

POLIRAN

Protect

Flame retardant & soundproof push-fit drainage system

B1 Flame Retardant

19 dB(A)

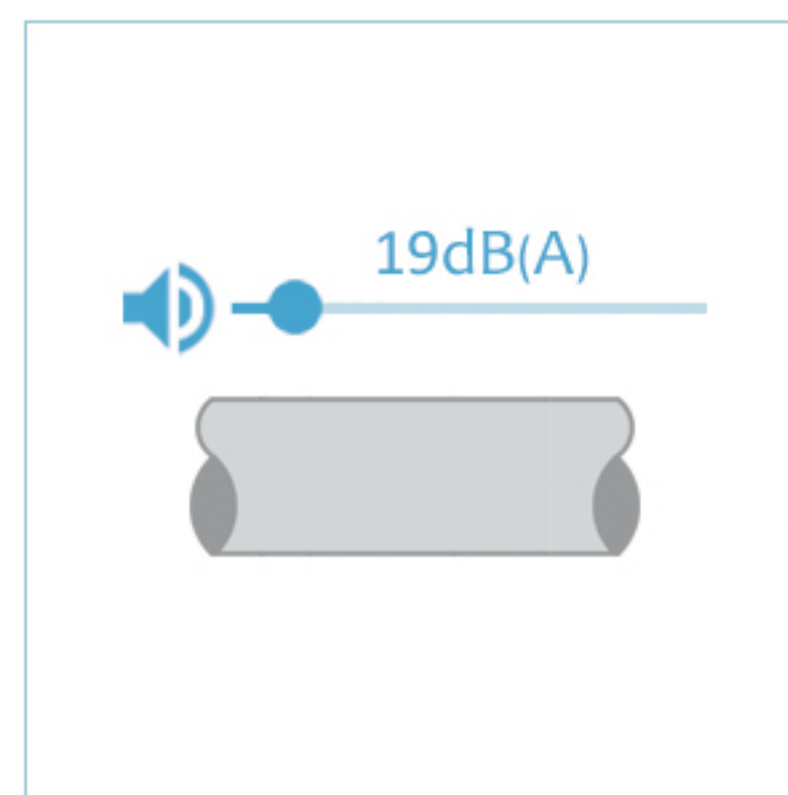


German Technology

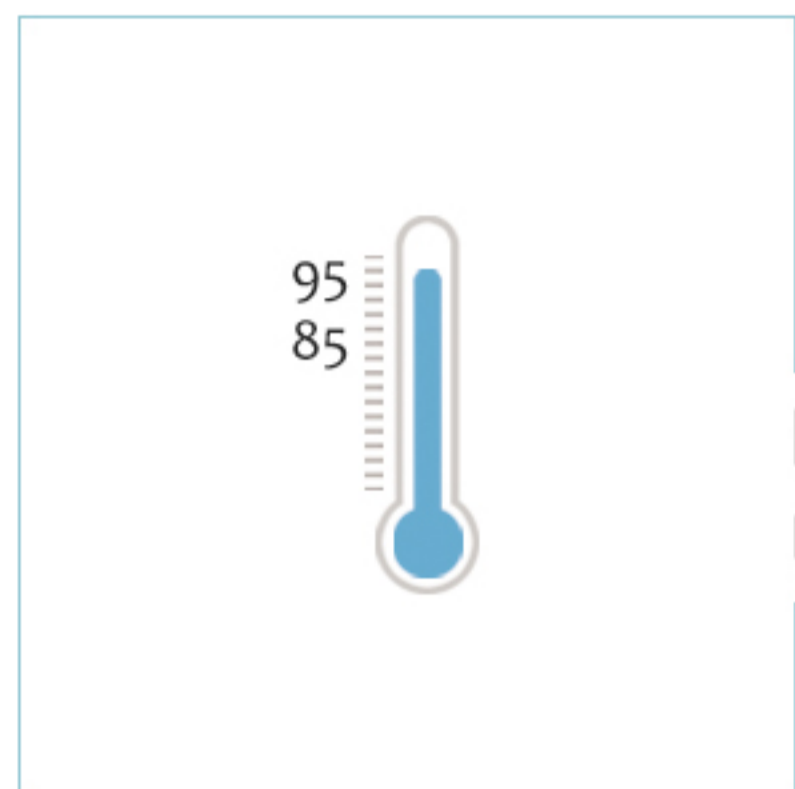
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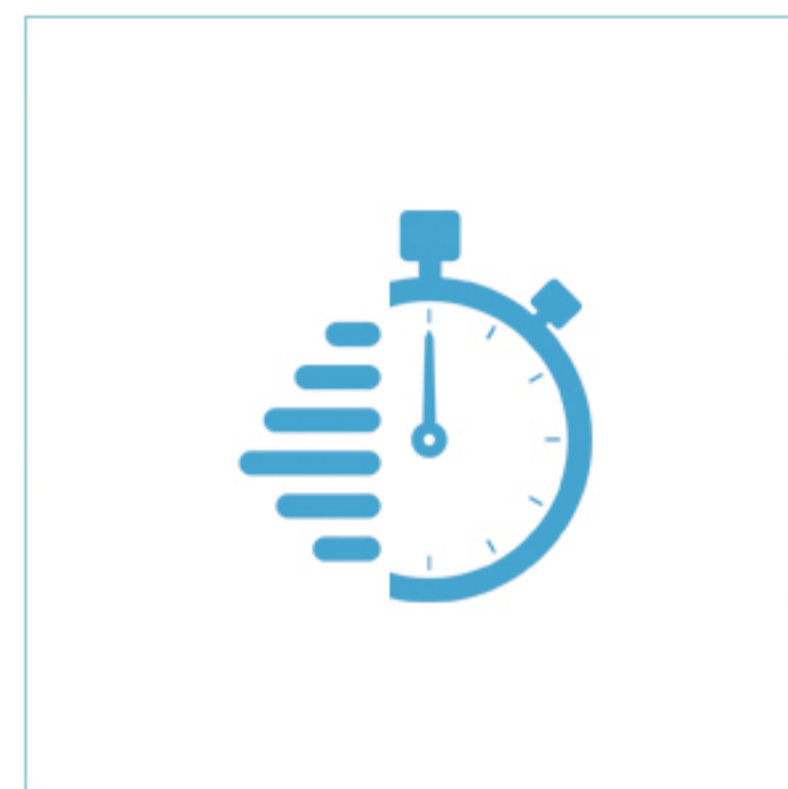
Flame retardant DWV system
Class B1 as per DIN 4102



Excellent acoustic performance
In conjunction with RC Clamps



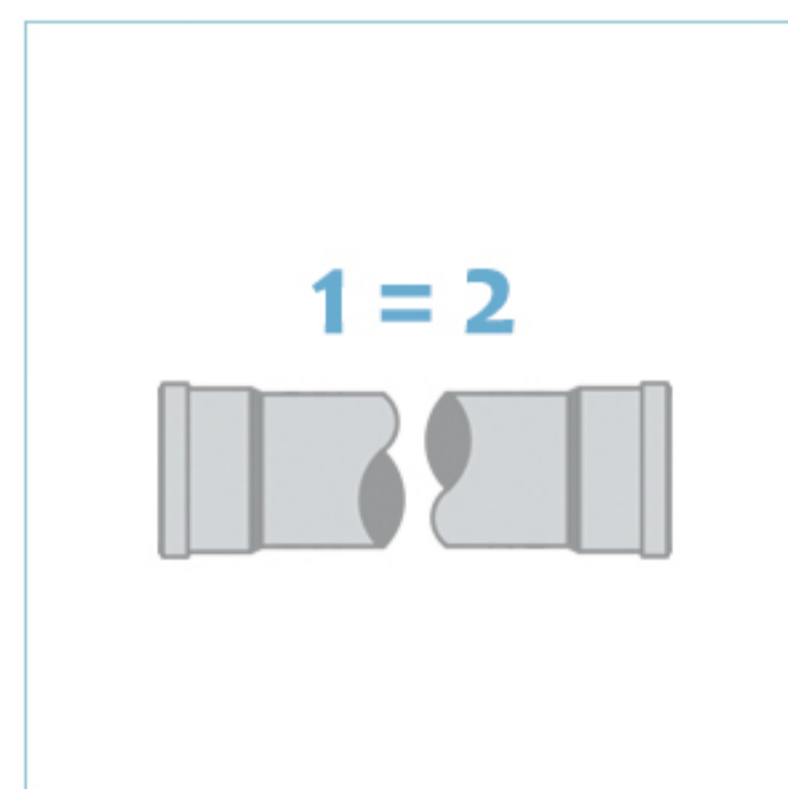
High temperature resistance
Up to 95°C



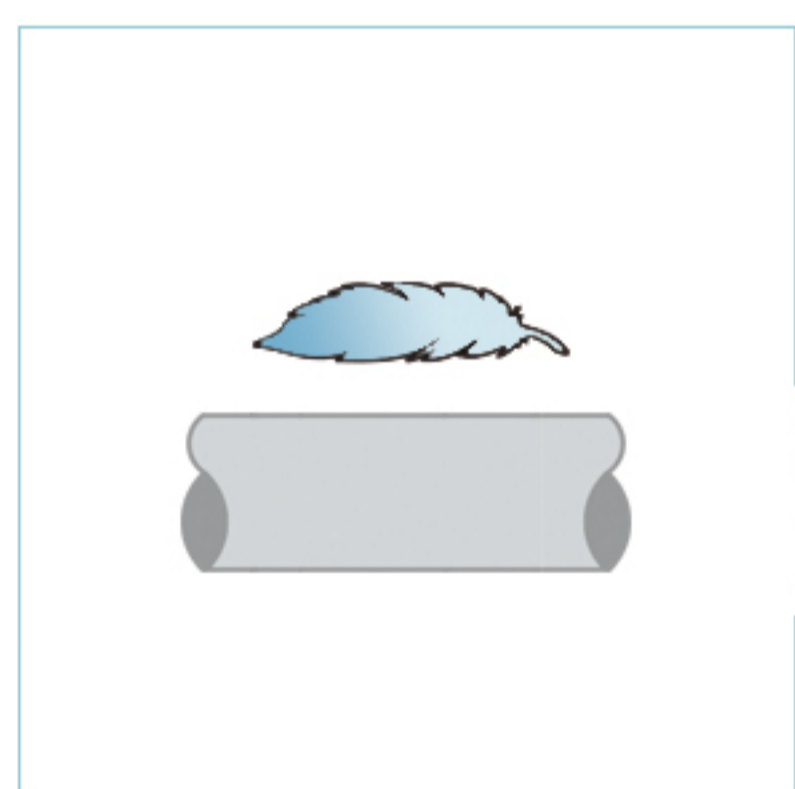
Faster installation of joints
No need for welding or glue



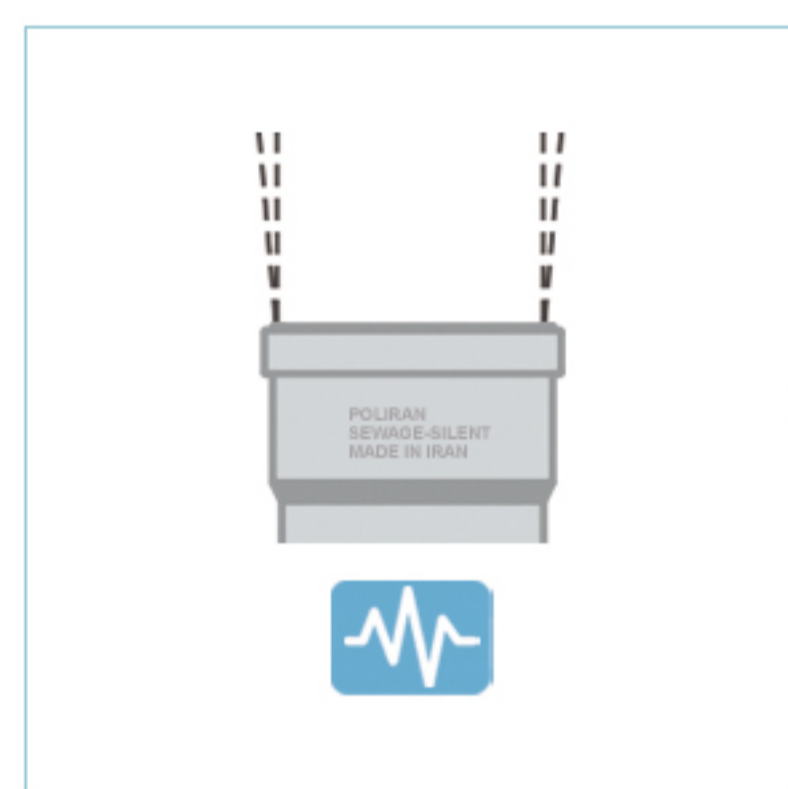
Excellent chemical resistance
As per ISO 10358



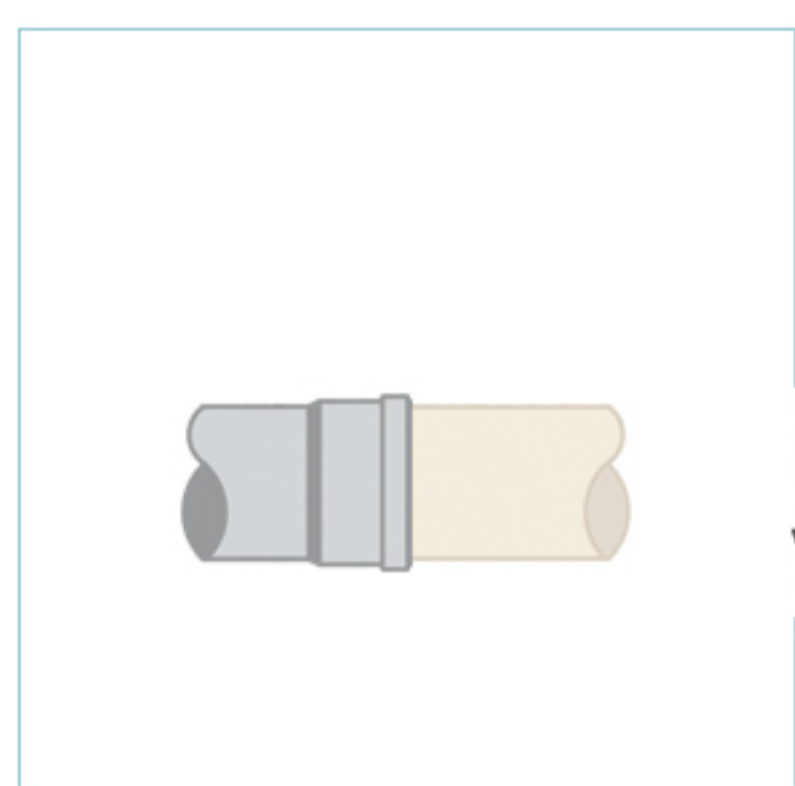
Double socket pipes available
Minimum pipe wastage



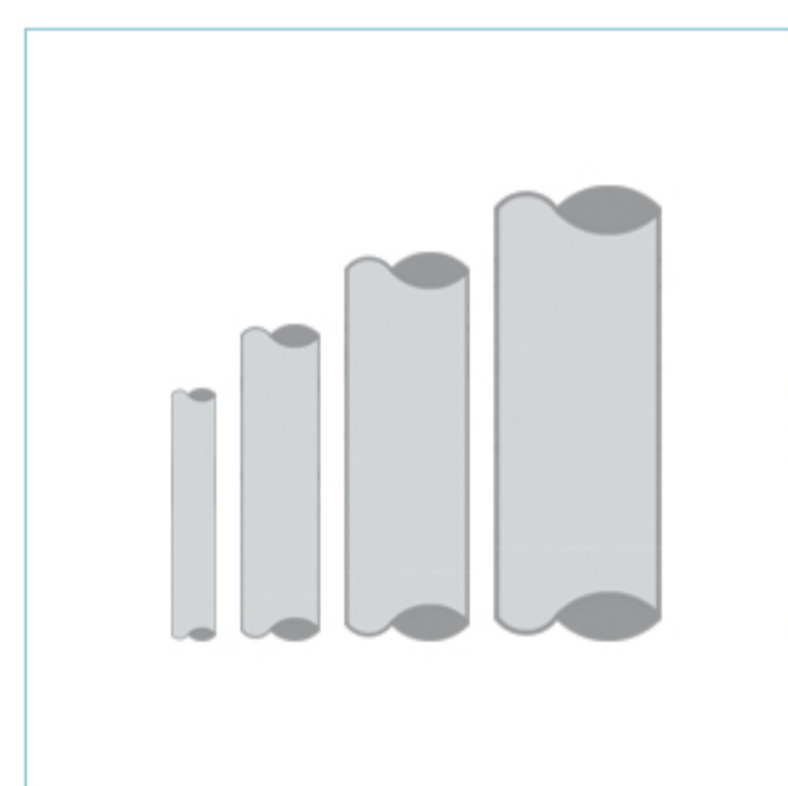
Easy handling & transportation
Light weight system



Precision of rubber ring joints
Flexible system

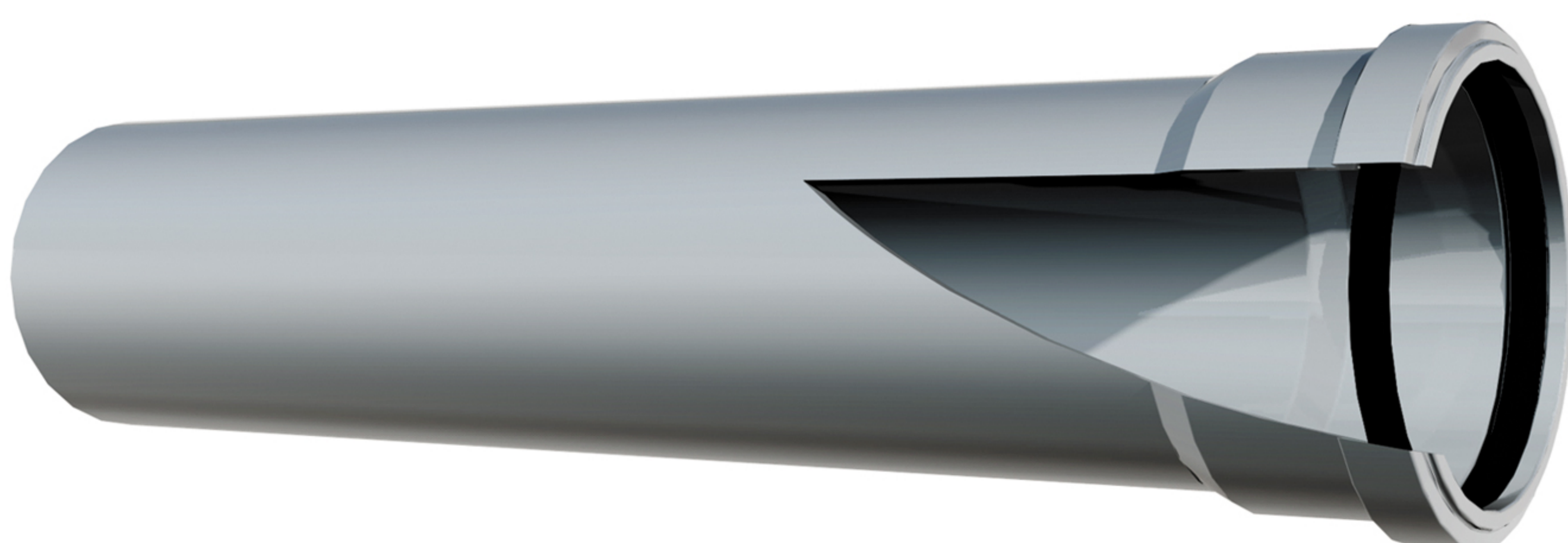


Easy Transition to other systems
Various solutions available



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

Poliran Push-fit Protect is a self-extinguishing drainage system with silent characteristics made of polypropylene which has been designed and produced in accordance with EN 12056 requirements for internal gravity drainage systems. The behavior of this system against fire is classified as B1 according to DIN 4102, and it is resistant to ignition caused by intermittent contact with hot gas flames and mechanical or electrical sparks, and does not contribute to the spread of fire in the building. Additionally, this system, by using special formulations for dedicated clamps and specific poliran fittings, significantly reduces the sound transmission of the drainage system. This system is manufactured according to the European standard EN 1451 in sizes from 40 to 200 millimeters. Connection in this system is created easily with the help of a rubber sealing ring, simply by pushing the pipe or fitting into the socket, and it requires no adhesive or welding. The sealing rings in this system are produced by reputable European manufacturers which ensures its reliable and durable sealing performance. Using this connection method, in addition to increasing installation and execution speed, increases the flexibility of the system and maintains its sealing capability even during non-destructive earthquakes.



CERTIFICATE 

This is to certify that:

M.I.O.L.
M.O.L. Gummiverarbeitung GmbH & Co. KG
Gutenbergstraße 12-14
40225 Venlo
Germany
has implemented and maintains a Quality Management System.

Scope:
Development, production and sales of rubber moulded articles and rubber extrusion

Through an audit, the company fulfills the requirements of **ISO 9001**

Certificate no. 1516643311
Valid until 21.07.2015
Date of audit: 09/2015

DQS GmbH
Dipl.-Ing. Gerd Grottel
Managing Director

Prüfbericht K 15 1145
1. Ausfertigung

Auftraggeber: Poliran Etrial Co.
Agentin St., Zugstr. St. No. 17
1516643311 Tübingen
IBAN

Auftrag vom: 24.03.2015
Bestell-Nr. oder Zeichen: --

Auftrag über: Typprüfung an einem Kunststoff-Rohrleitungssystem aus Polypropylen (PP) zum Abfließen von Abwasser innerhalb von Gebäuden gemäß DIN EN 1451-1:2009-03 in Verbindung mit DIN EN ISO 1451-2:2012-05

Prüfobjekt: Rohre und Formstücke der Dimensionen DN40 bis DN200 160 aus Polypropylen gemäß DIN EN 1451-1:1999-03

Nähere Beschreibung des Prüfobjekts auf Seite 2 dieses Prüfberichtes.

Prüfgegenstand: Das Prüfobjekt wurde vom Auftraggeber angeliefert

Prüfungstermin: 21.07.2015

Prüfungsort: 09/2015 bis 11/2015

Bearbeitung: Siehe Gesamtbewertung Abschnitt 3, Seite 13

Von: Auftraggeber (1. und 2. Ausfertigung)
MPA, Darmstadt (Erste 1. Ausfertigung)

Seiten: 13
Anlagen: --
Blätter: --

Fraunhofer IBP
Institute for testing, supervision and certification, official member of the building certifying authority, approved of the building technical components and types of construction

Prüfung: Prof. Dr. Philip Grottel
Prof. Dr. Christa Fritsch

Test Report P-BA 6/2019e
Determination of the Acoustic Performance of a Wastewater Installation System in the Laboratory

Client: Poliran Etrial Co.
Ibn-Profil Code: 1516643311
No. 17, Zugstr. St., Agentin St.
Tübingen
IBAN

Test object: Wastewater installation system consisting of plastic pipes and fittings "POLIRAN RC Flame Retardant FOR SEWER" (d_n 50, 110 & 127 mm) mounted with pipe clamps "POLIRAN RC" (manufacturer: Poliran Etrial Co.)

Content: Results sheet 1: Summary of test results
Figures 1 to 3: Detailed results
Figures 4 and 5: Test set-up
Annex A: Measurement set-up, noise isolation, acoustic parameters
Annex E: Evaluation of measurements
Annex F: Description of the test facility
Annex V: Assessment according to VDI 4102

Test date: The measurement was carried out on November 26, 2018 in the test facilities of the Fraunhofer Institute for Building Physics in Stuttgart.

Stuttgart, February 08, 2019
Responsible Test Engineer: M.Sc. B. Kallenberg
Head of Laboratory: M.Sc. Dr.-Ing. (FH) S. Orlitz

The test was carried out in a laboratory, accredited according to DIN EN ISO/IEC 17025:2005 by DAkkS. The accreditation certificate is D-PL-11160-11-01.

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The **Gated Trap + Special Clamp** designed by the poliran R&D department with a two-piece design and the ability to open the lower part, in addition to maintaining the proper water-seal depth to prevent odor and contamination entering the building, also makes clearing the most severe blockages possible. The special clamp of this trap is designed to increase installation convenience and comply with technical requirements. By creating a 2-degree angle in the lug sections, it facilitates slope adjustment and establishes a stable connection to the structure using two M10 threaded bolts.

Features

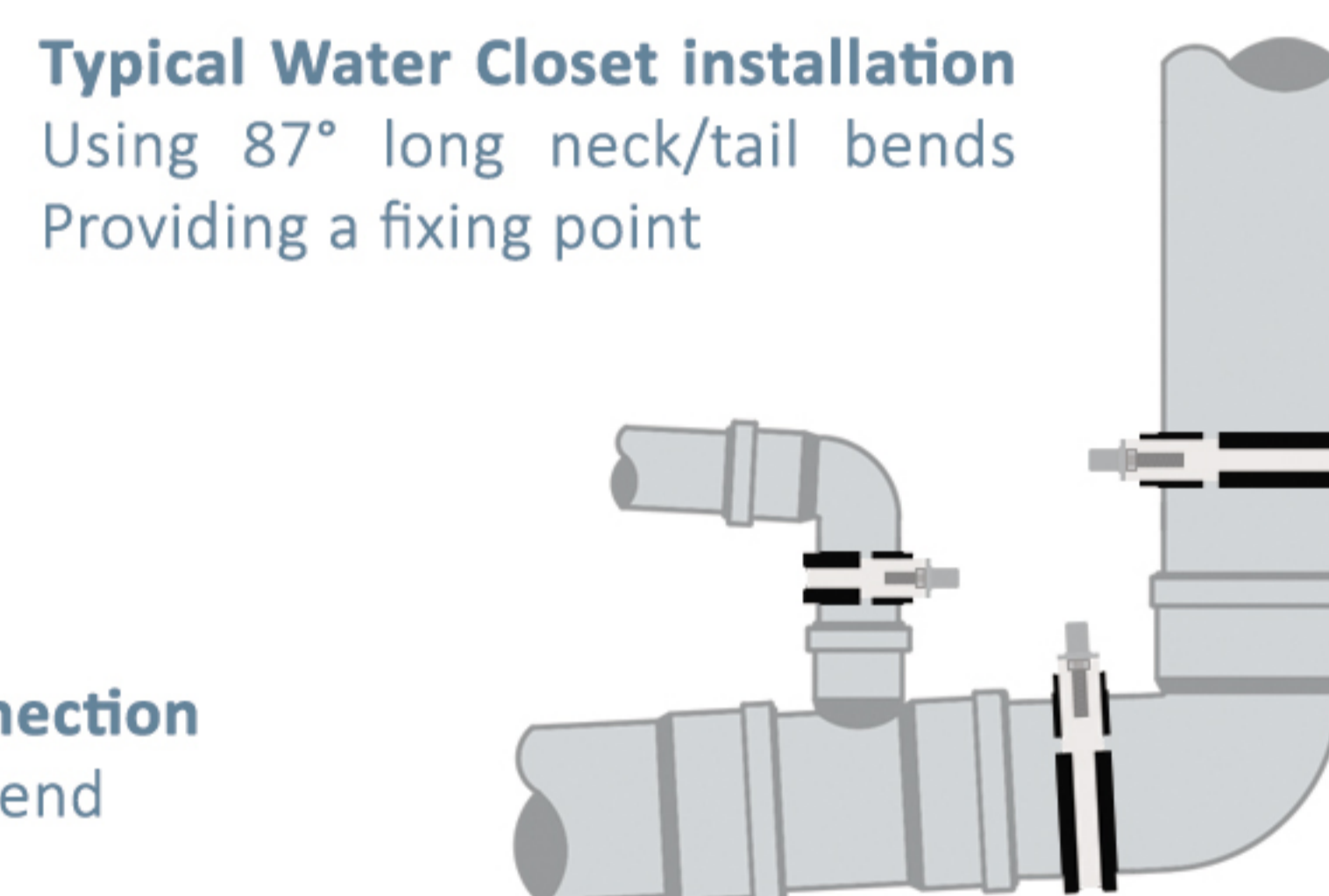
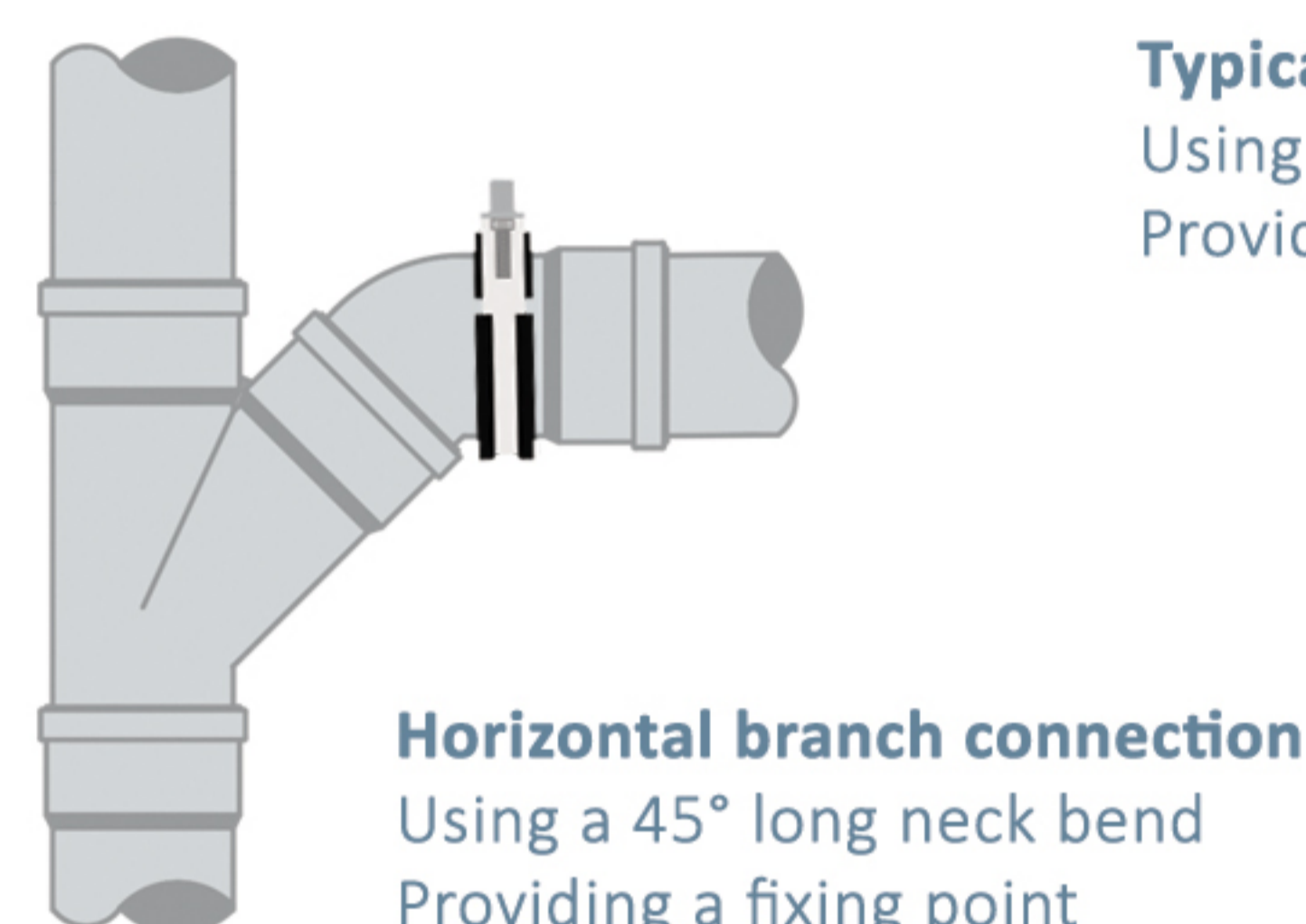
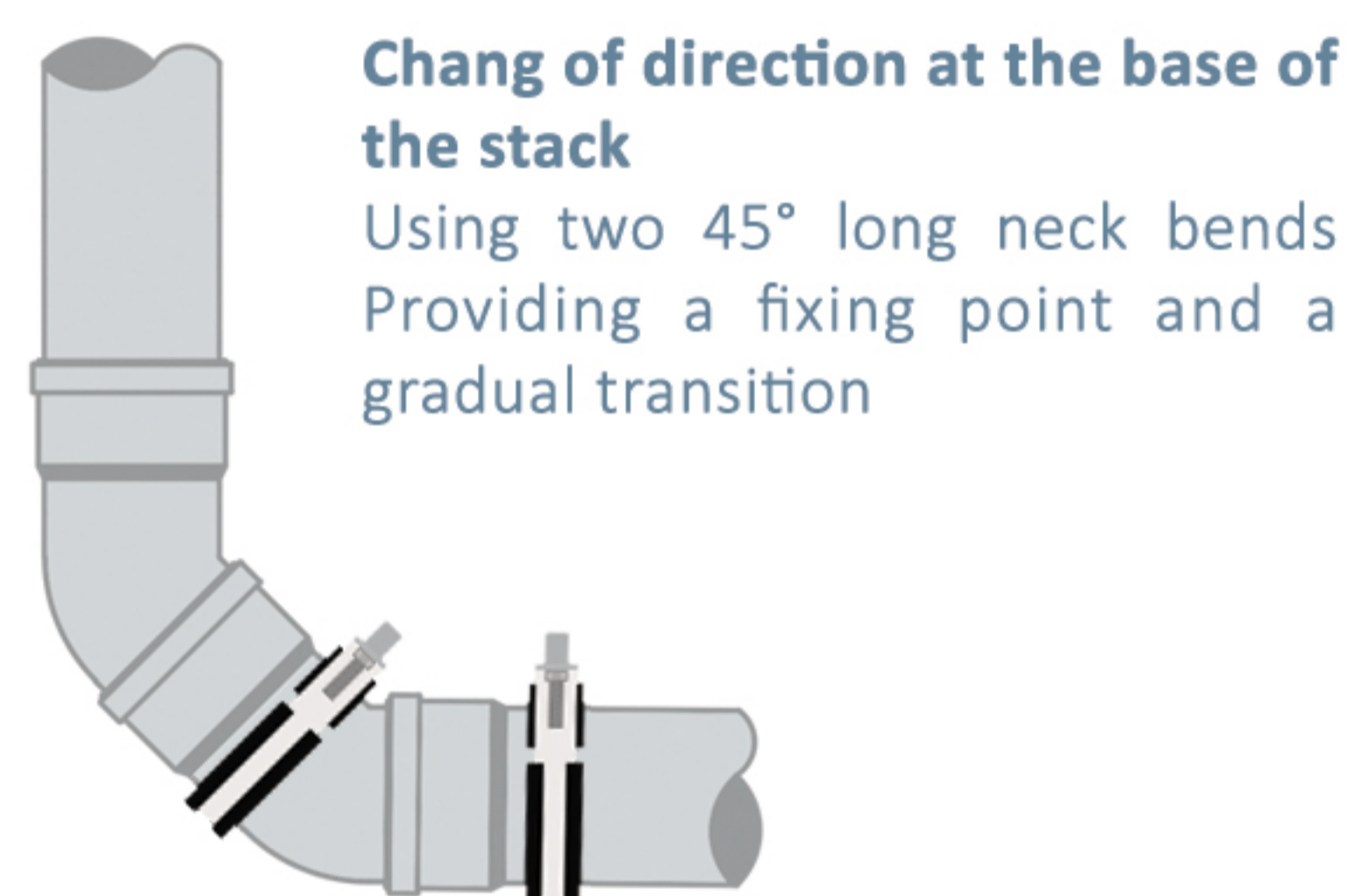
- Stable and reliable sealing
- Accessibility and ability to clear possible blockages
- Uniform cross-section throughout the entire flow path
- Proper water-seal depth in compliance with national and international standards
- Easier installation and slope adjustment using the 87-degree outlet without the need for an additional elbow
- Suitable for installing polymer floor drains due to the socketed trap inlet
- Stable connection of the trap to the structure using the special clamp
- Equipped with baked-paint coating and very high corrosion and rust resistance on the special clamp section



Poliran Special Fittings

Poliran's R&D department has a very close relationship with installers and contractors and constantly seeks to remove potential obstacles and simplify the installation and execution of the drainage system. Clamping of fittings at direction-change points is a common issue that is highly important due to water-tightness testing.

To solve this issue, special fittings have been designed and manufactured that allow clamp installation without putting pressure on the ring seat and jeopardizing system sealing.



Poliran RC clamps are specifically designed for sound-reduction systems and contain two unequal half-rings that improve pipe and fitting stability. The unique rubber profile used in this clamp prevents transmission of flow-induced vibrations to the structure and interior environment of the building.

Features

- High strength and durability made of steel with electro-galvanized coating
- Special rubber profile design with maximum vibration absorption
- Outstanding noise-reduction performance confirmed by the Fraunhofer Institute of Germany
- No rubber protrusion during sealing tests due to its retaining lip
- Produced in 4 different types in sizes : 50 - 63 - 75 - 90 - 110 - 125 - 160 mm
- Ultra-P model with baked-paint coating suitable for highly corrosive environments such as northern/southern regions, industrial zones, swimming pools, etc.



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 performance of the Push-fit Protect system

Today, fire protection is one of the most important considerations in the design and construction of new buildings. For this purpose, in addition to fire detection and extinguishing systems, methods are required that delay the spread of fire as much as possible and provide enough time for occupants to escape and for fire suppression. This is where self-extinguishing products come to our aid; a self-extinguishing product does not ignite easily and extinguishes itself once the flame source is removed and reduces the rate of fire spread.

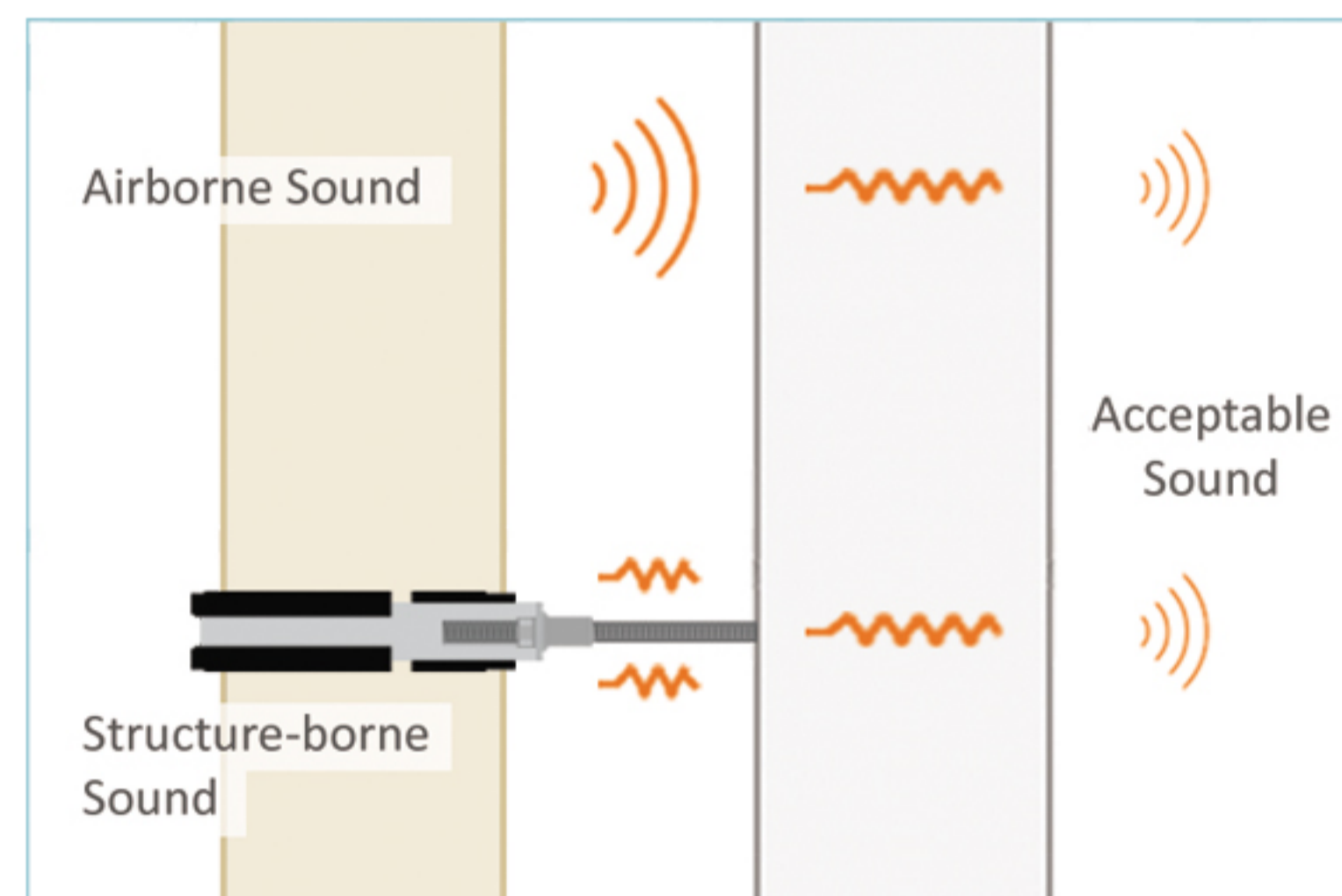
The **Poliran Push-fit Protect system** made of polypropylene with flame-retardant characteristics and is resistant to ignition caused by intermittent contact with hot gas flames and mechanical or electrical sparks and does not contribute to the spread of fire in the building. This system is classified as B1 according to DIN 4102.

Sound transmission reduction performance of the Push-fit Protect system

The comfort of occupants in a building, as the primary place of living and daily work, is highly important. One of the most important factors that must be considered in this regard is the problem of noise pollution. The building drainage system can also be one of the sources of noise pollution; the movement of wastewater flow in the piping routes produces noise which is transmitted to the environment in two ways :

1- Airborne sound : Airborne sound is the noise that is transmitted to the environment through the air. To reduce it, the quality and sound-absorption capacity of the raw materials used in pipes and fittings are highly important.

2-Structure-borne sound : Structure-borne sound is the noise that spreads through vibration or impact within a solid object. The fluid flow causes the pipes to vibrate and when this vibration is transmitted to the clamp and the building structure, the noise is



emitted into the environment as airborne sound. To minimize this noise, special clamps with rubber coating must be used. Reduction of the drainage system noise transmission to the environment is the result of simultaneously observing the following factors :

1. Assigning an appropriate duct for vertical pipes in the building architecture and insulating the duct when adjacent to private spaces such as bedrooms
2. Proper and engineering-based design of the wastewater and vent piping system with minimal complexity
3. Correct implementation of wastewater transfer routes according to design
4. Installing vertical pipes fully plumb and avoiding embedding them inside walls
5. Choosing a suitable and noise-reducing wastewater system
6. Using special vibration-absorbing and noise-reducing RC clamps to secure the wastewater system

Features

- Maximum reduction of structure-borne noise using Poliran RC clamps
- Reduction of airborne noise using special formulation
- Reduction of noise at critical system points using 45 long neck bend and gate trap



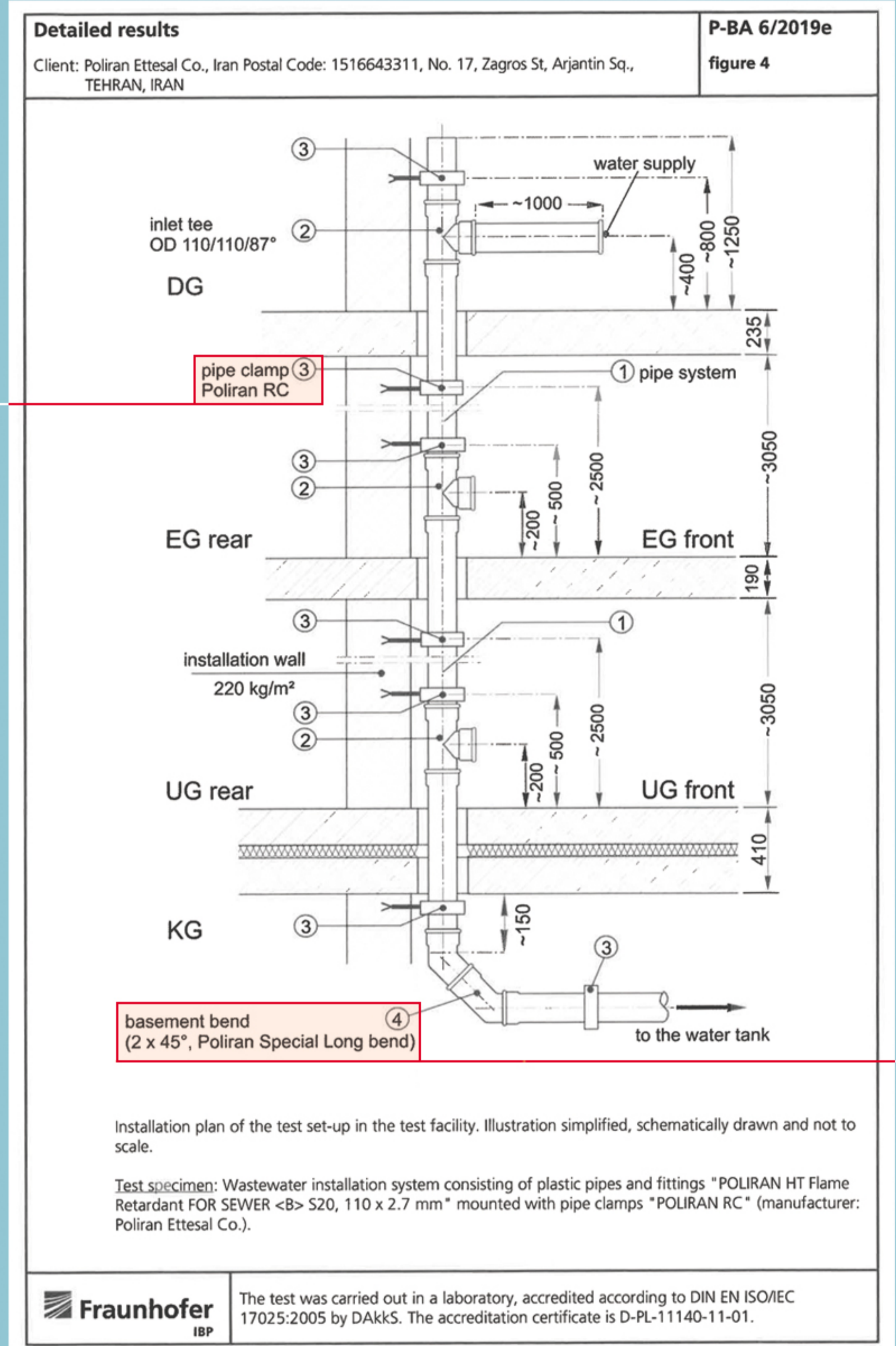
B1 Flame Retardant

Table 1: Building material classes

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

DIN 4102-1

19dB(A) Silent



The test was carried out in a laboratory, accredited according to DIN EN ISO/IEC 17025:2005 by DAkkS. The accreditation certificate is D-PL-11140-11-01.



Poliran RC



Long Neck 45° Bend

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

The measurement of sound emission levels in the Poliran Pushfit Protect system including pipes, fittings, and stable clamps has been conducted by the reputable Fraunhofer Institute in Germany. According to international standards and modern building comfort guidelines, the maximum acceptable noise level for achieving ideal acoustic comfort in buildings is 20 decibels.

Table of sound emission test results from Fraunhofer Institute, Germany

POLIRAN HT Flame Retardant FOR SEWER 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
Structure-borne sound characteristic level $L_{s,c,A}$ [dB(A)] according to EN 14366 for the basement test-room	UG rear	< 10	< 10	10	15
Installation sound level $L_{A,eq,n}$ [dB(A)] following DIN 4109 in the basement test-room	UG front	45	49	51	54
	UG rear	< 10	11	14	19

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.



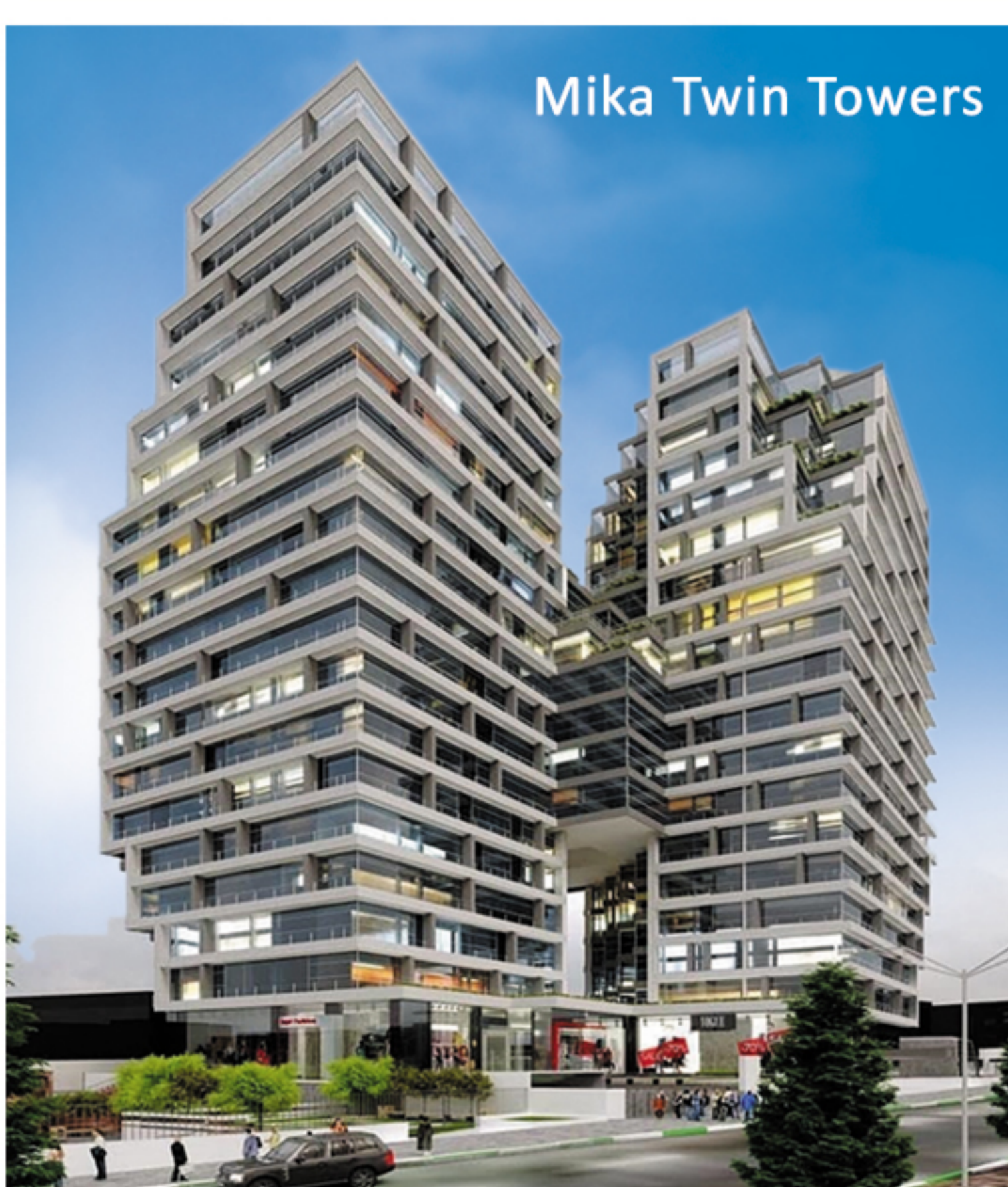
Some of our projects:



Milad Tower



Iran Mall



Mika Twin Towers



Artiman



Tehran International Tower



Atlas Mall



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