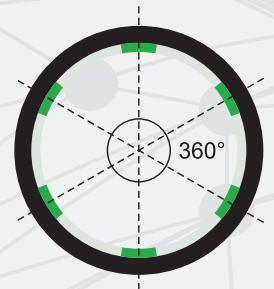
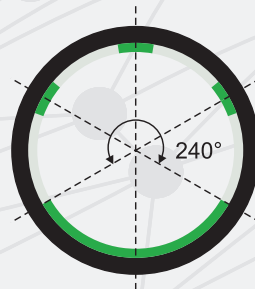
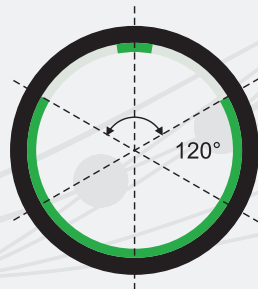
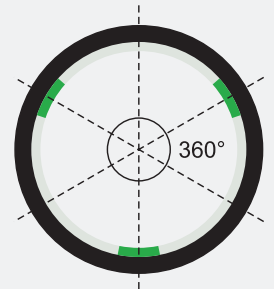
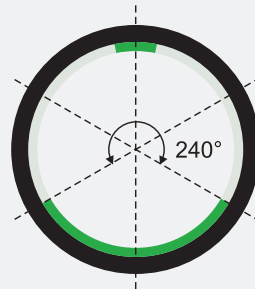
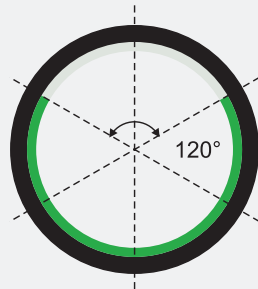
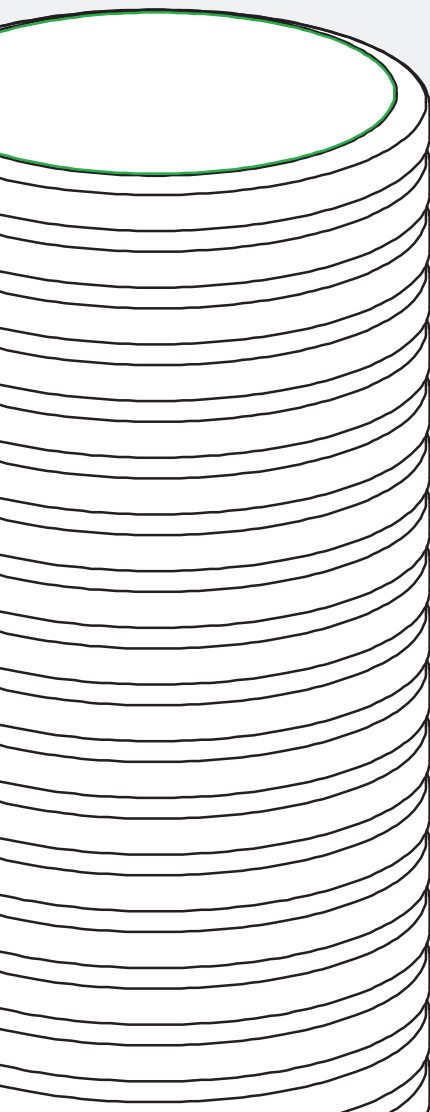


INSTALLATION SYSTEM  
**vargodren**

**DRAINAGE PIPES**

CORRUGATED PE PIPES FOR TERRAIN DRAINAGE

Technology  
and tradition.



CATALOGUE 08/2022

Complete solutions for  
sewage, water / gas supply,  
drainage and cable protection

 **VARGON**  
INSTALLATION SYSTEMS



*INSTALLATION SYSTEM*  
***vargodren***

**DRAINAGE SEWAGE**

PE CORRUGATED DRAINAGE PIPES

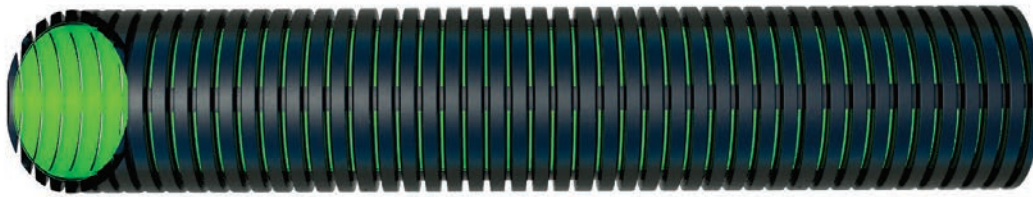
PE AND PP COUPLINGS

SEALS

**System description**

All modern construction projects are carried out by protecting high-rise buildings and low-rise structures from accumulated waters from the surrounding surfaces. In order to collect this water and ensure its diversion, it is necessary to incorporate a system of drainage pipes with perforations in the pipe wall to carry this out effectively. These perforations allow water to enter the pipe, which is then diverted to a sewage system or absorption well, resulting in the ground drying out and reducing the impact of moisture on the structure.

**vargodren** drainage system is made according to HRN EN 13476-1, 3 and DIN 4262-1 standards that ensure highest quality. The corrugated drainage pipes are made from **vargokor** PE-HD corrugated pipes that have a load capacity of SN8, so they can be used on demanding roads and places where the pipes are exposed to heavy loads.



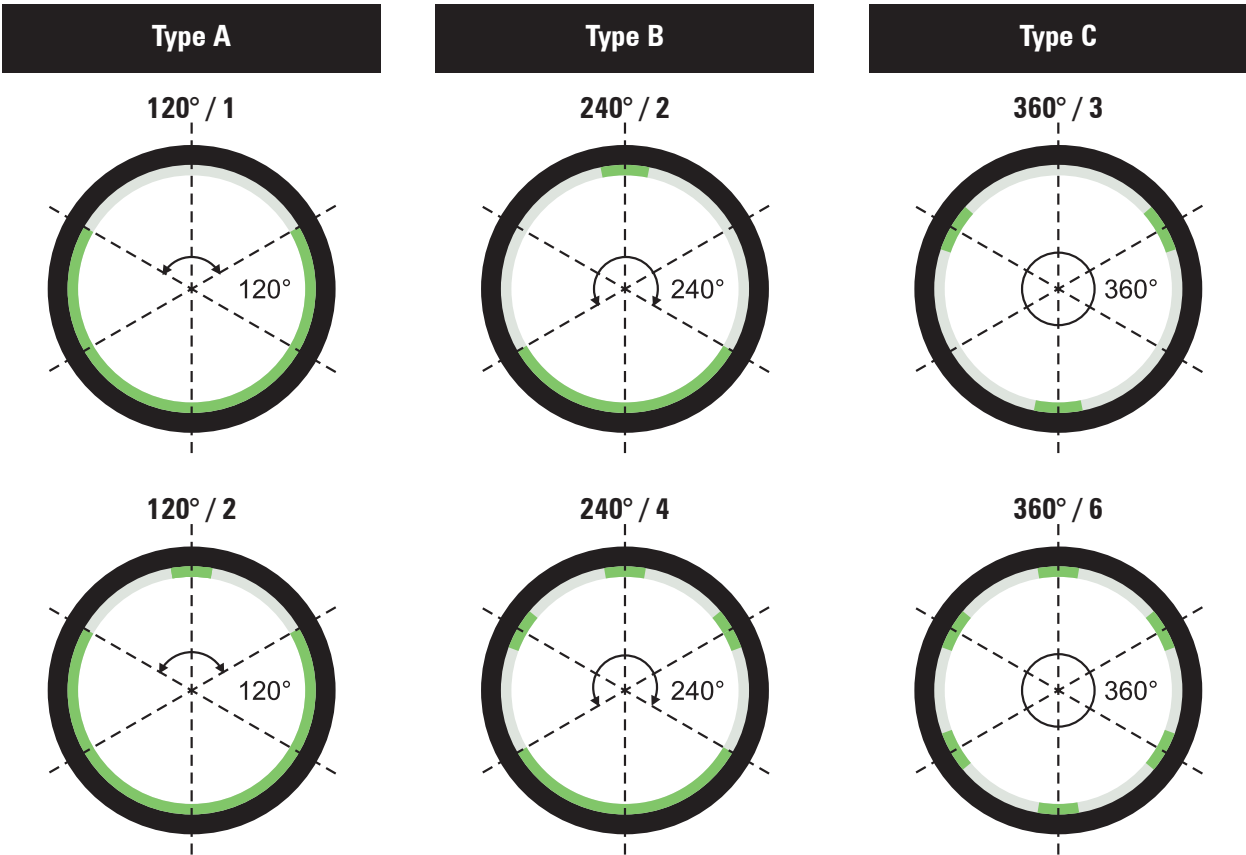
**Types of drainage pipes**

Considering the angle and number of perforations, **vargodren** drainage pipes can be divided into three types:

**Type A** - pipes are perforated at 120° with one or two cuts

**Type B** - pipes are perforated at 240° with two or four cuts

**Type C** - pipes are perforated at 360° with three or six cuts





Corrugated drainage pipes					
Outer diameter De mm	Inner diameter Di mm	Rib height h mm	Weight kg/m	Amount of pipes on truck 7,40 m m	Amount of pipes on tow 13,60 m m
200	171	14,5	1,9	900	1800
250	214	18,0	2,9	600	1200
315	271	22,0	4,5	378	756
400	343	28,5	7,3	246	492
500	431	34,5	10,7	144	288
630	542	44,0	17,4	90	180

Different **vargodren** pipes, depending on the type of perforation and diameter, have different absorption surfaces, which can be seen in the following table:

Average perforated area per meter (cm <sup>2</sup> /m)						
Diameter	Type A		Type B		Type C	
	120°/1	120°/2	240°/2	240°/4	360°/3	360°/6
200	120,59	100,75	221,34	181,28	301,86	241,57
250	132,08	110,24	241,97	198,29	330,03	264,16
315	118,89	99,16	218,30	178,59	297,48	238,03
400	240,72	200,60	441,32	361,08	601,80	481,44
500	227,40	189,57	416,97	341,02	568,56	454,79
630	237,79	198,07	435,86	356,68	594,34	475,45

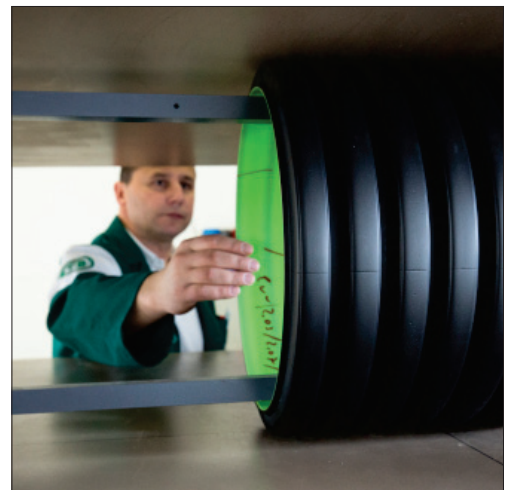
## Quality testing

**vargodren** pipe is manufactured in accordance with all legally defined standards.

The production process is continuously monitored and the finished products are tested in accordance with the requirements of the specified standards.

The following tests are carried out:

- Testing the melt mass-flow according to DIN EN ISO 1133-1
- Testing the density according to DIN EN ISO 1183 -1
- Testing the width and length of perforations according to the requirements of DIN 4262-1
- Testing the ring stiffness of thermoplastic pipes according to DIN EN ISO 9969



**Transport and assembly**

**1. Transport to the construction site**

**vargodren** pipes and connecting elements must be transported using appropriate vehicles, loaded and unloaded under professional supervision. During transport, the pipes should be placed along a maximum surface area.

**2. Unloading from a transport vehicle**

**a) With an excavator or a crane**

It is recommended to use belts / lifting straps (e.g. textile or similar). Chains and cables can damage pipes, so it is not recommended to use them. Be sure to prevent throwing, falling and hitting hard against each other parts of pallets, pipes and parts of the configuration. The lifting straps should be placed under the pallet / transport stand, in the middle at a distance of 3.5 m.

**b) By forklift**

The pallets / pipes must be placed crosswise on the forks, while making sure there is as much distance as possible between the forks.

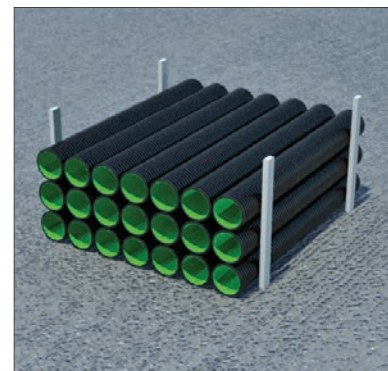
**3. Storage on the construction site**

The pallet must not be unloaded with jolts onto a hard surface, it must be placed on a sufficiently solid surface to avoid sinking of the pallet or its wooden base.

Pipes and connecting elements can be stored outdoors, where the time of outdoor storage should not be longer than 1 year.

While storing the pipes, consider the following:

- a) Pipes must be stored in the way to provide a flat surface for storage.
- b) The height of the stacked pipes must not exceed 2 m. The stacked pipes must be secured from the side.
- c) Stored **vargodren** pipes must be protected from overheating in summer, or during extreme heat. It is recommended to store it in the shade or cover the pipes with a light tarpaulin that does not allow light to pass through.



**4. Transport to a trench**

Due to the light weight, no special lifting devices are required for the transport of individual pipes and parts of the system to the trench.

If it is necessary to transport pallets, the same applies to what is stated under point 2, "Unloading from a transport vehicle".

The transport of individual pipes to the trench using a chain or cable is not allowed.



**5. Shortening of vargodren drainage pipes**

Pipes should be cut using a fine teeth saw, in the middle of recessed part and transversely to the axis of the pipe. Unevenness and roughness in the area where the pipe was sawed must be removed by a scalpel, knife or sandpaper. In order to use the pipe halves, a coupler and two gaskets are required for each individual piece, as **vargodren** drainage pipes are identical at both ends.



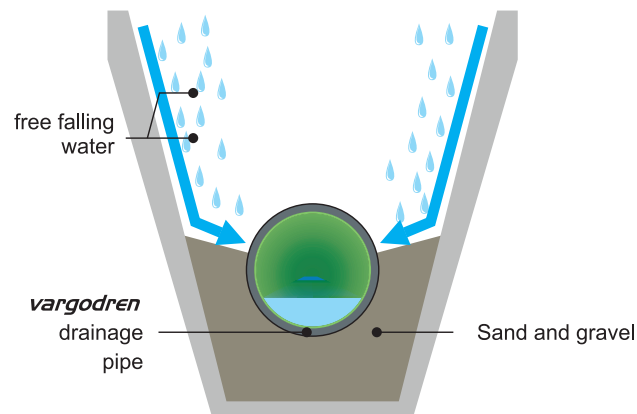
## 6. Making a trench

The foundation should be made with at least 10 to 15 cm of fine-grained material. It is recommended to use materials that can be compacted (such as sand and gravel) and bind weakly or not at all. The same material should be poured on both sides of the **vargodren** drainage pipe so that the pipe cannot move anymore.

After that, the pipe should be covered with the same material up to 15 cm above its top. Compacting the material covering the top of the pipe, if necessary, is done by hand.

Mechanical compaction of the material directly above the pipe follows only when a layer of at least 30 cm has been applied over the top of the pipe. Pipes must not come into contact with compression devices. During installation, the pipes should be secured from the side and in a vertical position.

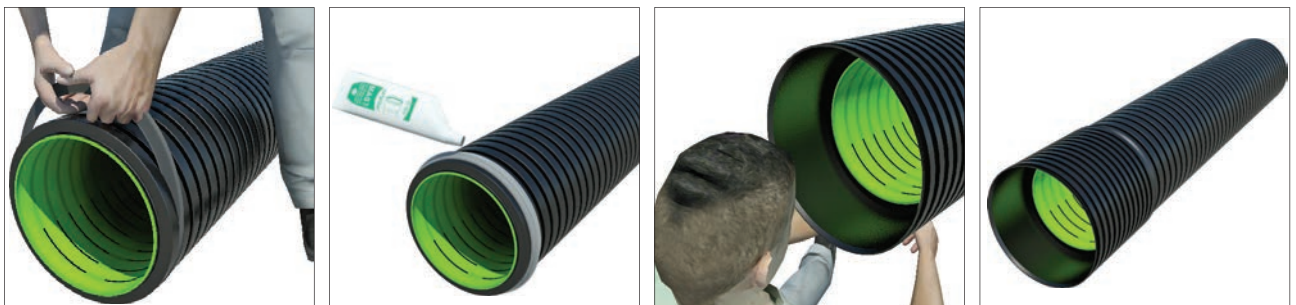
Backfilling (from 30 cm above the top of the pipe) follows in layers. Light to medium compaction devices can be used up to 1 m of coverage. Heavy machinery may only be used afterwards.



## 7. Assembly of **vargodren** drainage pipes

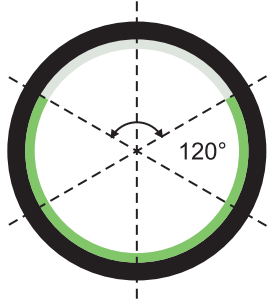
Before assembling, inspect the pipe ends for possible damage during transport or storage. Connecting **vargodren** drainage pipes is carried out by using couplings and seals. Seals ensure the safety of the connection and guarantee a safe connection of pipes even in unfavorable installation conditions.

When connecting pipes, the following steps should be performed:

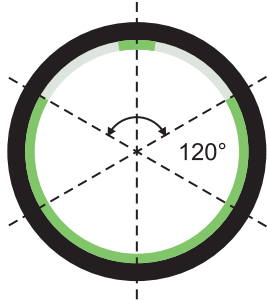


- The end of the pipe that will be inserted into the coupling (the area up to the third complete rib), and inner surface of the coupling, should be cleaned of dirt with a cloth. The seal should be inserted, without stretching, evenly into the first complete recess between the ribs at the end of the pipe that will be inserted into the coupling.
- Coat the seal located on the pipe and the inner surface of the coupling evenly with a lubricant for easier insertion of the pipe into the coupling. It is not allowed to use oils and fats for this purpose. Coated pipe ends must no longer be placed on the substrate due to the risk of dirt sticking to the pipe.
- Immediately before installation, the couplings and ends of the pipes should be inspected again for foreign objects and removed. Particular attention should be paid to gravel, sand or pieces that got into the coupling or stuck to the coating when working on the pipe.
- vargodren** drainage pipe should then be pushed into the coupling up to the limiter or mark previously drawn on the pipe. Installation can be done by one or two people. Using a crowbar or wooden beam placed between, the pipe can be pushed into the coupling without any difficulties. Installation with an excavator is not allowed.

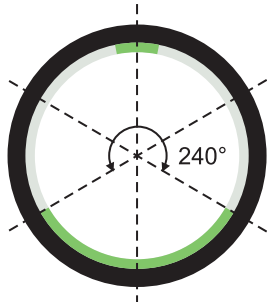
Art. 201 / 1 DRAINAGE PIPE TYPE A - 120° / 1 green / black	DN / OD	L mm	Code	○○ ○○ ○○
	200	6000	12268	1
	250	6000	12274	1
	315	6000	12280	1
	400	6000	12286	1
	500	6000	12292	1
	630	6000	12298	1



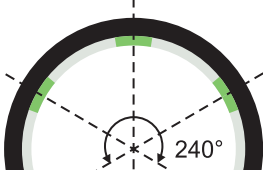
Art. 201 / 2 DRAINAGE PIPE TYPE A - 120° / 2 green / black	DN / OD	L mm	Code	○○ ○○ ○○
	200	6000	12269	1
	250	6000	12275	1
	315	6000	12281	1
	400	6000	12287	1
	500	6000	12293	1
	630	6000	12299	1

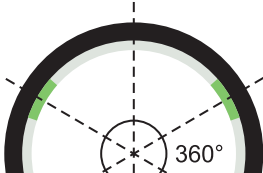


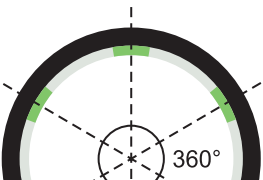
Art. 202 / 1 DRAINAGE PIPE TYPE B - 240° / 2 green / black	DN / OD	L mm	Code	○○ ○○ ○○
	200	6000	12270	1
	250	6000	12276	1
	315	6000	12282	1
	400	6000	12288	1
	500	6000	12294	1
	630	6000	12300	1



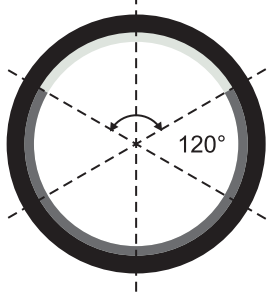


Art. 202 / 2 DRAINAGE PIPE TYPE B - 240° / 4 green / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	12271	1
	250	6000	12277	1
	315	6000	12283	1
	400	6000	12289	1
	500	6000	12295	1
	630	6000	12301	1

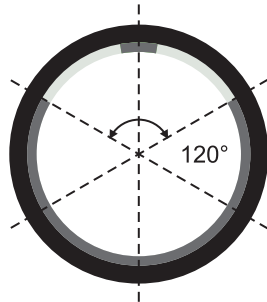
Art. 203 / 1 DRAINAGE PIPE TYPE C - 360° / 3 green / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	12272	1
	250	6000	12278	1
	315	6000	12284	1
	400	6000	12290	1
	500	6000	12296	1
	630	6000	12302	1

Art. 203 / 2 DRAINAGE PIPE TYPE - 360° / 6 green / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	12273	1
	250	6000	12279	1
	315	6000	12285	1
	400	6000	12291	1
	500	6000	12297	1
	630	6000	12303	1

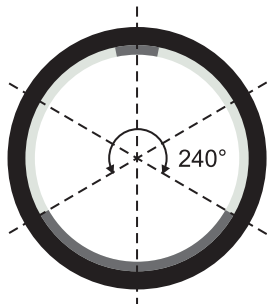
Art. 204 / 1 DRAINAGE PIPE TYPE A - 120° / 1 black / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	24774	1
	250	6000	24775	1
	315	6000	24776	1
	400	6000	24777	1
	500	6000	24778	1
	630	6000	24779	1

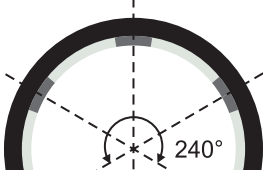


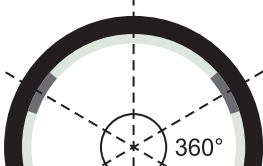
Art. 204 / 2 DRAINAGE PIPE TYPE A - 120° / 2 black / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	24780	1
	250	6000	24781	1
	315	6000	24782	1
	400	6000	24783	1
	500	6000	24784	1
	630	6000	24785	1

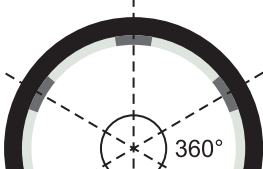



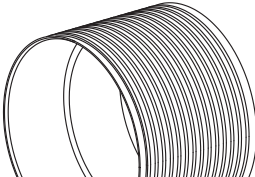
Art. 205 / 1 DRAINAGE PIPE TYPE B - 240° / 2 black / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	24786	1
	250	6000	24787	1
	315	6000	24788	1
	400	6000	24789	1
	500	6000	24790	1
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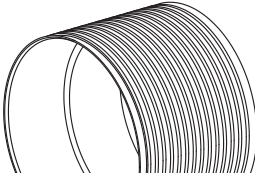



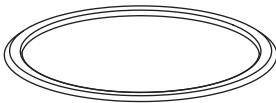
Art. 205 / 2 DRAINAGE PIPE TYPE B - 240° / 4 black / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	24792	1
	250	6000	24793	1
	315	6000	24794	1
	400	6000	24795	1
	500	6000	24796	1
	630	6000	24797	1

Art. 206 / 1 DRAINAGE PIPE TYPE C - 360° / 3 black / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	24740	1
	250	6000	24798	1
	315	6000	24799	1
	400	6000	24800	1
	500	6000	24801	1
	630	6000	24802	1

Art. 206 / 2 DRAINAGE PIPE TYPE C - 360° / 6 black / black	DN / OD	L mm	Code	○○○ ○○○ ○○○
	200	6000	24803	1
	250	6000	24810	1
	315	6000	24804	1
	400	6000	24805	1
	500	6000	24806	1
	630	6000	24807	1

Art. 210 PE COUPLING	DN / OD	Code	
	200	17492	1
	250	17493	1
	315	17494	1
	400	17495	1
	500	17496	1
	630	17497	1

Art. 210 / 1 PP COUPLING	DN / OD	Code	
	200	7783	1
	250	9119	1
	315	10494	1
	400	10495	1
	500	11027	1
	630	11431	1

Art. 270 SEAL VARGOKOR	DN / OD	Code	
	200	– 7943 –	1
	250	– 7944 –	1
	315	– 7865 –	1
	400	– 7866 –	1
	500	– 8012 –	1
	630	– 8013 –	1









*vargokal*

HOUSE SEWAGE SYSTEM

*vargokal PLUS*

HOUSE SEWAGE SYSTEM - LOW NOISE

*vargokal ULTRA*

HOUSE SEWAGE SYSTEM - SILENT

*vargokal SIF*

HOUSE SEWAGE SYSTEM - SYPHONS

*vargoterm*

HOUSE WATER SUPPLY

*vargoplen*

WATER

*vargoplen*

IRRIGATION AND SEWAGE

*vargoplen*

GAS

*vargokor*

SEWAGE PIPES

*vargokor*

SEWAGE CHAMBERS AND CATCHPITS

*vargodren*

DRAINAGE PIPES

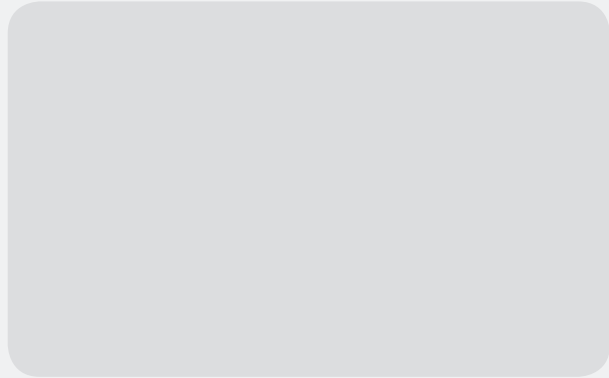
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