

# Infrastructure polypropylene sewage system

SUSTAINABLE WATER  
SOLUTIONS

**PIPELIFE** 

## Reliable System

Sustainable and  
trouble-free  
exploitation



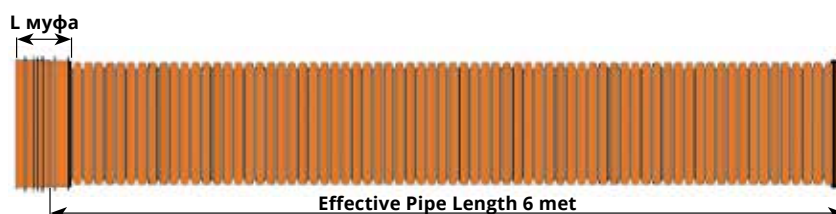
# Smooth or corrugated? Or both?

Water flows smoothly along the smooth inner surface, while the corrugated outer layer provides high ring stiffness. The specific two-layer structure combined with the qualities of polypropylene make Pragma the right choice for projects with challenging conditions - unstable soils, heavy traffic, steep slope and depth of installation.



## Sewage pipes PP-B Pragma

SN $\geq$ 10 kN/m<sup>2</sup>, SN $\geq$ 12 kN/m<sup>2</sup>, SN $\geq$ 16 kN/m<sup>2</sup> according EN 13476-3:2018+A1:2020



Nominal Diameter DN		Outside Pipe Diameter Dout	Inside Pipe Diameter Din	Rib Height H	Rib Length L	Pipe Length (without socket)*	Socket Length	Inside Socket Diameter Din. socket	Product Code
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[m]	[mm]	[mm]	
DN/OD	160	160,00	139,00	10,50	18,33	6	94,00	160,50	PRAGMA 160/6
DN/OD	200	200,00	176,00	12,00	20,63	6	113,00	201,90	PRAGMA 200/6
DN/OD	250	250,00	221,30	14,35	20,63	6	129,00	252,40	PRAGMA 250/6
DN/OD	315	315,00	277,40	18,80	27,50	6	147,00	318,00	PRAGMA 315/6
DN/OD	400	400,00	350,00	25,00	33,00	6	158,00	403,70	PRAGMA 400/6
DN/ID New P	500	561,50	499,00	31,25	60,95	6	260,00	562,00	PRAGMA 500+ID/6
DN/ID New P	600	660,00	588,00	36,00	60,95	6	295,7	671,7	PRAGMA 600+ID/6
DN/ID	800	929,50	806,50	61,50	81,26	6	339,30	936,00	PRAGMA 800+ID/6
DN/ID	1000	1143,00	1000,00	71,50	121,89	6	403,00	1144,6	PRAGMA 1000+ID/6

\* The effective length (without socket) of Pragma ID pipes can vary by up to +/-7.5 cm

\*\* Pipes DN/OD 160 are only available in SN  $\geq$  12 kN/m<sup>2</sup> and SN  $\geq$  16 kN/m<sup>2</sup>.

DN/OD – nominal outer (relative) diameter according to which the pipe or the fitting are manufactured.

DN/ID – nominal inner (relative) diameter according to which the pipe or the fitting are manufactured.

# PP-B Pragma Fittings

SN $\geq$ 8 kN/m<sup>2</sup> according to EN 13476-3:2018+A1:2020

## PP-B Pragma sliding repair socket



DN
[mm]
DN/OD160
DN/OD200
DN/OD250
DN/OD315
DN/OD400
DN/ID500
DN/ID600
DN/ID800

## PP-B Pragma connecting double socket



DN
[mm]
DN/OD160
DN/OD200
DN/OD250
DN/OD315
DN/OD400
DN/ID500
DN/ID800
DN/ID1000

## PP-B Pragma Bend



DN
[mm]
DN/OD160
DN/OD200
DN/OD250
DN/OD315
DN/OD400
DN/ID500
DN/ID600
DN/ID800

## PP-B Pragma Branch



DN
[mm]
DN/OD160
DN/OD200
DN/OD250
DN/OD315
DN/OD400
DN/ID500
DN/ID600

## PP-B Pragma Reducer



DN
[mm]
DN/OD200
DN/OD250
DN/OD315
DN/OD315
DN/OD400
DN/OD400
DN/ID500
DN/ID600
DN/ID600

## PP-B Pragma Adapter to PVC

(for connecting of Pragma end without a socket with a PVC KG end with a socket)



DN
[mm]
DN/OD160
DN/OD200
DN/OD250
DN/OD315
DN/OD400



### PP-B Pragma Plug



DN
[mm]
DN/OD160
DN/OD200
DN/OD250
DN/OD315
DN/OD400
DN/ID500
DN/ID600

### PP-B Pragma Saddle with a nut



with a short socket



with a long socket



D	CKO*
[mm]	[mm]
DN/OD 250	DN/OD 160
DN/OD 315	DN/OD 160
DN/OD 400	DN/OD 160
DN/ID 500	DN/OD 160
DN/OD 250	DN/OD 160
DN/OD 315	DN/OD 160
DN/OD 400	DN/OD 160
DN/ID 500	DN/OD 160
DN/ID 600	DN/OD 160
DN/ID 800	DN/OD 160
DN/ID 1000	DN/OD 160
DN/OD 315	DN/OD 200
DN/OD 400	DN/OD 200
DN/ID 500	DN/OD 200
DN/ID 600	DN/OD 200
DN/ID 800	DN/OD 200
DN/ID 1000	DN/OD 200

\* HSC-Housing sewer connection

N.B. Housing sewer connection DN160 can be connected to a sewer collector pipe with a diameter D not less than DN/OD250

Housing sewer connection DN200 can be connected to a sewer collector pipe with a diameter D not less than DN/OD315

The hole has to be drilled with a Pipelife drilling crown, the chips has to be cleaned with a scraper without changing the diameter of the hole. Pipelife guarantees watertightness of the saddles only when there is no vertical and horizontal displacement of the saddle against the collector pipe after installation. You can find further instructions for the installation of the saddles in the Pragma saddle brochure.



### PP-B Pragma Sealing ring

EPDM 45 +/-5 - ethylene propylene diene monomer



DN
[mm]
DN/OD 160
DN/OD 200
DN/OD 250
DN/OD 315
DN/OD 400
DN/ID 500
DN/ID 600
DN/ID 800
DN/ID 1000

### PP-B Pragma Assembly ring with a seal

(for connecting of PVC KG end without a socket with a Pragma end with a socket)



DN
[mm]
DN/OD160
DN/OD200
DN/OD250
DN/OD315
DN/OD400

### A drilling crown with a nut and a wrench for tightening the nut



For inlet
[mm]
DN/OD160
DN/OD160 and DN/OD200

wrench for saddles type NL

All saddles type NL, always come with PRLATKEY - wrench for Pragma saddles type NL.



D
[mm]
160

wrench for saddles type R

All saddles type R have a wrench, included in the kit.



## A rubber muff for in-situ connection



For inlet
[mm]
DN/OD 110
DN/OD 160
DN/OD 200
DN/OD 250
DN/OD 315

### Assembly instructions

1. Make an opening in the pipe with a drilling crown
2. Clean the opening with a knife
3. Put the rubber muff tightly in the opening

The additional contacts to the extension elements to for manholes (PRO type) and to pipes (PVC-KG и Pragma) with a big diameter can be done by in-situ connection as the nominal diameter of the connection is from DN/OD110 to DN/OD315.

The rubber muff is designed for a direct connection of a smooth wall PVC KG pipe. If the connection will be made with a corrugated pipe Pragma type it is necessary to mount a PRP adaptor from Pragma to PVC

## A drilling crown for in-situ connection



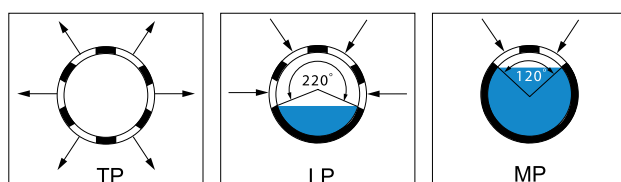
For inlet
[mm]
DN/OD 110
DN/OD 160
DN/OD 200
DN/OD 250
DN/OD 315

## PP-B Pragma drainage pipes

SN $\geq$ 10 kN/m<sup>2</sup>, SN $\geq$ 12 kN/m<sup>2</sup>, SN $\geq$ 16 kN/m<sup>2</sup> according to EN 13476-3:2018+A1:2020



### Perforation types



\* Perforation surface for all pipes > 50 cm<sup>2</sup>/m

The pipes are manufactured with a welded socket. The Pragma drainage pipes are totally compatible with the fittings of the sewer pipes Pragma DN/OD. Pipes with either a TP or MP perforation type can be delivered by special request.

# Why polypropylene is the most sustainable solution

Polypropylene (PP-B) is the latest generation of thermoplastic materials which are used for the production of pipe systems. This material combines the stability of the polyvinylchloride (PVC) and the elasticity of the polypropylene. This makes it balanced and the most appropriate for meeting the complex requirements of EN 13476-3:2018+A1:2020.



Pragma system consists also of a full range of connecting elements.

## One solution and many applications!

The Pragma system is designed for gravity take away of:

- Domestic,
- Industrial,
- Rain,
- Mixed and drainage wastewater.

Pragma system is applicable in:

- Urban and industrial sewage systems,
- Electrical distribution networks and telecommunication infrastructure,
- Serving as a protective conduit system for various utilities and cables.



An integrated part of a whole sewage system of pipes, fittings manholes and equipments.



Continual quality control



Fast and easy installation



Lifetime 50+ years



Extremely robust



No scaling or erosion



100% Recyclable



Saves transportation, installation and maintenance costs