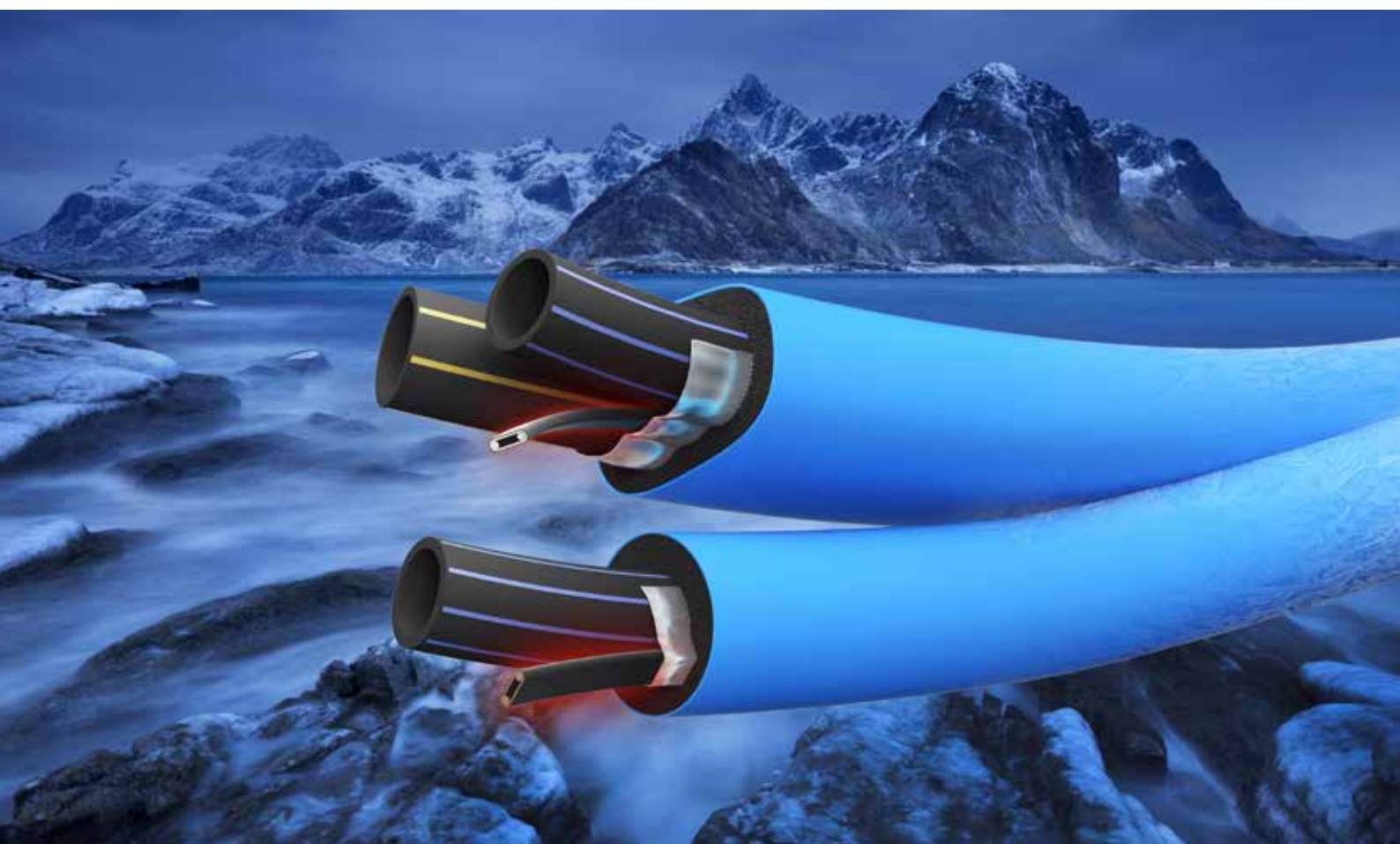


Polarpipe[®]

Frost protected and insulated pipe for water and sewage.



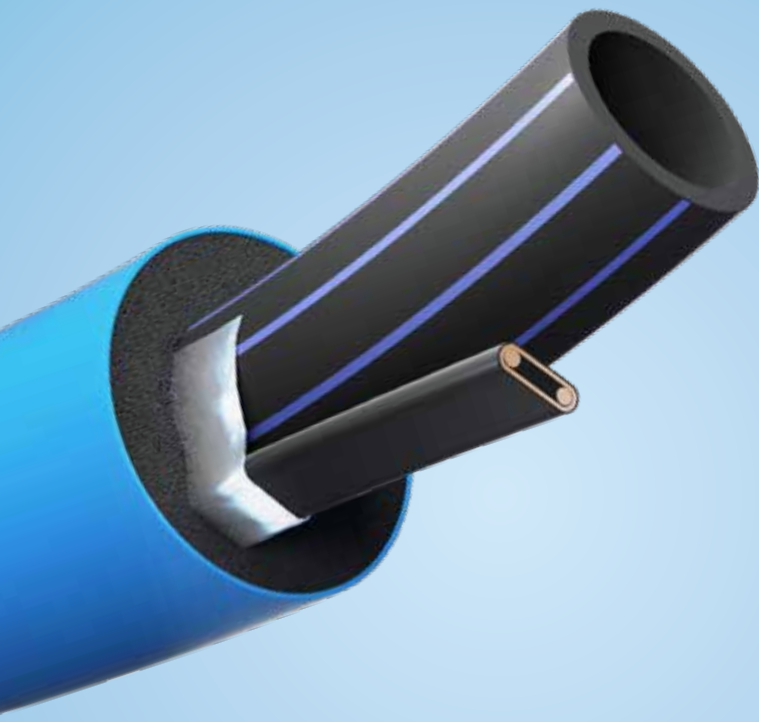

extena



Frost-proof water and sewage for coastal areas, mountain regions and temporary modules

As more houses and cabins are built on the coast and in mountain regions, the need for energy efficient and environmentally friendly water and sewage systems is increasing. In these areas, where it is often difficult

to lay pipes at a frost-proof depth without seriously harming the sensitive local environment, customized solutions are required. Polarpipe® from Extena has been developed and adapted for mountains, rocky and coastal areas and offers a frost-protected water and sewage system whatever the season and ground conditions. The system consists of one or two polyethylene pipes with a self-limiting heating cable and thermal insulation to prevent the water and sewage from freezing. This design eliminates the need to dig or blast down to a frost-free depth – the pipe can be laid on the ground or on snow and ice if desired, with minimal covering. The result is frost-proof water and sewage with no or very little interference with nature.



Examples of applications for Polarpipe®

Mountain regions and coastal areas

Are you going to build a new house in the mountains or do you already have a cabin on the coast? Polarpipe® allows you to easily transfer water and sewage in mountainous environments without having to carry out costly blasting and excavation that impacts nature. Lay the pipe at a shallow depth or directly on the ground. Polarpipe® is also ideal for mountain and ski installations that want to supply shelters or cafés with water and sewage without having to interfere with sensitive mountain regions.



Construction sites and temporary modules

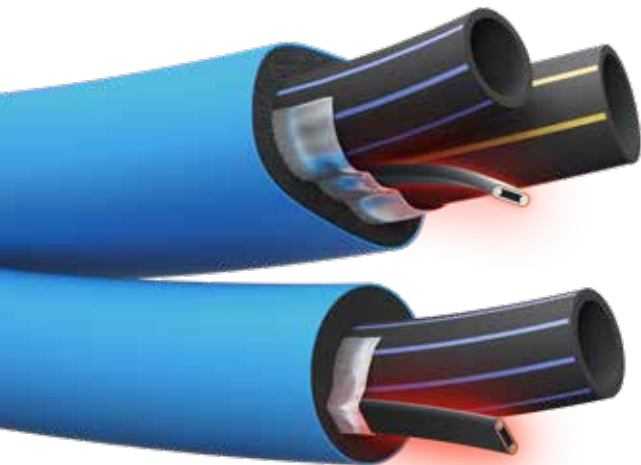
Polarpipe® is a perfect alternative for temporary water and sewage solutions, such as on construction sites or portakabins for schools or offices. The piping system is easy to lay and connect, and thanks to the heating cable and the system's high-quality insulation, water and sewage demand can be ensured cost-effectively at temperatures down to minus 30 degrees depending on wind and covering.



Marine applications

Ships and large boats that call in to ports sometimes need to connect to a water and sewage system. Polarpipe® is particularly suitable for this purpose. The flexible and durable design of the piping system means that it can easily be routed to ships and can withstand the harsh marine environment.





Single or double pipe

Polarpipe® is available with either one or two pipes. Double pipes are perfectly suited to light pressure sewage systems. The coarser pipe is used to pump waste water from a pumping station (pump well together with a cutter pump) to an infiltration plant or municipal pipe. The smaller pipe is then intended for drinking water. Polarpipe® Double pipe is a very good solution in challenging terrain where rock or similar material make it difficult to use gravity sewers. This design is also equipped with a self-limiting heating cable and can be laid above frost depth or directly on the ground.



Polyethylene PE

Polyethylene (PE) is a thermoplastic that is very suitable for pressure pipe systems. The material has good properties at both low and high temperatures and is resistant to both impacts and pressure fluctuations. In addition, it is chemically resistant and corrosion resistant as well as being lightweight and easy to handle.

Covering

Polarpipe® does not need to be covered to function. The system is capable of keeping the pipes frost-protected down to minus 30 degrees above ground. However, to extend the life of the system, cover the pipe or lay it in a protective outer pipe to avoid exposure to the UV rays of the sun.

Energy efficient system

The beauty of using a self-limiting heating cable is that the pipe can be cut to the required length, resulting in less waste. The heating cable also automatically adjusts its output according to the outside temperature, reducing energy consumption. Normal power consumption is approx. 15W / metre at minus 10 degrees. To improve energy efficiency even more, we also recommend the use of thermostat control (available as an accessory). By connecting a thermostat you get a facility that does not emit heat or draw energy until the outside temperature has fallen below the temperature set in the thermostat.

Two ways to operate Polarpipe®

You can operate the Polarpipe® system in two ways. Either continuous operation with or without a thermostat that starts the plant when there is a risk of freezing. Alternatively, allow the pipe to freeze when not in use. Then turn on the power when necessary. The system takes approx. 30 minutes to thaw at minus 10 degrees.



Smart and durable construction

Polarpipe® consists of one or two pipes made of polyethylene (PE) approved for food use and a heating cable to prevent the water from freezing. Around the heating cable and a section of the polyethylene pipe there is also an aluminium foil that reflects and spreads the heat for efficient and economical heating. The PE pipes are insulated with efficient and flexible PE-based closed cell foam insulation.

The lambda value of the insulation is 0.043 and since the cells are closed, the insulation maintains its high insulation value without the risk of water absorption. Outside the insulation is an outer sheath that is also made of durable PE, but with a lower density, which makes the sheath more flexible, allowing it to follow the terrain and ground conditions more easily.

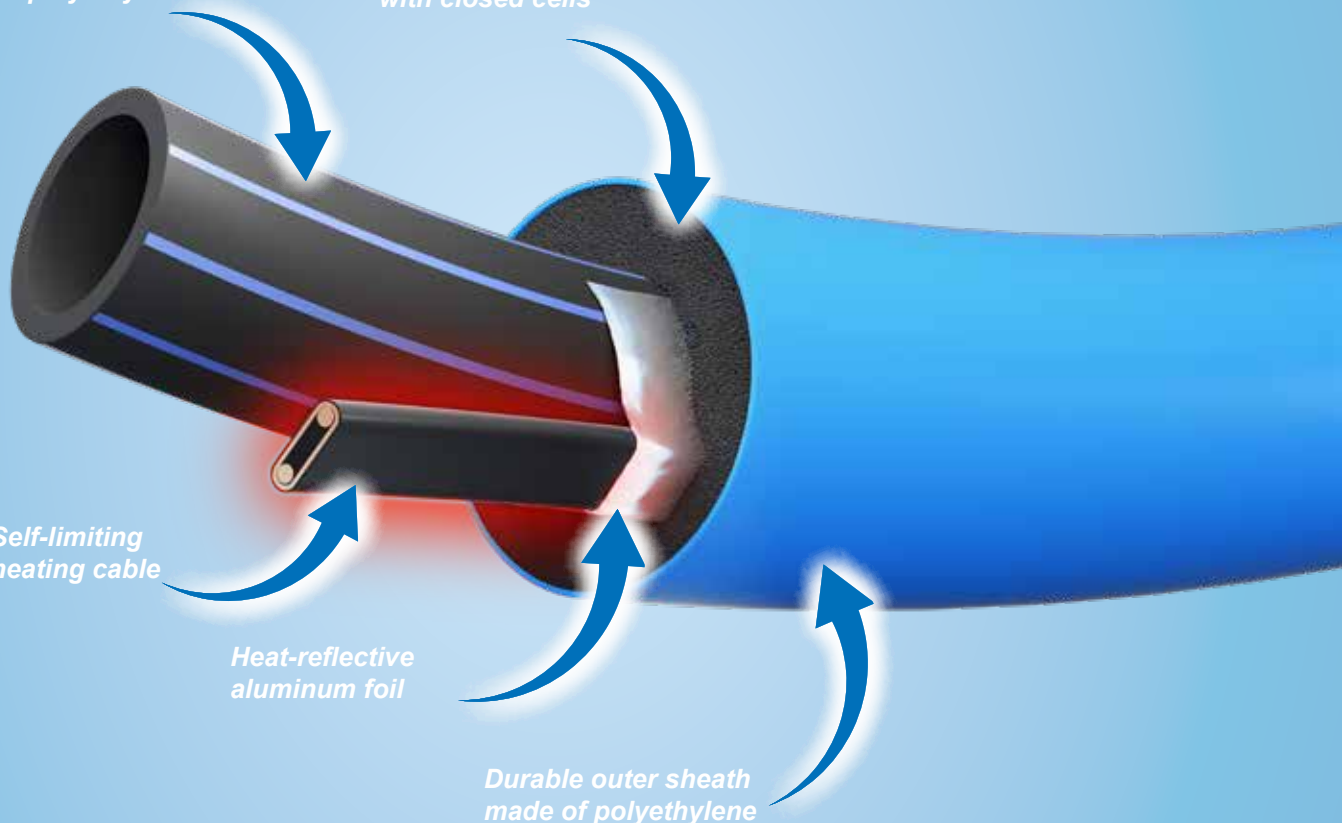
Pressure water pipes made of polyethylene

Foam insulation made of polyethylene with closed cells

Self-limiting heating cable

Heat-reflective aluminum foil

Durable outer sheath made of polyethylene





Made in Sweden

Polarpipe® is manufactured by Extena AB at its factory in Norsjö, 100 km west of Skellefteå in northern Sweden. We are specialists in the extrusion of thermoplastic pipes and are one of the leading companies in the Nordic region supplying PE pressure pipes, cable protection pipes, special pipes in PE and PP and pre-insulated pipes. Extena is at the very forefront when it comes to using developed raw materials, PE100 RC being a good example.

Our polyethylene pipes are manufactured according to EN 12201. They are tested and approved according to Insta-Cert and Nordic Poly Mark.



Nordic Poly Mark

Nordic Poly Mark

Nordic Poly Mark is a Nordic quality mark for plastic pipe products. This quality stamp has been developed jointly by the Nordic countries in order to maintain a high level of quality plastic pipe products for the Nordic market. Polarpipe® meets all the requirements for Nordic Poly Mark.

Customize the length

Polarpipe® can be ordered in metre lengths together with a connection and termination kit. This allows you to customize the length to suit your needs. A jointing kit is also available to extend the length of existing pipes if required. To connect your Polarpipe® system, just follow our easy-to-use installation instructions. To joint a polyurethane pipe, always follow the instructions for the connectors you intend to use. If you allow the plant to freeze when not in use, it is important that you use couplings that can withstand freezing without being damaged.

Pre-cut lengths for easy installation

Polarpipe® is also available in pre-cut lengths with the connection and termination kit already fitted, a so-called “plug-in” solution. This solution only requires connection to water and/or sewage and a heating cable connected to the electricity socket.



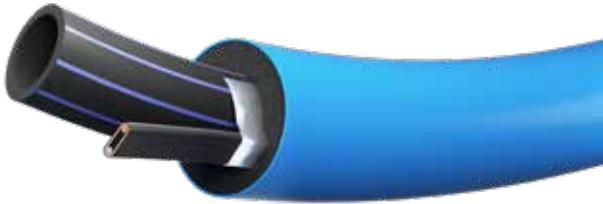
Larger system with multiple connections

An optional control system is available if you want to connect multiple users with Polarpipe®, such as a cabin area. Contact Extena for more information. Our multi-connection system can be controlled and monitored online and will automatically issue an alarm in the event of downtime.



Polarpipe® provides a frost-protected and reliable system when you are unable to dig in frost-free ground.

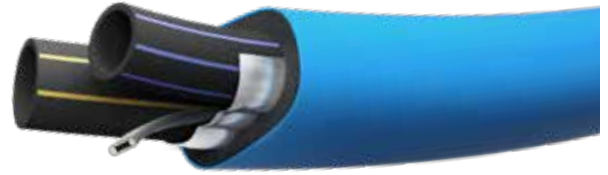
Polarpipe® range



Polarpipe® Single pipe

Pressure class PN16, SDR class 11

Art. no.	RSK number	Dim mm ID/Total OD	Weight kg/m	Bend radius mm
10648	2407789	20/45	0.48	500
12285	2407793	25/50	0.56	600
10649	2407794	32/57	0.73	600
10650	2407795	40/65	0.93	750
10651	2407797	50/85	1.37	900
10652	2407799	63/100	1.94	1,000
14528	2407800	75/100	2.41	1,030



Polarpipe® Double pipe

Pressure class PN16, SDR class 11

Art. no.	RSK number	Dim mm Pipe blue stripes ID/ Pipe brown stripes ID/ Total Dy	Weight kg/m	Bend radius mm
10680	2407801	20/20/60	0.79	500
10681	2407802	20/25		
10682	2407803	20/32/65	1.0	600
10683	2407804	20/40		
10684	2407805	20/50		
10685	2407806	25/25/65	0.94	600
10686	2407807	25/32		
10687	2407808	25/40		
10688	2407809	25/50/75	1.52	900
10689	2407810	32/32/75	1.23	600
10690	2407811	32/40/85	1.46	750
13106	2407812	32/50/95	1.77	900
14540	2407814	32/63		
10691	2407813	40/40/95	1.68	900
14539	2407815	40/50		

Blue stripes: Drinking water Brown stripes: Waste water

Single pipe has blue stripes as standard. In the case of double pipes, the smallest pipe has blue stripes and the largest pipe has brown stripes as standard. If both pipes are the same dimension, one pipe has blue stripes and the other has brown stripes.

Accessories



Connection/termination kit for single pipe

Contents:

- 2 x heat shrink tubing, coarse. Length: 250 mm
- 1 x connection/termination kit
- 1 x sealing material. Length: 50 mm
- 1 x installation instructions

Art. no.	RSK number	Dim mm
10653	2555459	20
12387	2555460	25
10654	2555461	32
10655	2555462	40
10656	2555463	50
10657	2555464	63
14541	2555509	75



Connection/termination kit for double pipe

Contents:

- 2 x heat shrink tubing pants
- 1 x connection/termination kit
- 1 st tätningmaterial. Length: 150 mm
- 1 x installation instructions

Art. no.	RSK number	Dim mm
13772	2555492	20/20
13773	2555493	20/25
13774	2555494	20/32
13775	2555495	20/40
13776	2555496	20/50
13777	2555497	25/25
13778	2555498	25/32
13779	2555499	25/40
13780	2555500	25/50
13781	2555501	32/32
13782	2555502	32/40
13783	2555503	32/50
14547	2555514	32/63
13784	2555504	40/40
14546	2555515	40/50



Straight jointing kit for single pipe

Contents:

- 1 x heat shrink tubing, coarse. Length: 500 mm
- 1 x straight joint
- 1 x insulation. Length: 500 mm
- 1 x arc welding sleeve
- 1 x installation instructions

Art. no.	RSK number	Dim mm
10658	2555471	20
12388	2555472	25
10659	2555473	32
10660	2555474	40
10661	2555475	50
10662	2555476	63
14543	2555511	75



Y-branch from double to single pipe

Contents:

- 1 x branch clamp
- 1 x packing tape
- 1 x insulation
- 1 x heat shrink tubing Ø160 mm. Length: 1,200 mm
- 2 x arc welding sleeves for jointing polyethylene pipes
- 1 x branch joint
- 1 x installation instructions

Art. no.	RSK number	Dim mm
13646	2555505	32/40
13647	2555505	32/50

* Images show the jointing kit, Y-branch and connection/termination kit fitted on Polarpipe®.

Accessories



Insulation kit for Polarpipe® Single pipe

For insulation at the connection point to main pipe, for example.

Art. no.	RSK number	Dim mm
13803	2555465	20
13804	2555466	25
13805	2555467	32
13806	2555468	40
13807	2555468	50
13808	2555470	63
14542	2555510	75



Insulation kit for Polarpipe® Double pipe

For insulation at the connection point to main pipe, for example.

Art. no.	RSK number	Dim mm
13809	2555490	32/40
13810	2555490	32/50



Angle jointing kit 90°

Contents:

- 1 x angle jointing kit
- 2 x heat shrink tubing, coarse. Length: 500 mm
- 2 x straight joints
- 2 x insulation. Length: 500 mm
- 2 x arc welding sleeves for jointing polyethylene pipes
- 1 x installation instructions

Art. no.	RSK number	Dim mm
10663	2555483	20
13648	2555484	25
10664	2555485	32
10665	2555486	40
10666	2555487	50
10667	2555488	63
14545	2555512	75



Branch jointing kit 45° and 90°

Contents:

- 1 x branch joint
- 3 x heat shrink tubing, coarse. Length: 500 mm
- 2 x straight joints
- 1 x connection/termination kit
- 3 x insulation. Length: 500 mm
- 1 x sealing material. Length: 50 mm
- 3 x arc welding sleeves for jointing polyethylene pipes
- 1 x installation instructions

Art. no.	RSK number	Angle/Dim mm
14562		45°/40
14563		45°/50
14564		45°/63
14565		45°/75
10668	2555477	90°/20
13182	2555478	90°/25
10669	2555479	90°/32
10670	2555480	90°/40
10671	2555481	90°/50
10672	2555482	90°/63
14544	2555513	90°/75



Thermostat AT-TS-13

Art. no.	RSK number	IP class
13076	2555508	65

Thermostat for temperature control within ordinary ranges, minus 5 degrees to plus 15 degrees. Temperature sensor L: 3 metres. Max. breaking capacity 16 A, 250 VAC.



Power switch

Art. no.	RSK number	IP class
10673	2555507	44

Connection fuse requirements

When connecting Polarpipe® to the electricity socket, refer to the table for fuse requirements for different pipe lengths.

Fuse (AT)	-20°C
6	40 m
10	60 m
16	100 m
20	130 m

Marking, warranties and installation

Polarpipe® polyethylene pipes are marked according to the applicable standard: Metre marking, Standard, Material, OD x Thickness, PN class, SDR class, Nordic Poly Mark, Extena logo and product number.

Polarpipe® outer sheaths have the following marking: Metre marking, Polarpipe® OD (Polyethylene pipe), SDR class, Extena logo and date.

Polarpipe® is supplied with a transport seal to protect the pipe ends. This is removed during installation.

Polarpipe® must be installed by a qualified installer. It is also important that the end of the heating cable is not exposed to moisture or damp.

In order to maintain the warranty on the heating cable, the heating cable regulations and installation instructions must be followed. When jointing Polarpipe®, follow the instructions for the couplings to be used.

Extena applies the General Terms of Delivery AA VVS 09.



Instructions for installing Polarpipe® can be found in our assembly instructions. This is available for download at extena.se.



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