

# POLIRAN

## Protect



Flame retardant & soundproof push-fit drainage system

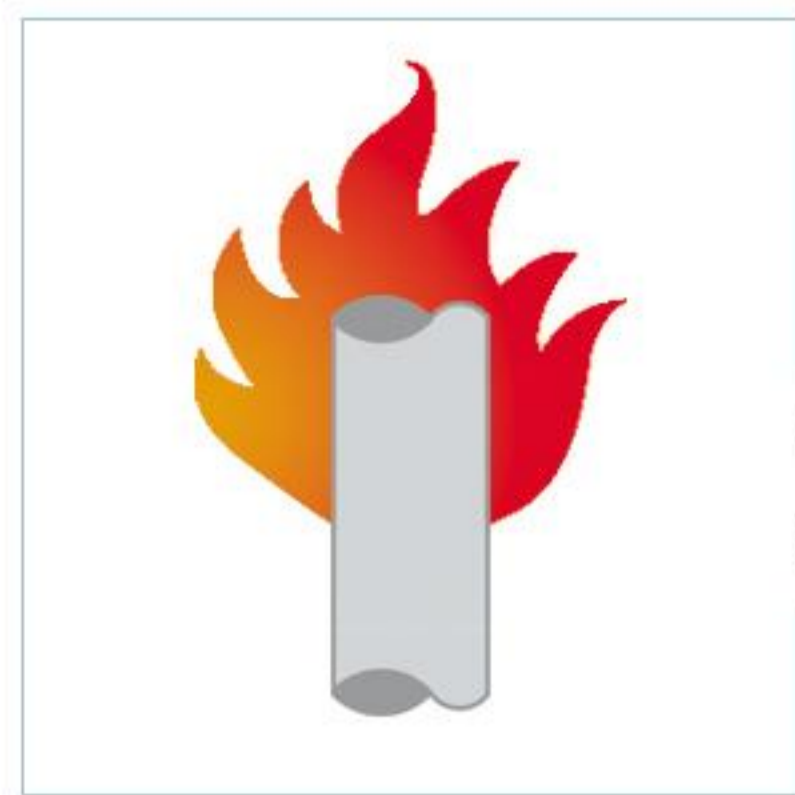
**B1** Flame Retardant

**19 dB(A)**

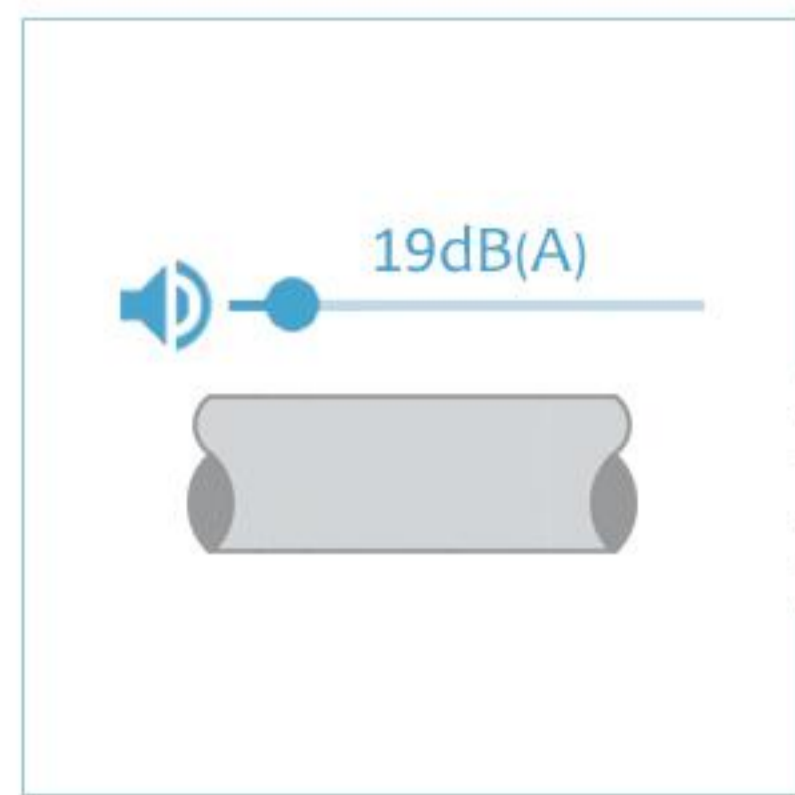


German Technology

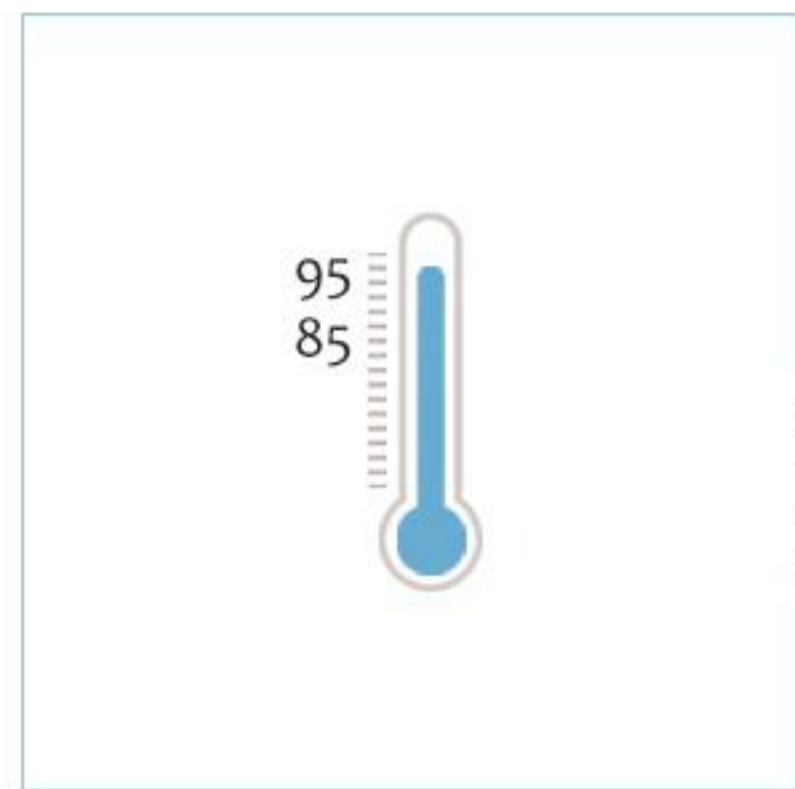
[www.poliran.org](http://www.poliran.org)



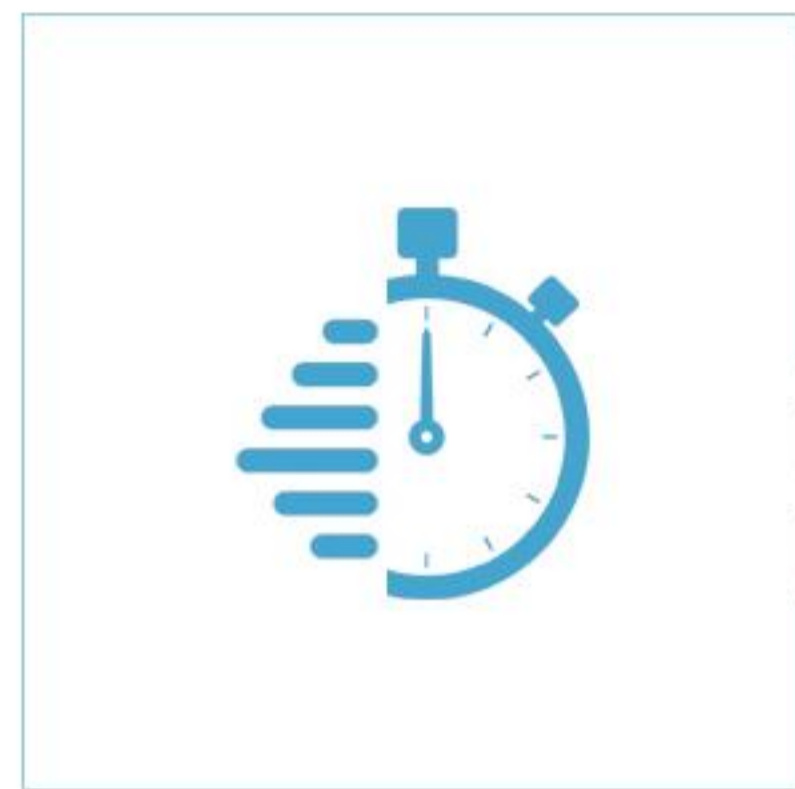
Flame retardant DWV system  
Class B1 as per DIN 4102



Excellent acoustic performance  
In conjunction with RC Clamps



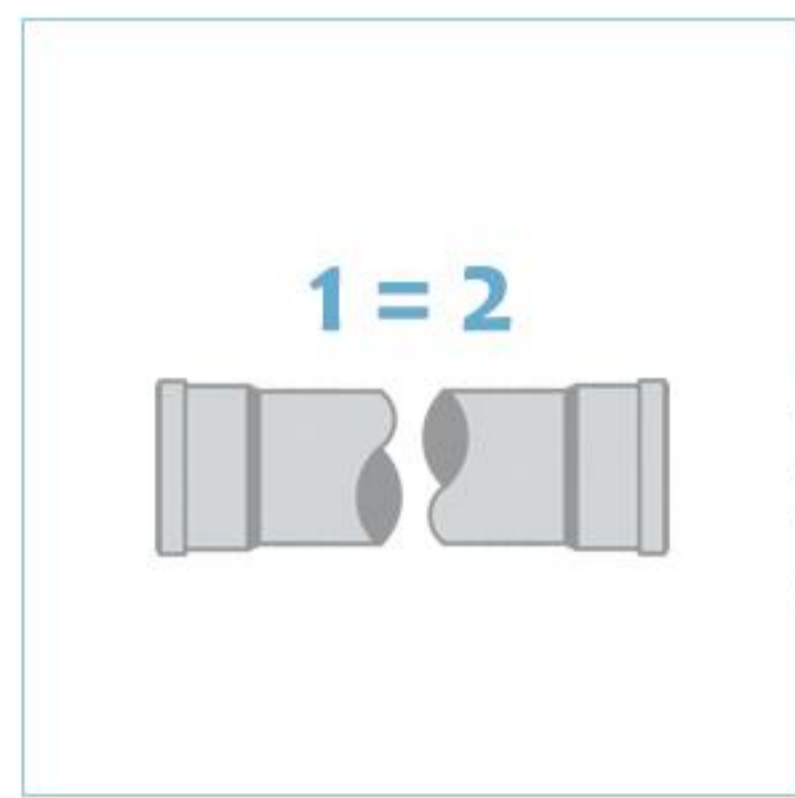
High temperature resistance  
Up to 95°C



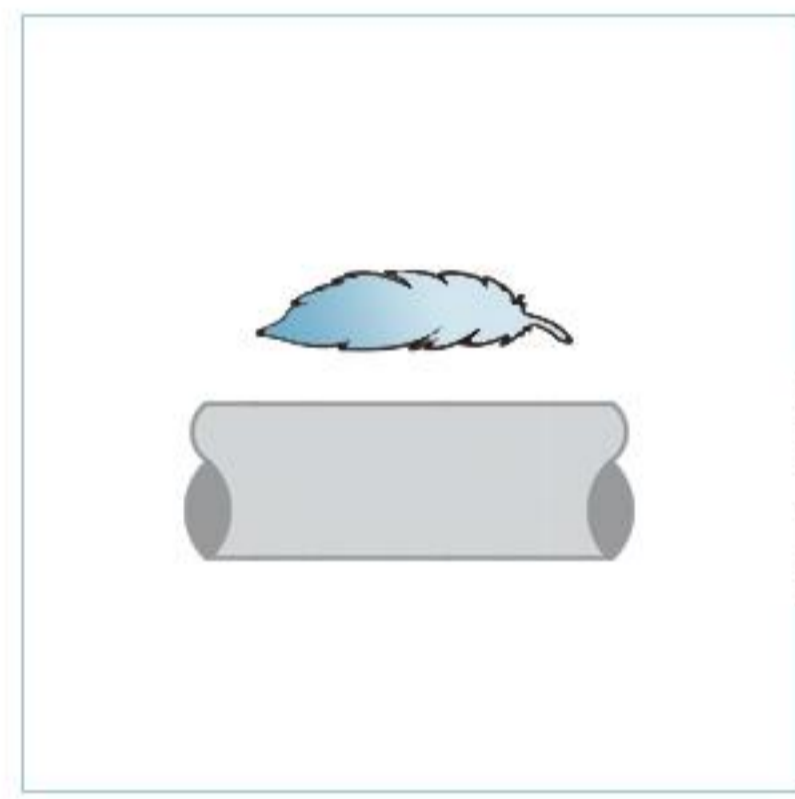
Faster installation of joints  
No need for welding or glue



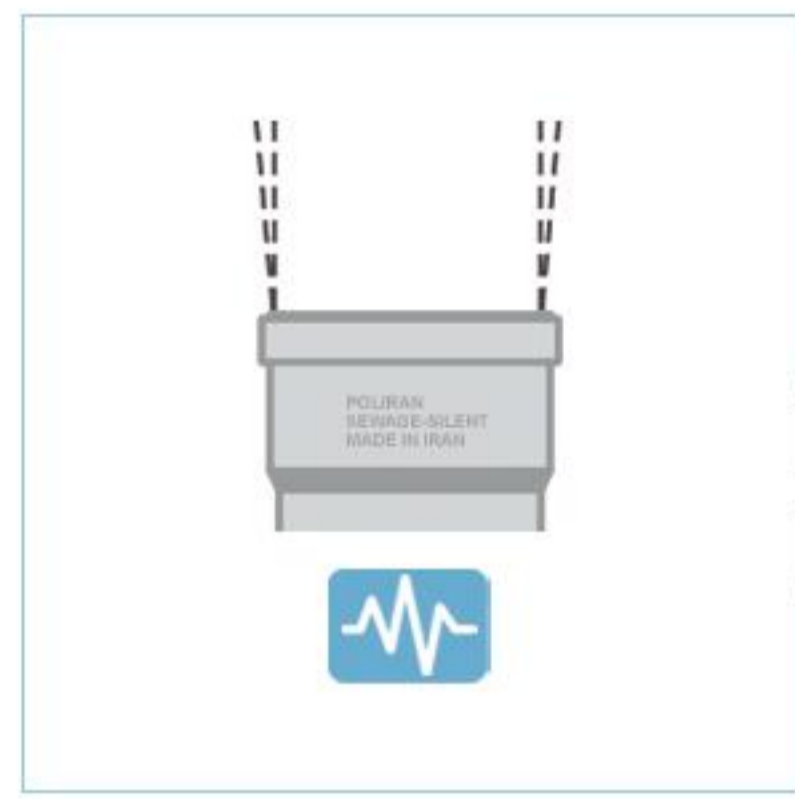
Excellent chemical resistance  
As per ISO 10358



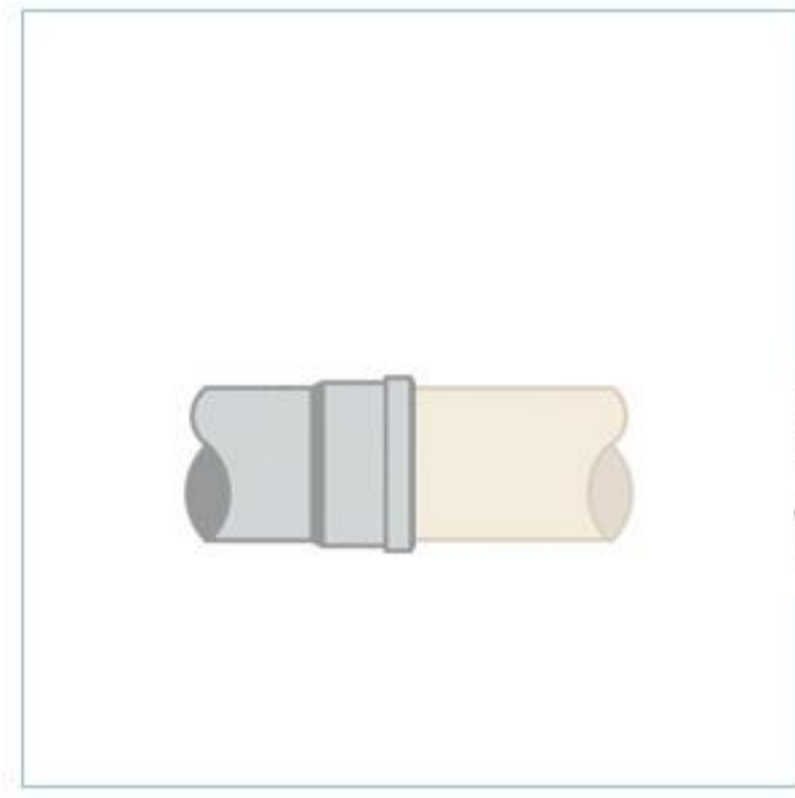
Double socket pipes available  
Minimum pipe wastage



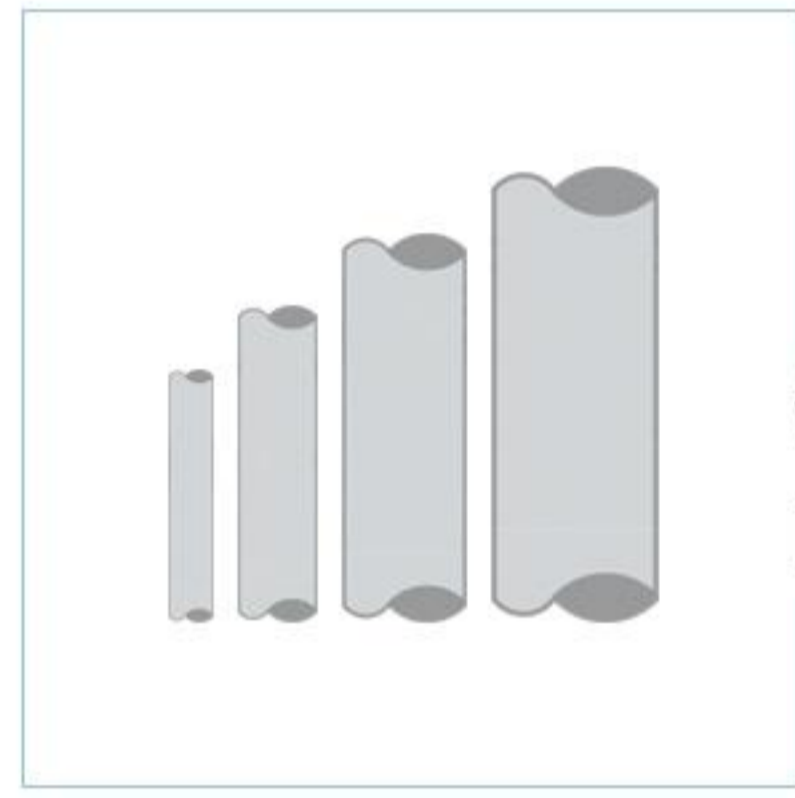
Easy handling & transportation  
Light weight system



Precision of rubber ring joints  
Flexible system



Easy Transition to other systems  
Various solutions available



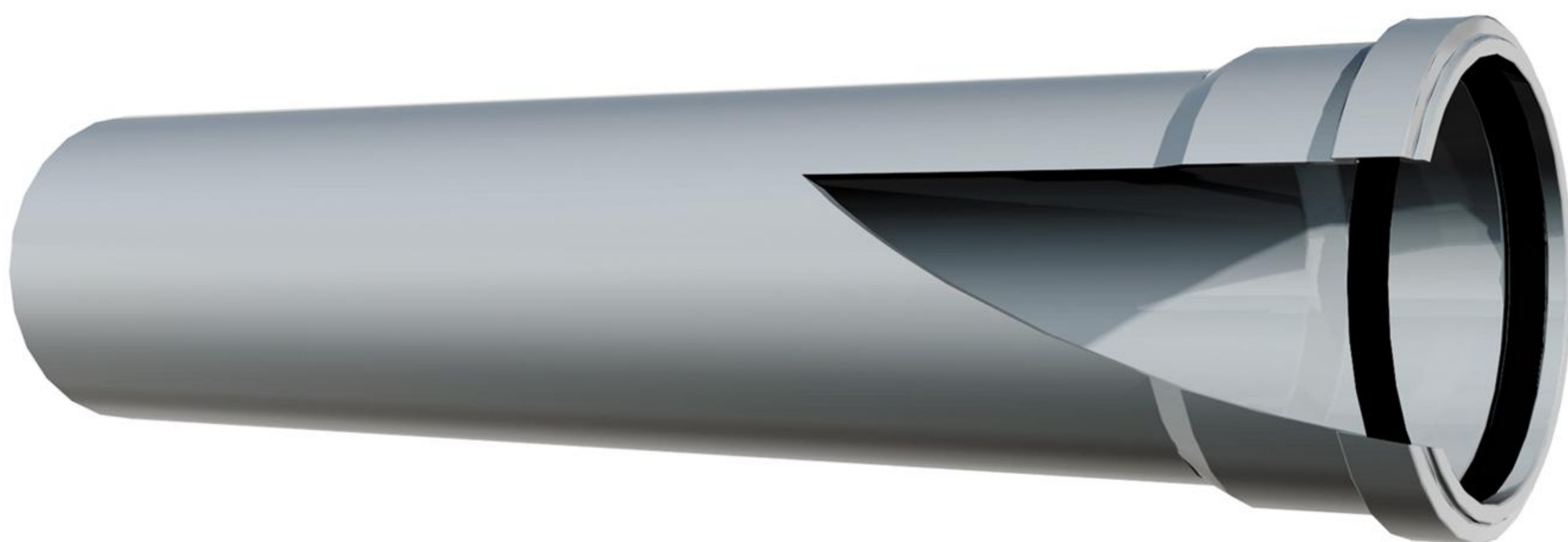
Wide range of pipe and fittings  
DN 40 to DN 200 mm

**Poliran Protect** is a soundproof flame retardant drainage system that reduces the noise transmission while providing a level of safety in case of fire by limiting the spread of flames in the building. The acoustic performance of the system is certified by the renowned Fraunhofer institute of Germany at 19dB(A). The fire behaviour of the system is classified B1 in accordance with DIN 4102.

Manufactured from modified polypropylene in compliance with European standard EN 1451, Poliran Protect has an excellent chemical and high temperature resistance and an extremely smooth internal surface that prevents blockage. To meet all system requirements a complete range of pipes and fittings is available in the diameters of 40 to 200 mm.

Joining pipes and fittings in this system does not require welding, sealant or glue as all joints are sealed by means of lip seal rings which increases flexibility of the system even during ground movement or earthquakes.

The lip seal rings in this system are produced by the leading German companies in compliance with EN 681-1 WC, ensuring a durable sealing effect with an outstanding long-term elasticity.



**Gated Trap**, designed and patented by Poliran's R&D team, is an innovative two-piece device that maintains an adequate water seal to prevent the back passage of sewer gasses, while providing easy accessibility for cleaning and inspection.

- Perfect and permanent watertightness
- Smooth Internal surface, preventing scale formation and blockage and ensuring an unobstructed flow
- Uniform cross section along the water passage
- Adequate water seal equal to trap diameter
- Thoughtfully designed to avoid push-fit seals from being always submerged in water
- Trap outlet angle of 87°, facilitating installation with no need for an additional bend
- Safe and secure fastening by installing a pipe clamp under the inlet socket

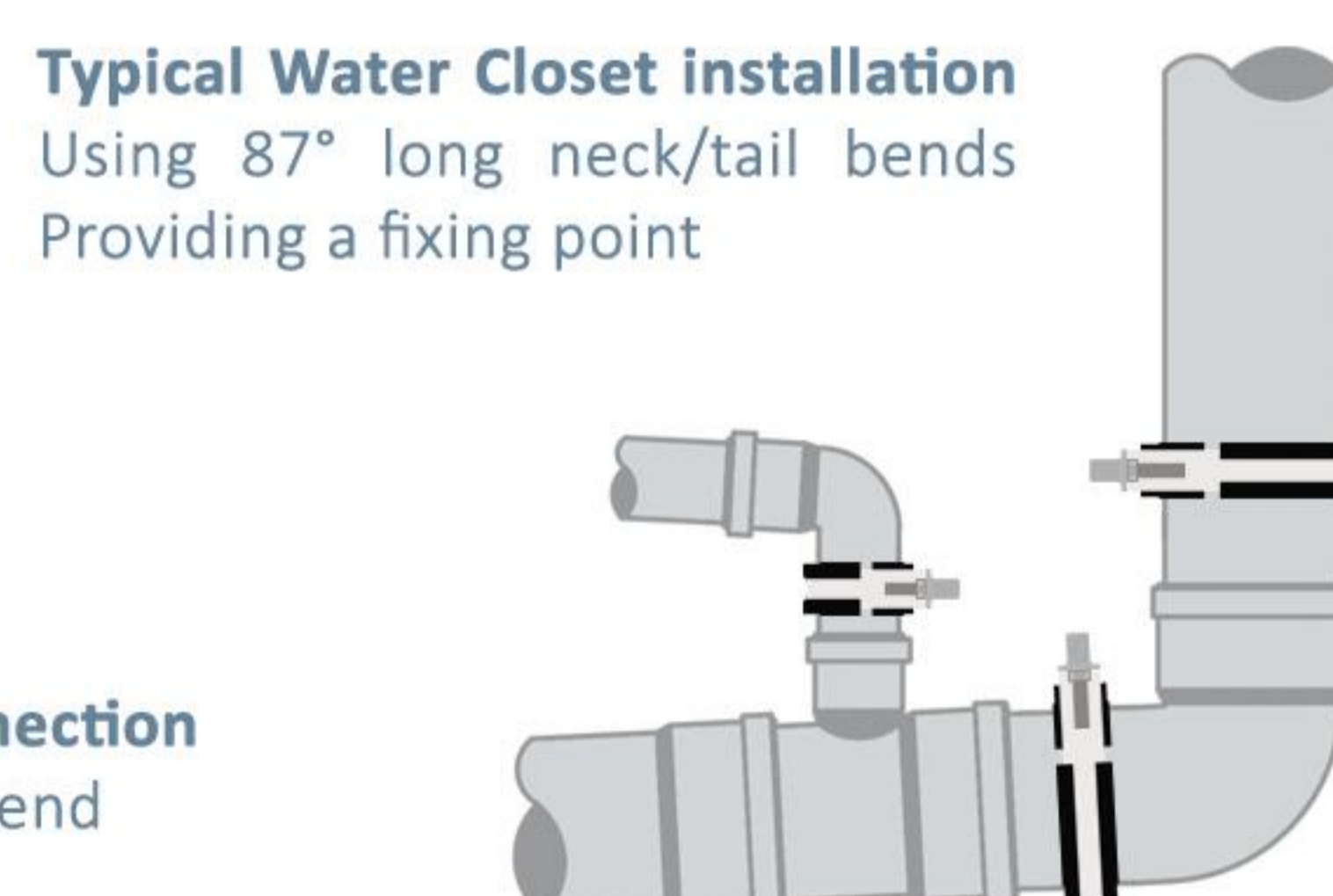
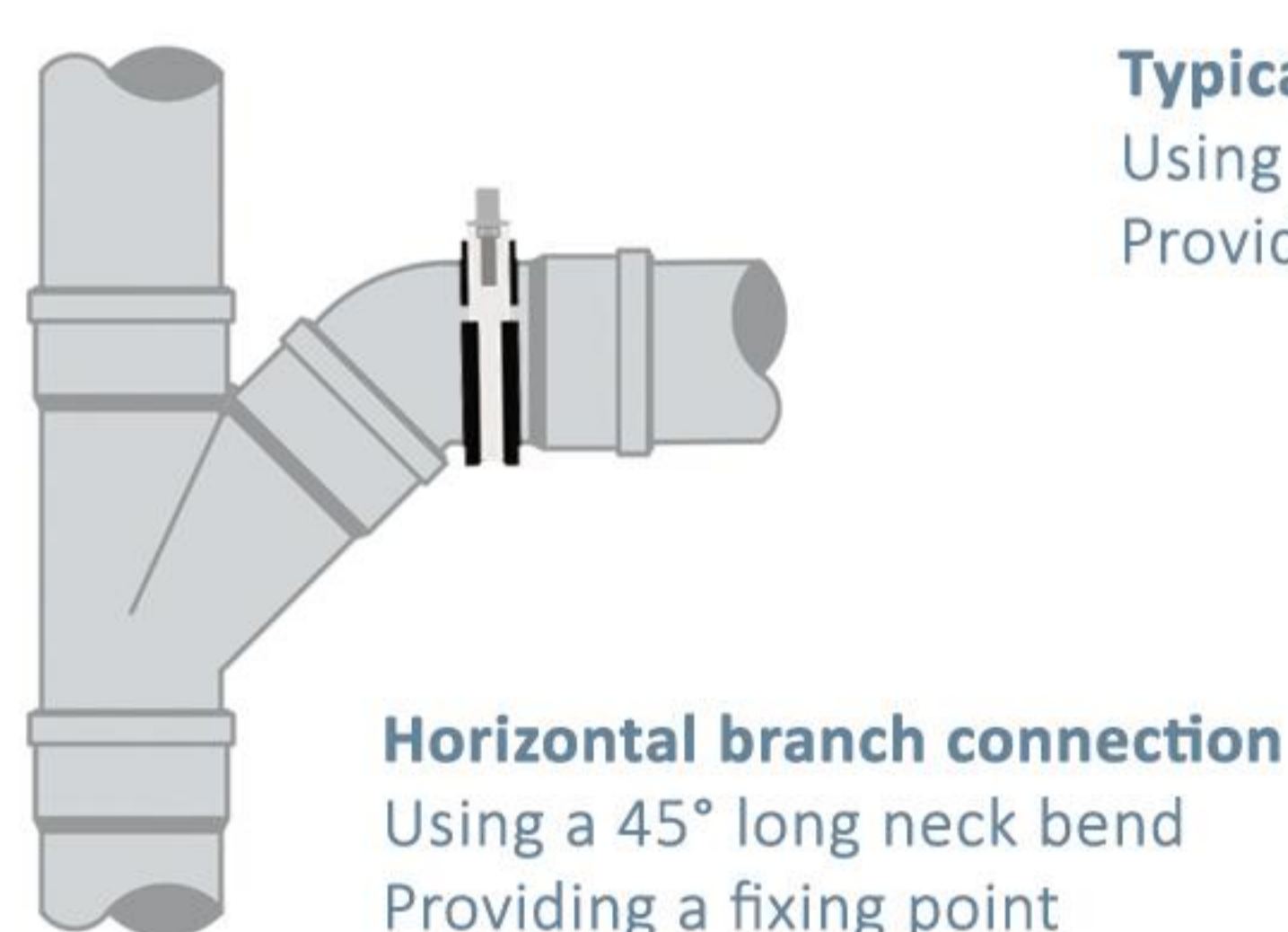
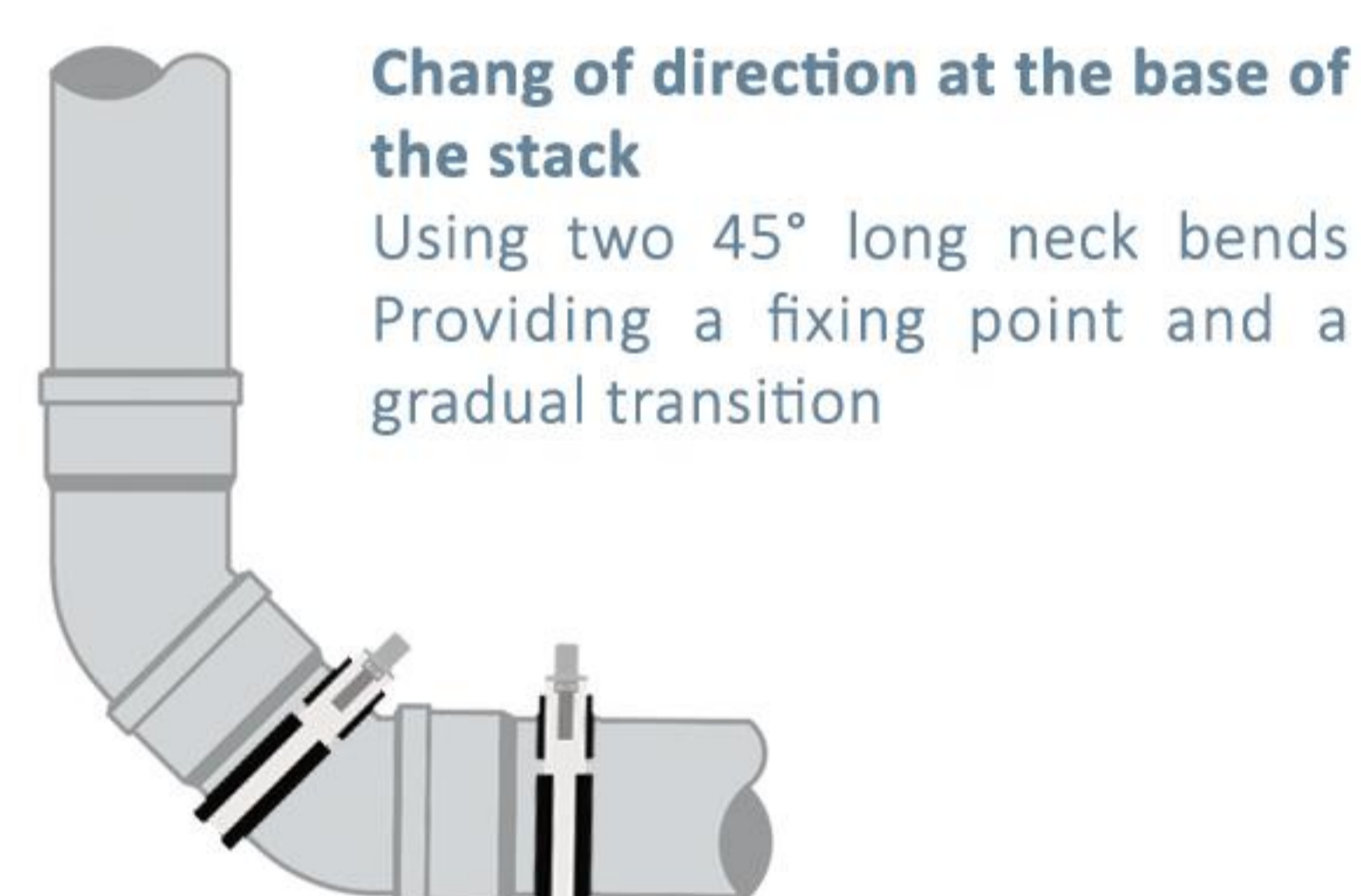


Upper Part

Lower Part

### Special Fittings

Poliran's R&D department has a very close relationship with plumbing contractors and continuously examines the possible difficulties of the installation job. One of the major problems in fastening the system, especially if a water test has to be conducted, is fixing the fittings where a change in direction occurs. To address this problem special fittings has been designed with the capability of installing a fixing point on them without putting pressure on the socket, which can cause out of roundness and sealing failure of rubber seal.



**Poliran RC clamps** are especially designed for the soundproof drainage system. A special body section and the use of rubber inlays provide a stable grip while isolating vibrations from the building structure and maintaining acoustic properties.

- Made of electrogalvanized steel. For more corrosion protection zinc flake coating is available upon request
- Specially designed linings made of EPDM rubber
- Excellent strength characteristics with a 3-piece structure
- Suitable for soundproofing other metal or plastic systems
- Simple and fast installation
- Available in 4 different types, from DN50 to DN200 mm
- In accordance with the requirements of DIN 4109 & VDI 4100
- Tested by the renowned Fraunhofer institute of Germany



**Bend - 15°**



110

**Bend - 30°**



50 - 75 - 110

**Bend - 45°**



40 - 50 - 75  
110 - 125 - 160 - 200

**Bend - 67°**



50 - 110

**Bend - 87°**



40 - 50 - 75 - 110 - 125

**Reducer**



40/50 - 50/75 - 63/75 - 50/110 - 75/110  
90/110 - 110/125 - 125/160 - 160/200

**Access Pipe**



75 - 110 - 125 - 160 - 200

**Double Branch - 67°**



110

**Equal Branch - 45°**



40 - 50 - 75  
110 - 125 - 160 - 200

**Reducing Branch - 45°**



75/50 - 110/50 - 110/75  
125/110 - 160/110 - 200/160

**Equal Branch - 87°**



50 - 75 - 110

**Reducing Branch - 87°**



75/50 - 110/50

**Sleeve Socket**



40 - 50 - 75  
110 - 125 - 160 - 200

**Socket Plug**



40 - 50 - 75  
110 - 125 - 160 - 200

**Clean-Out**



50 - 75 - 110 - 125 - 160

**Socketed P-Trap (HDPE)**



50 - 75 - 110 - 125/110

**Single Socket Pipe**



40 - 50 - 75  
110 - 125 - 160 - 200  
30, 50, 100, 200 & 300 cm

**Double Socket Pipe**



40 - 50 - 75  
110 - 125 - 160 - 200  
50, 100, 200 & 300 cm

**Cutting & Chamfering Tool**



**Tools & Accessories**



Fire behavior of Poliran Protect

Today fire safety is an important consideration in designing and construction of new buildings. In addition to active fire protection, like fire alarms or fire sprinkler systems, an effective protection system requires methods of passive fire protection as well. This involves using materials or products with superior fire performance that can minimize the probability of ignition or delay the spread of fire, providing sufficient time for escape and response. This is where flame retardant products can help us, they buy time when time is precious.

**Poliran Protect** is a flame retardant system in compliance with B1 classification of DIN 4102 standard. Its excellent fire resistance means it is not ignited easily and limits the spread of fire throughout the building.

PROTECT

Acoustic performance of Poliran Protect

Humans spend most of their time in buildings; whether it is at home, work or during their leisure time. It is very important to understand the factors that affect their health and wellbeing to provide a comfortable environment. Noise in the buildings is a major affecting factor and the drainage system is a significant source of it.

The water movement inside the pipe generates vibrations and the resulting noise reaches the room through two paths: Airborne noise that travels through the air into the room and structure-borne noise that passes through pipe clamps and supports to the building's structure and from there to the adjacent rooms as an airborne noise.

**Poliran Protect** significantly reduces noise transmission:

- Reducing system vibrations in change of dirctions (e.g., base of stack) by using Long Neck 45° Bend
- Reducing air-borne noise with a special sound absorbing formula
- Reducing structure-borne noise by using Poliran RC clamps

The acoustic performance of Poliran Protect drainage system has been evaluated by the accredited Fraunhofer institute of Germany in accordance with EN 14366 and the results indicate a noise level of 19dB(A) with 4.0 l/s flow rate.



"POLIRAN HT Flame Retardant FOR SEWER <B> S20, 110 x 2.7 mm" mounted with pipe clamps "POLIRAN RC" (manufacturer: Poliran Ettetal Co.).		Flow rate [l/s]			
		0.5	1.0	2.0	4.0
Airborne sound pressure level $L_{p,A}$ [dB(A)] according to EN 14366 for the basement test-room	UG front	45	49	51	54
	UG rear	< 10	< 10	10	15
Structure-borne sound characteristic level $L_{s,CA}$ [dB(A)] according to EN 14366 for the basement test-room	UG front	45	49	51	54
	UG rear	< 10	11	14	19

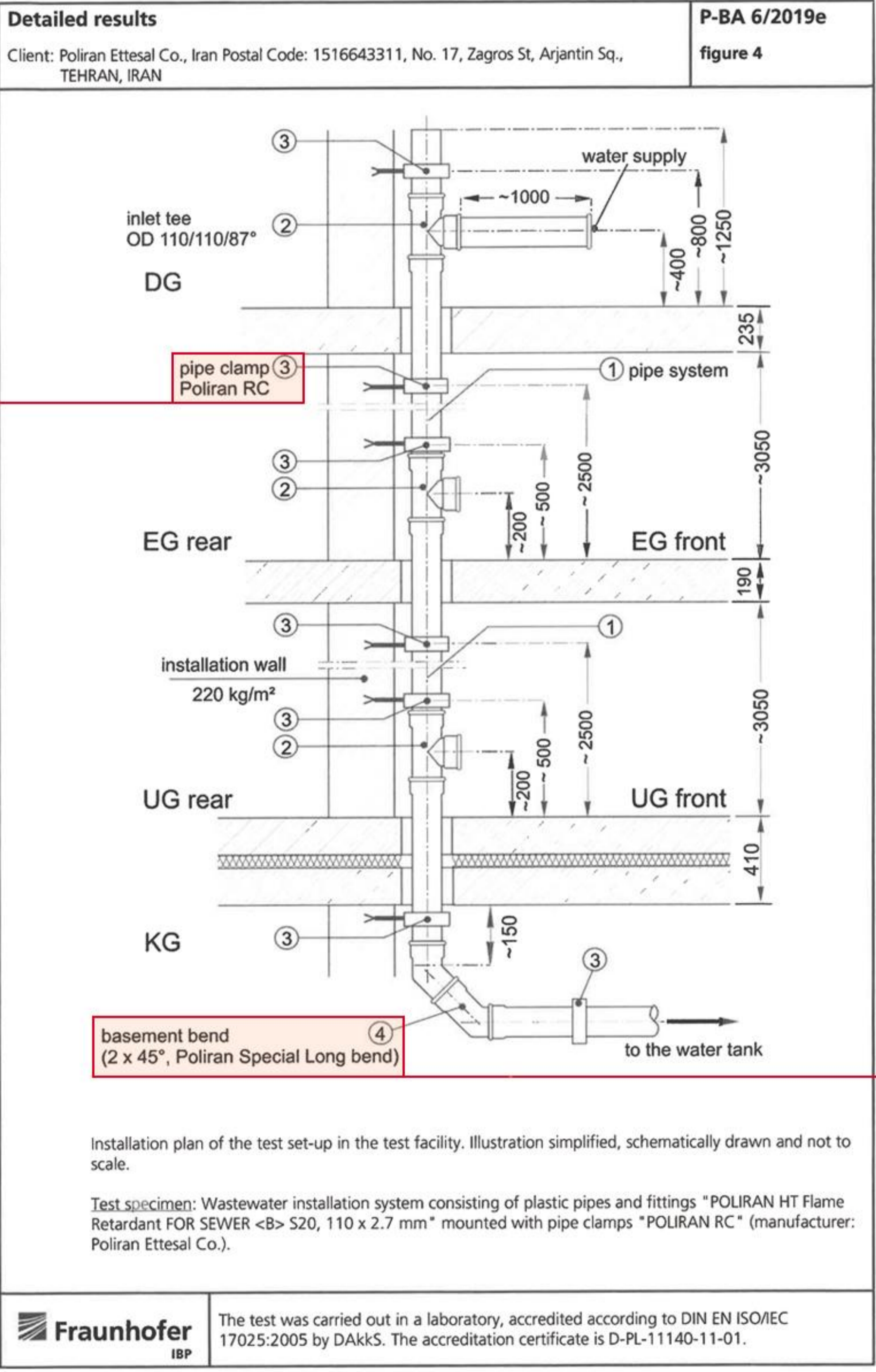
B1 Flame Retardant

Table 1: Building material classes

Building material class	Designation *)
<b>A</b> A1 A2	Non-combustible materials ('nichtbrennbar')
<b>B</b> → B1 B2 B3	Combustible materials ('brennbar') Not easily flammable ('schwerentflammbar') Flammable ('normalentflammbar') Easily flammable ('leichtentflammbar')

DIN 4102-1

19dB(A) Silent



Poliran RC



Long Neck 45° Bend

19dB(A) at a flow Rate of 4l/s

## About Us

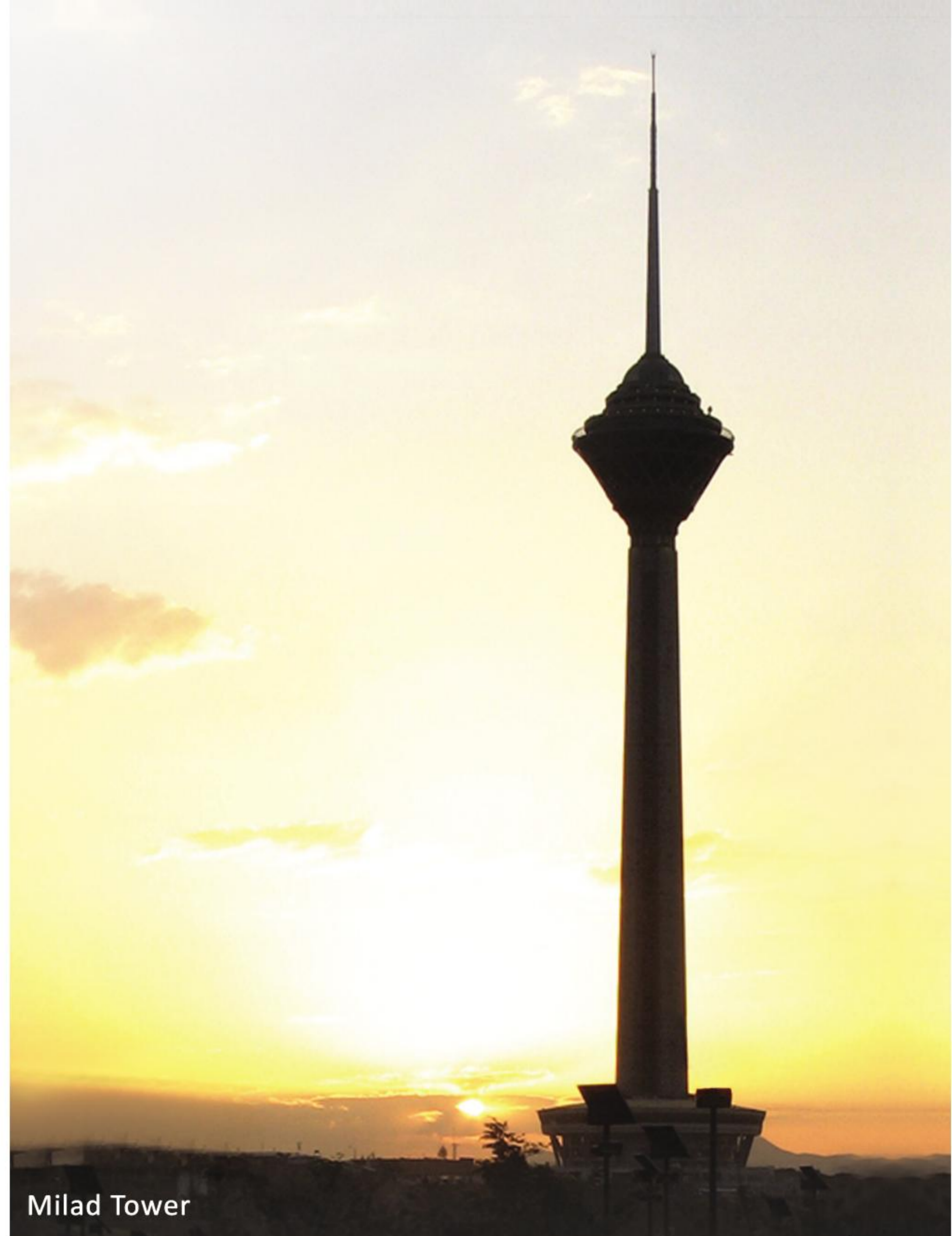
Founded in 1971, Poliran is the leading manufacturer of plastic pipe systems in Iran, providing state-of-the-art solutions for pipes and fittings used in water conveyance, irrigation and building water supply and drainage systems.

Deep attention to quality requirements and continuous improvement of products, as well as using best raw materials and up to date technologies have kept Poliran at the forefront of manufacturing plastic pipe systems. To achieve our quality objectives, we have adopted ISO 9001 Quality Management System and we aim to be the quality leader in our sector.

Our technical department provides complete support during design and installation thanks to a team of experienced engineers and experts, capable of dealing with the most complex system requirements.



## Some of our projects:



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