

SMARTLINE®

– a smarter and more elegant solution for soil pipes





Smartline products offer three different advantages:

Modern design

What is the point of an elegant bathroom if you do not have attractive piping? For most people, excellent design is becoming increasingly important, resulting in more stringent requirements for new products on the market.

With its simple and streamlined design, Smartline is ideal for modern interiors. Open solutions in bathrooms and other wet rooms are growing in popularity. With Smartline, you get an affordable and reliable piping system which also looks good. Now you do not need to spend

money on concealing the piping – you can display it with pride. The smooth joints not only create an attractive product: they also make maintenance and cleaning far easier. Smartline is available in off-white and chrome, perfectly suited to the modern, design-conscious consumer.

Easy to install

Smartline is just as smart as its name suggests. We have replaced the old way of installing pipes with a new and simpler solution, which also results in far more elegant joints. This means many benefits for the pipe fitter:

- Smartline has been approved for all pipe fitting situations
- It can replace all existing piping systems
- One colour in all dimensions
- Pipes without sockets result in less wastage
- Takes less space in concealed systems
- 40 mm. as the smallest dimension
- A visually attractive product

All-in-one

Thanks to the new production technology, far fewer pipe parts are needed when Smartline is used. The system is an all-in-one-product which replaces the standard programme, the all-socket programme, and Slimline. This also means great advantages for the wholesaler:

- Fewer components
- It can replace existing piping systems from Pipelife
- Higher turnover rate
- Saves space – fewer pallets in storage
- Better logistics

Smartline



Smartline is a revolutionary system for indoor soil pipes, where design takes pride of place. The innovative solutions offer many benefits. Fewer fittings along with simple and reliable installation are important advantages. The design of the joints makes the pipe system easy to clean, and also prevents the lubricant from coming out on to the visible pipe end.

Pipes and fittings

None of the pipes have sockets or connectors. The fittings have the same external diameter as the pipe. The cap, which is available for all fittings with a gland, covers the gap between the pipe and the fittings, and is used as a fixed point in clamping. The sealing ring provides a seal against the internal surface. The socket is therefore replaced by the Smartline connector gland. The first dimensions we are launching are 40 mm and 50 mm. The pipes and fittings are produced in a pale, neutral colour. For open installations, we also supply chrome-plated pipes and fittings.



32 mm becomes 40 mm

With Smartline, we have chosen to follow the rest of the world and phase out 32 mm. With Smartline's streamlined design, 40 mm will not need extra space. There is less risk of water damage resulting from dimensions which are too small, and the piping system has excellent hydraulic characteristics.



PL NOS-no Pipes

080 125	40 mm Smartline pipe 1 m
080 127	40 mm Smartline pipe 3 m
080 135	50 mm Smartline pipe 1 m
080 136	50 mm Smartline pipe 3 m

**PL NOS-no Pipe bends**

178 001	40 mm 15° Smartline pipe bend
178 021	40 mm 45° Smartline pipe bend
178 041	40 mm 88° Smartline pipe bend
178 002	50 mm 15° Smartline pipe bend
178 022	50 mm 45° Smartline pipe bend
178 042	50 mm 88° Smartline pipe bend



178 011	40 mm 30° Smartline pipe bend
178 031	40 mm 67° Smartline pipe bend
178 012	50 mm 30° Smartline pipe bend
178 032	50 mm 67° Smartline pipe bend

**PL NOS-no Double and repair sockets**

178100	32 mm Smartline double socket
178 101	40 mm Smartline double socket
178 111	40 mm Smartline repair socket
178 102	50 mm Smartline double socket
178 112	50 mm Smartline repair socket

**PL NOS-no Access pipe**

178 181	50 mm access pipe with cover
178 185	50 mm access pipe cover

**PL NOS-no Clamps**

178 131	40 mm Smartline clamps
178 132	50 mm Smartline clamps

**PL NOS-no Connector glands**

178 141	40 mm Smartline connector gland	
178 142	50 mm Smartline connector gland	

PL NOS-no Branch pipe

178 051	40x40 mm 45° Smartline branch
178 052	50x40 mm 45° Smartline branch
178 053	50x50 mm 45° Smartline branch




178 071	40x40 mm 90° Smartline branch
178 072	50x40 mm 90° Smartline branch
178 073	50x50 mm 90° Smartline branch


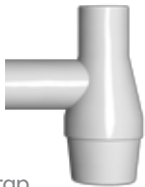
**PL NOS-no Reducer**

178 120	40x32 mm Smartline eccentric reducer
178 121	50x40 mm Smartline eccentric reducer
178 127	40x32 mm Smartline reducer with socket and connector gland
178 128	50x32 mm Smartline reducer with socket and connector gland

**PL NOS-no End cap for spigot**

178 187	40 mm end cap for spigot	
178 189	50 mm end cap for spigot	


PL NOS-no Water trap

178 149	40 mm Smartline straight outlet water trap	
178 150	40 mm Smartline combi water trap	
178 151	40 mm Smartline bottle trap	
178 152	50 mm Smartline water trap	
180 629	1"x1¼" reducer for water trap	
193 630	Valve set for water trap	







PL NOS-no Waste strainer
 178 155 40 mm Smartline waste strainer
 178 156 50 mm Smartline funnel for washing machine




PL NOS-no Upper part for water trap
 178 196 50 mm x 1½"-1¼" upper part for water trap without branch
 178 198 50 mm x 1½"-1¼" upper part for water trap with branch




PL NOS-no Threaded fittings
 178 163 40 mm x 1½"-1¼" Smartline reducer with union nuts
 178 167 40 mm 88° Smartline pipe bend with 1¼" male thread
 178 169 40 mm x 1" Smartline socket reducer for connection to outlet, BSP parallel
 178 171 40 mm x 1¼" Smartline socket reducer for connection o outlet, BSP parallel




PL NOS-no Chamfering tool
 180 410 Internal and external chamfering tool for 32, 40 and 50 mm



PL NOS-no Roses
 178 175 40 mm Smartline rose hig
 178 176 40 mm Smartline rose low
 178 177 50 mm Smartline rose hig
 178 178 50 mm Smartline rose low



PL NOS-no Pipe bend chrome
 178 201 40 mm 15° Smartline pipe bend chrome
 178 221 40 mm 45° Smartline pipe bend chrome
 178 241 40 mm 88° Smartline pipe bend chrome
 178 211 40 mm 30° Smartline pipe bend chrome
 178 231 40 mm 67° Smartline pipe bend chrome




PL NOS-no Pipe chrome
 080 130 40 mm Smartline pipe chrome 1 m




PL NOS-no Connector gland chrome
 178 341 40 mm Smartline connector gland chrome




PL NOS-no Branch pipe chrome
 178 251 40x40 mm 45° Smartline branch chrome
 178 271 40x40 mm 90° Smartline branch chrome




PL NOS-no Roses
 178 351 40 mm Smartline rose hig chrome
 178 355 40 mm Smartline rose low chrome



PL NOS-no Reducer chrome
 178 320 40x32 mm Smartline eccentric reducer chrome
 178 321 50x40 mm Smartline eccentric reducer chrome




PL NOS-no Clamps chrome
 178 331 40 mm Smartline clamps chrome



PL NOS-no Waste strainer chrome
 220 71 29 40 mm Smartline waste strainer



PL NOS-no Water trap chrome
 178 361 40 mm Smartline straight outlet water trap chrome
 178 363 40 mm Smartline combi water trap chrome
 178 364 40 mm Smartline bottle trap chrome



Fewer fittings



Smartline means fewer fittings in the product line. This means that the plumber can work with a smaller selection of fittings, and installation is faster.

Approval

Pipes and fittings are approved and have been awarded protected marks of certification (Nemko's N-mark or Insta-Cert's Nordic Poly Mark). This means that the piping system fulfils all the functional requirements in the product standard NS-EN 1451 and the requirements for certification for PP indoor soil pipe systems with an ample margin. It also means that we are committed to conducting continuous quality assurance, and that a neutral third party monitors our quality control and tests our products. This means peace of mind for the fitter and the user.



Pipe material

The pipe material is still PP (polypropylene) copolymer. PP copolymer is well-known for its good temperature resistance, excellent impact strength and chemical resistance. PP pipes are easy to cut and fit. NOTE: The material cannot be glued.





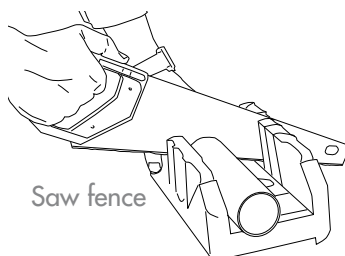
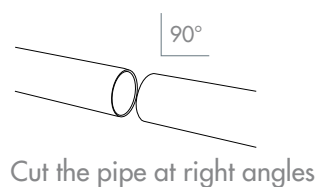
INSTALLATION GUIDE

Smartline has been approved for both open and concealed installations. The connector gland makes it possible to cut the pipe flush with the wall and floor. The clamp fits directly on to the cap over the joint to provide a fixed point. If the clamp is mounted outside the cap, it functions as a sliding support. The difference from yesterday's piping systems is that here, the pipe end must be bevelled internally. The gland is adapted to the internal diameter on standard PP pipes and fittings. See the table.

Dim. [mm]	Pipes	e _{min} [mm]	e _{max} [mm]
40 mm	S 16	1,8	2,2
50 mm	S 16	1,8	2,2

1. Cutting the pipe

Cut the pipe at right angles using a fine-toothed saw or other special equipment for the purpose. For cutting with a saw, the use of a saw fence or similar is recommended. The pipe ends must be cleaned and bevelled with Pipelife's chamfering tool, a knife, or similar.



2. Installation

2.1. General

Fittings have the same external dimensions as the pipes. The joint is hidden by the cap on the gland. Most fittings are supplied with one or two fixed connections. Some are supplied with spigots. See the previous overview. To connect a pipe and a fitting with a spigot, a connector gland is used to provide a seal against the inner surface of the pipe. The material in the sealing ring is in compliance with NS-EN 681-2.

NOTE: PP cannot be glued. This is a result of PP's good resistance to chemicals and solvents.

2.2 Expansion

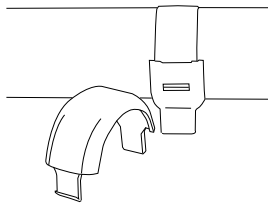
The length expansion for PP is 0.13 mm per metre of pipe and °C. In practice, the thermal extension is moderate, thanks to PP's low thermal conductance.

2.3. Clamping

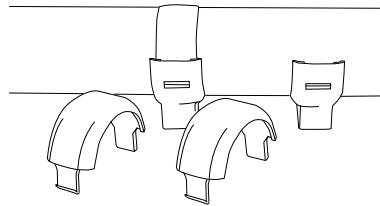
Clamping to a fixed point is necessary to attach the pipe to the building structure and to provide a fixed point for the forces of expansion. The sliding support controls the pipe during the thermal movement of the gland which absorbs the expansion. Smartline clamps can be used either as fixed clamps or as sliding supports, depending on whether they are positioned over a gland or over the pipe itself.

It is especially important that repair sockets are clamped to a fixed point using one clamp on each side.

Fixed clamp over gland

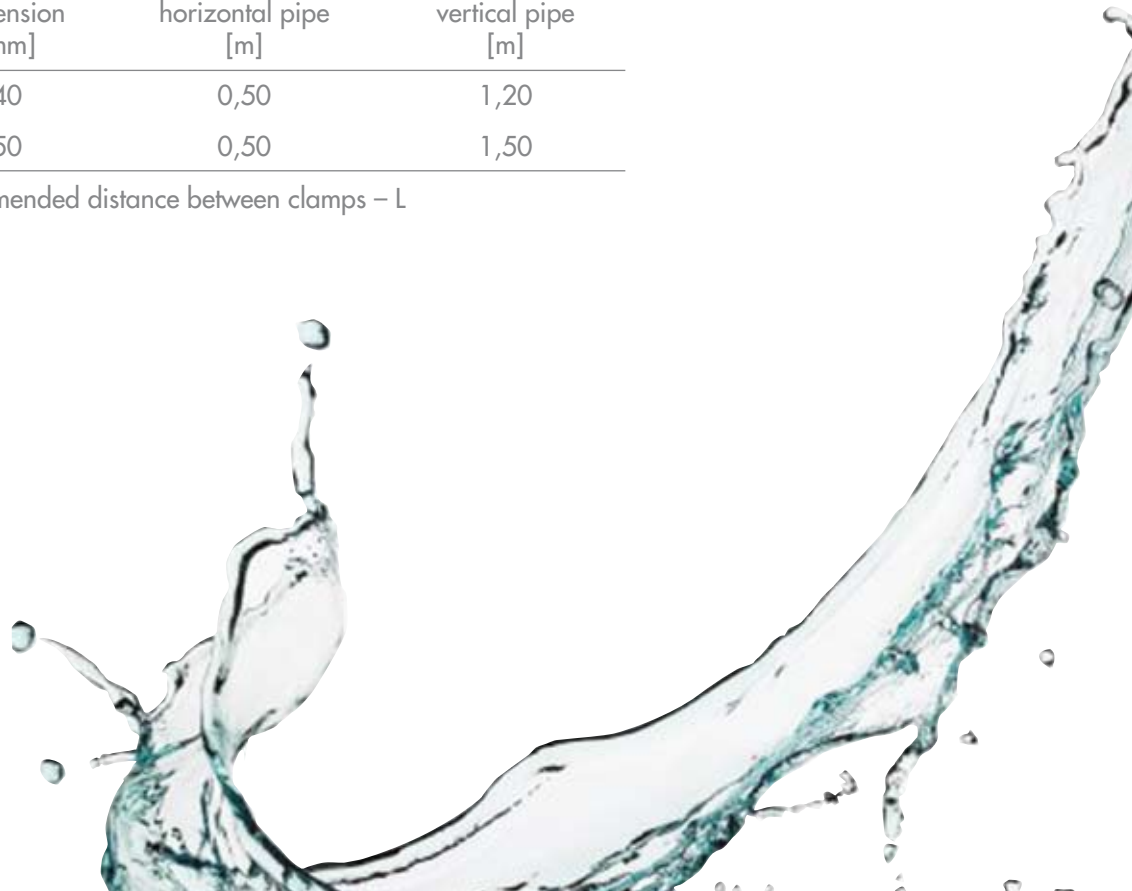


Fixed clamp and sliding support



Dimension [mm]	L horizontal pipe [m]	L vertical pipe [m]
40	0,50	1,20
50	0,50	1,50

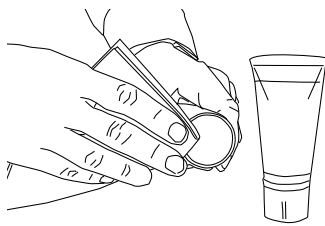
Max. recommended distance between clamps – L



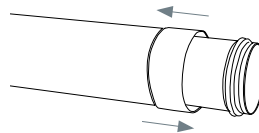


2.4 Installation of joint with Smartline gland

- Bevel the pipe. Clean the gland and spigot.
- Apply a thin layer of lubricant inside the pipe/the spigot of the fitting or on the sealing ring of the gland – or in both places. We recommend only applying Pipelife's own lubricant, as other lubricants may reduce functionality or in the worst case damage the sealing ring or the pipe/fitting.
- Twist the pipe gently while pushing the spigot into the bottom of the gland.
- Withdraw the spigot a little to ensure an adequate expansion gap in the joint.



Cleaning and lubrication



Expansion gap

2.5 Coupling other materials to the pipe

40 mm and 50 mm Smartline glands fit PP S 16 pipes and fittings. This means that 40 mm covers pipes with an internal diameter of between 35.6 and 36.4 mm, while 50 mm covers pipes with an internal diameter of between 45.6 and 46.4 mm.

For coupling to other plastic pipe systems with the same external diameter, double sockets can be used.

Cast iron

To connect the spigot of a cast iron pipe and a PP soil pipe, use a heat shrunk joint or an MA connection ("jet" connection).

To connect the socket of a cast-iron pipe and a PP spigot, use a Menger coupling, which consists of a flat and a round ring component.

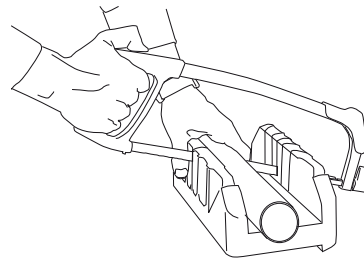
It is also possible to make a connection to a cast iron pipe, or other kinds of pipe using suitable rubber sockets.



2.6 Metallized pipes and fittings

Pipes and fittings with chrome-style surfaces have undergone a metallization process and have an aluminium coating. Even though there is a good grip between the piping material and the coating, care is needed in handling, cutting, bevelling, mounting and clamping. To avoid scratches in the coating, place a cloth or similar between pipes and hard workbenches, pliers and other tools.

Cut metallized pipe with a hacksaw or similar.



3. Fire protection

Pipelife's solution for soil pipes includes a fire-stop collar, which is recommended for use in buildings where there are special requirements for fire protection. This applies to pipes which pass through construction elements intended to stop fire from spreading between two fire compartments.

See the separate brochure for fire-stop collars.

4. Sound dampening in soil pipe systems

Sound is generated through the conversion of energy. For example, energy is converted when water runs down a vertical pipe, causing vibrations in the pipe. The sound spreads radially through the pipe to the air around the pipe, but is also propagated down the length of the pipe. In plastic pipes, sound propagation is usually due to vibrations.

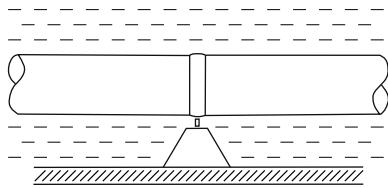
To satisfy national requirements for sound limits, we recommend installing the piping to avoid rapid reductions in velocity, and clamping the pipe and fittings as described in Section 2.3. In the transition from vertical to horizontal piping, it is better to use two 45° pipe bends or three 30° pipe bends than a normal 88° pipe bend. Sound from the pipes can be further reduced using mineral wool and/or plasterboard.



5. Pipes embedded in concrete

The maximum single pipe length for embedded PP piping in buildings is three metres. Pipelife Norge AS recommends the use of S 16 or S 14 pipes and fittings for embedded PP soil pipe systems. Remembered to clamp pipes and fittings well so that they do not become deformed or move out of position when they are embedded in concrete. The figure below shows how clamping can be done. Pipe sections of more than one pipe length must be clamped with fixed clamps.

We recommend protecting the joint with tape externally to prevent concrete entering through the gap. Close all open pipes and fittings with an end cap or other suitable means of preventing penetration by water or concrete. The table below shows the largest recommended distances between clamps for embedded pipes. Expansion gap as for normal mounting.



Example of clamping to the formwork

Dimension [mm]	L horizontal pipe [m]	L vertical pipe [m]
40	0,4	1,0
50	0,5	1,0

Max recommended distance between clamps – L – for embedded pipes

5.1 Partly embedded pipes

Always remember to install partly embedded pipes and fittings with a fixed mounting in the ceiling or floor before casting.



Pipelife Norge AS forms part of the Pipelife group, one of the world's leading manufacturers of plastic piping systems. Pipelife is established in 29 countries with 30 factories. Our objective is to supply plastic piping systems of high quality at competitive prices from a manufacturer that leads the technological development in the sector.

Pipelife offers the most complete range of pipes for water supply, waste pipes and drainage. Please contact us as early as possible in the design phase so that we can help you with advice, guidance, and selection of materials.



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