop custom solutions for you
- **World wide deliveries** – over our international sales-network

Do you have other questions or requirements?
Simply give us a call or drop us a line.



Service hotline
+49 (0) 5532 2033

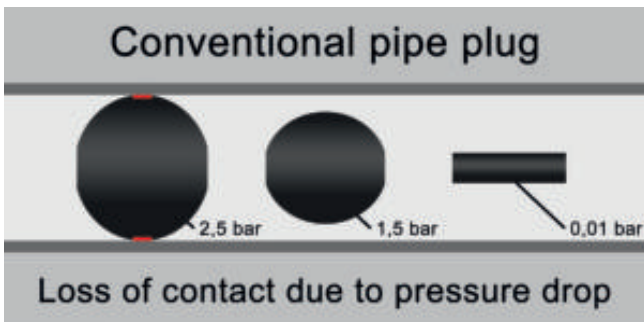
info@lampegmbh.de

Sewer Sealing Cushions require no bracing!



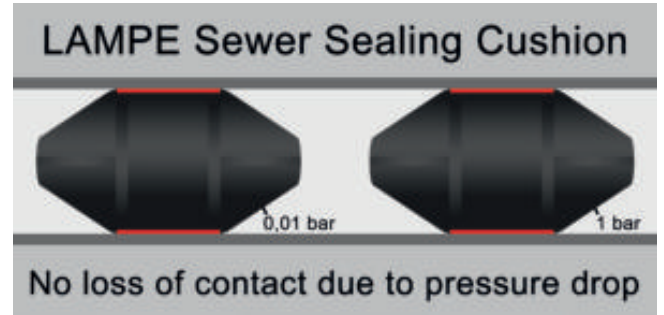
Conventional pipe plugs expand by material stretching and require bracing.

Conventional pipe plugs must be braced. They expand by material stretching.



These pipe plugs contact the pipe wall only when nearly at their full working pressure. In the event of a drop in working pressure, they contract, causing them to lose contact with the pipe and be pushed away by the back pressure caused by the standing water. Clearly, such pipe plugs are very unsafe! This is the reason why expandable pipe plugs must be secured in place by bracing.

Sewer Sealing Cushions don't work with material stretching. LAMPE Sewer Sealing Cushions require no bracing!



As shown above, the cushion when inflated with only 0.1 bar is already in full contact with the pipe wall. Therefore, even a significant drop from the nominal working pressure will not impair the contact with the wall. There is always enough time to control and readjust the pressure loss.

LAMPE Sewer Sealing Cushions are only subject to one physical limit: the maximum permissible water column. For a 1 bar cushion is max. 5 m which corresponds to a hydrostatic back pressure of 0.5 bar.

If the cushion's working pressure drops to the pressure level of the back pressure, this pressure equalisation causes a leak and water begins to flow under the cushion.

LAMPE Sewer Sealing Cushions provide sufficient frictional grip to keep them firmly in place under these conditions, therefore eliminating the need for an additional bracing.



Sewer Sealing Cushions for various pipe diameters!



Without stretching? How can that work? With the fold principle!

The secret lies in the cushion's conical shape.

For example our Model 1-1400: This cushion is suited for use in a pipe diameter range from 500 to 1400 mm.

First of all, our cushions are designed to be used in the maximum permissible diameter. For Model 1-1400 that is 1400 mm.

When using this cushion in a smaller pipe, e.g. DN 500 or 600, you make a fold in the left and right side of the cushion, creating a material overlap at these locations. You now have a smaller „package“ that you can push into the smaller pipe. The package has more material than is actually needed to close the pipe.

When you now inflate the cushion, the rest of the material will close the folds again.

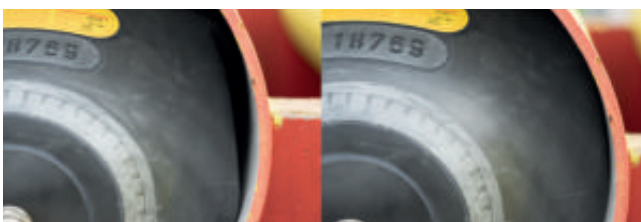
This innovative process permits use of a single LAMPE Sewer Sealing Cushion over a wide spectrum of pipe diameters. Conventional inflatable pipe plugs do not offer this capability!



Sewer Sealing Cushions with special sealing for pressure testing and non-circular cross-sections

In simple water retention applications in circular lines, cushions do not require the special sealing to do their job right.

If EN 1610 leak testing is foreseen, the material folds must be sealed 100% airtight to prevent escape of the test pressure. In such cases our special sealing – a 15mm thick synthetic foam ring – is required for 100% air tightness. This seal is also required for closure of lines with non-circular cross sections (see next page).



Sewer Sealing Cushions: suitable for non-circular cross sections!



Our Sewer Sealing Cushions are suited for all types of pipe cross sections: e.g. ovoid, kite-shaped, rectangular, etc.

Due to their non-stretching working principle and conical design, our Sewer Sealing Cushions can close off lines with all conceivable cross-sections. All you need is a Sewer Sealing Cushion with enough material to cover the pipe circumference.

The sealing effect can be augmented as required by use of the special sealing described on the previous page. LAMPE Sewer Sealing Cushions close off any pipe or sewer line!



Sewer Sealing Cushions: Long service life! Repairable!



LAMPE Sewer Sealing Cushions provide extremely long service life!

We can provide documented proof of lifetimes of over 40 years!

Why are our Sewer Sealing Cushions so durable?

They are made up of 2 main components:

1. A reinforcing base fabric.
2. An external coating of pure CR (neoprene).

The neoprene coating is the key factor for durability.

The neoprene coating of our Sealing Cushions is not subject to embrittlement because it does not contain plasticisers or other components which can leach out from the coating.

This is in contrast to inflatable pipe plugs made of conventional rubber formulations. In these pipe plugs, leach-out causes serious ageing problems including embrittlement, porosity and loss of air-tightness. Our neoprene undergoes virtually no ageing. That is the reason our Sewer Sealing Cushions attain service lives exceeding 40 years - and we have the documentation to prove it!



LAMPE Sewer Sealing Cushions are repairable.

Since the Sewer Sealing Cushion works without material stretching of any kind, a repair patch does not need to stretch either and therefore is not a potential weak spot of the repaired material.

LAMPE Sewer Sealing Cushions are cold vulcanised. Stated in simple terms, cold vulcanisation is a special bonding process based on a chemical reaction which fuses two objects together to form a monolithic unit. The resultant product is essentially the same as a product newly fabricated as a single piece.

This capability means that LAMPE Sewer Sealing Cushions need not be replaced in the event of localised damage, therefore offering you big cost savings.

Do you have a damaged Sewer Sealing Cushion? Let us know, we'll take care of it.

LAMPE Sewer Sealing Cushions feature very lightweight and compact design.

The larger the pipe, the greater the advantages provided by original LAMPE Sewer Sealing Cushions. All of our cushions are very light (for example our Type 1-1400 for pipe diameters up to 1400 mm weighs only 27.4 kg). All cushions up to Type 1-2200 (designed for pipe diameters up to 2200 mm) can be folded tightly to permit passage through manhole openings down to 600mm.



Our promise: the best in service and quality



Service and Quality: Our Way of Life

All of our Sewer Sealing Cushions are 100% Made in Germany, manufactured in-house in our Stadtoldendorf plant. The benefits for you:

- Rapid order processing
- Highest quality and safety ensured by continuous, full-inspection QC
- Professional repairs
- Continuous ongoing development of our products (see Page 11)

Expert Service from a Single Source

- Applications engineering and advice directly from the manufacturers/inventors
- Custom solutions for special cases
- Decades of experience in exporting in over 150 countries!
- Quick response and turnaround times

Did you know that pneumatic pipe closures at depths greater than 1m must be carried out by at least 2 persons to comply with safety regulations? Did you know that testing of pneumatic pipe closure devices at specified intervals is required by law?

No? We do! Please feel free to contact us for more information. We will be happy to provide you and your colleagues training in all aspects of product safety!

Do you have little or no experience in using pneumatic pipe shut off devices?
Will your jobsite be complicated in its realisation?

Our staff is a team of dedicated experts with many years of experience.

We are here to help you!



LAMPE Sewer Sealing Cushions are available worldwide!

In many countries we have already for many years and decades trained and experienced local agents through whom you can purchase our products and who are always available to you with advice and assistance! Customers in countries without local sales agencies receive product technical advice directly from Germany.

Contact us with your enquiry, we will be happy to provide the right solution for you.

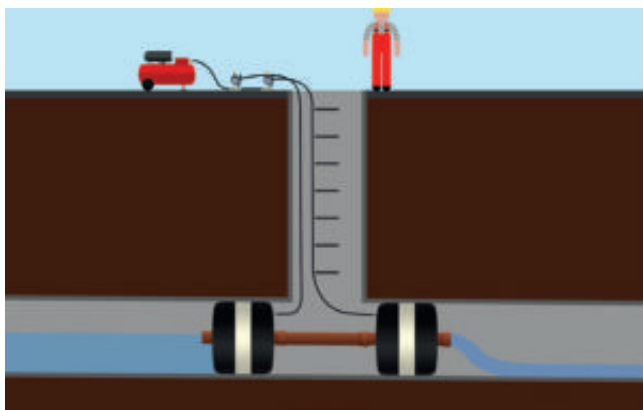
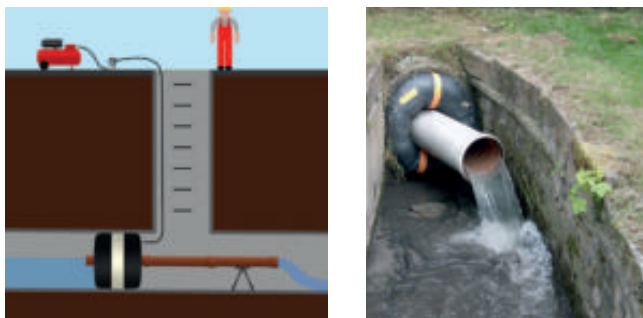


Sewer Sealing Cushions Series 2000 with pipe bypass

LAMPE Sewer Sealing Cushions Series 2000 with pipe bypass provide the capability of water transport through the cushion without requiring pumps or other powered equipment.

The water runs through a plastic pipe located in the cushion. The flow takes place exclusively by gravity feed, i.e. it follows the slope gradient.

This simple pump-free system saves you time and money.



Mini Pipe Plugs

Conventional stretch-expanding sealing and testing plugs for pipe diameters up to 600mm in a wide variety of designs.



LAMPE Sewer Sealing System KAS

A permanently installed, pneumatic alternative to conventional gate valves for retention of contaminated water and fire-fighting water in rainwater, mixed water and sewage lines.



LAMPE custom solutions

With more than 70 years of experience in processing and developing coated fabric materials, we can design and supply specialised custom products to your exact specifications and requirements.

Whether you need inflatable cushions, custom sleeves, pneumatic formwork, protective or partition walls, buoyancy enhancers or prototypes – our custom products get the job done right.

Contact us with your enquiry. We'll provide the solution!



Our delivery programme

Double-cone Sewer Sealing Cushions (working pressure: 1 bar, max. back pressure: 5m water column (0.5 bar) or 0.2 bar air)

(If leakage testing is intended or use in lines with non-circular cross-sections, cushions must be ordered with special sealing).

Type	Diameters from	Diameters to	Installation length	Required air volume at 1 bar	Art.-No. basic device	Weight in kg	Art.-No. with special sealing	Weight in kg	Art.-No. with bypass and special sealing	Weight in kg
1-150	90 mm	150 mm	60 cm	12 l	76311	0.8 kg	76312	0.9 kg	-	-
1-400	150 mm	400 mm	105 cm	85 l	76326	2 kg	76327	2.4 kg	76329	4.1 kg
1-600	250 mm	600 mm	140 cm	370 l	76336	4.1 kg	76337	4.7 kg	76339	15 kg
1-800	300 mm	800 mm	185 cm	1.020 l	76341	7.6 kg	76342	8.2 kg	76344	19.7 kg
1-1000	400 mm	1.000 mm	225 cm	1.800 l	76346	11.8 kg	76347	12.6 kg	76349	25.2 kg
1-1200	500 mm	1.200 mm	230 cm	3.200 l	76351	19.2 kg	76352	20.2 kg	76354	32.7 kg
1-1400	500 mm	1.400 mm	305 cm	4.600 l	76356	27.4 kg	76357	29.4 kg	76359	43.9 kg
1-1500	500 mm	1.500 mm	315 cm	6.060 l	76365	28.3 kg	76366	30.7 kg	76368	45.5 kg
1-1600	600 mm	1.600 mm	330 cm	6.440 l	76361	32.5 kg	76362	35.1 kg	76364	50.3 kg
1-1800	1.000 mm	1.800 mm	365 cm	10.800 l	76371	70.5 kg	76372	73.7 kg	76374	86.7 kg
1-2200	1.000 mm	2.200 mm	455 cm	17.000 l	76376	90 kg	76377	93.2 kg	76379	112 kg
1-2400	1.200 mm	2.400 mm	470 cm	29.920 l	76385	107 kg	76386	111 kg	76387	130 kg
1-2800	1.500 mm	2.800 mm	490 cm	41.200 l	76391	132 kg	76392	137 kg	76394	157 kg
1-3200*	1.800 mm	3.200 mm	550 cm	59.200 l	76396	186 kg	76397	192 kg	76399	214 kg
1-3600*	2.200 mm	3.600 mm	600 cm	87.000 l	76381	224kg	76382	231 kg	76384	254 kg

*working pressure: 0.7 bar, max. back pressure: 3m water column (0.3bar)

Double-cone Sewer Sealing Cushions (working pressure: 2 bar, max. back pressure: 10m water column (1.0 bar) or 0.2 bar air)

2-150	90 mm	150 mm	60 cm	18 l	76411	1.2 kg	76412	1.3 kg	-	-
2-400	150 mm	400 mm	105 cm	130 l	76426	2.9 kg	76427	3.3 kg	76429	5 kg
2-600	250 mm	600 mm	140 cm	555 l	76436	6.1 kg	76437	6.7 kg	76439	17 kg
2-800	300 mm	800 mm	185 cm	1.530 l	76441	10.4 kg	76442	11 kg	76444	22.5 kg
2-1000	400 mm	1.000 mm	225 cm	2.700 l	76446	16.7 kg	76447	17.5 kg	76449	30.1 kg
2-1200	500 mm	1.200 mm	230 cm	4.800 l	76451	24.1 kg	76452	25.1 kg	76454	37.6 kg

Accessories

When using LAMPE Sewer Sealing Cushions or other pneumatic pipe closure devices, you must continuously monitor their inflation pressure and readjust as necessary.

Every LAMPE Sewer Sealing Cushion must be operated with a safety fitting incorporating a manometer and safety valve which is independent of the air source, as well as a filling hose suitable for our system.

Use of LAMPE Sewer Sealing Cushions with filling accessories from other manufacturers or without any safety accessories is very dangerous and is not permitted!

Safety fittings:

- 71427 **Safety fitting ½"**,
1 bar, for all cushions up to Type 1-1200
- 71425 **Automatic pressure controll safety fitting ½"**,
1 bar, for closed-loop pressure control with operational compressed air source
- 71474 **XL safety fitting 1"**,
1 bar, for all cushions from Type 1-1400 up
- 71420 **Economy safety fitting ½"**,
1 bar, economy version for all cushions up to Type 1-400

Filling hoses:

- 71523 **Filling hose ½", 1 bar, 5 m**
- 71525 **Filling hose ½", 1 bar, 10 m**
- 71541 **Filling hose 1", 1 bar, 10 m**,
for use with XL safety fitting Art. No. 71474
- 71560 **Filling hose ½", 1 bar, 5 m**, economy
version for all cushions up to Type 1-400

Adaptors for various air sources:

We offer a wide range of adaptors and can provide the right model for your desired air source.

Other accessories:

Our product programme also includes a broad variety of other accessories such as venting ejectors, carrying cases, leak test accessories etc. etc. Just let us know and we will be happy to provide more information.



Our latest development

- **LAMPE Sewer Sealing Cushions with heavy-duty restraints: the first system of its kind worldwide!**
- **Load capacity 40 kN per bracket**

Due to their special working principle, our Sewer Sealing Cushions permit safe and controlled reduction of the accumulated water column on the pipe bottom while they are vented. However, certain applications under extreme conditions require extremely fast removal of the accumulated water. Here the cushion must be quickly deflated without being pushed away by the weight of the water.

For exactly these requirements, we have developed our heavy duty restraints with a breaking load of 40 kN per bracket. These are designed in such a way that they can withstand the force of a water column with the help of chains or ropes without losing the Sewer Sealing Cushion.



Our Corporate Values

- We are reliable.
- We are customer-oriented.
- We are certified in accordance with EN ISO 9001:2015.
- We work in a transparent manner.
- We are the inventors. We innovate.
- We work in a clean and environment-friendly manner.
- Our products are sustainable.



LAMPE GmbH
Warteweg 46
D-37627 Stadtoldendorf
Germany

Tel +49 (0) 5532 2033
Fax +49 (0) 5532 4499
info@lampegmbh.de
www.lampegmbh.de