

*INSTALLATION SYSTEM*

# ALMAPLAST

## HOUSE SEWER SYSTEM

SEWER PIPES AND FITTINGS FOR HOUSE DRAINAGE



**07 / 2016**  
CATALOGUE



Hamburg - Germany





# ALMAPLAST *ST*

SINGLE LAYER PIPES AND FITTINGS

# ALMAPLAST *3S*

THREE LAYER PIPES

# ALMAPLAST *PLUS*

LOW NOISE THREE LAYER PIPES AND SINGLE LAYER FITTINGS

# ALMAPLAST *ULTRA*

ULTRA LOW NOISE SINGLE LAYER PIPES AND FITTINGS



## Laboratory

Together with production process we have provided continuous supervision of quality control in the production process starting from control of feedstock up to testing the quality of final product. Supervision is carried out in internal laboratory which is equipped with testing machines from well known producers, sufficient to examine all necessary mechanical and physical characteristic of materials and final products, in accordance with norm requests. Process of production is continuously supervised as well as the testing of materials and final products in accordance with requests of norm HRN EN 1451-1.

We provide the following tests:

- Testing of melt mass-flow rate of raw material and final products in accordance with norm HRN EN ISO 1133-1
- Testing the density in accordance with norm HRN EN ISO 1183-1
- Testing of dimensions ( geometrical characteristics ) in accordance with norm HRN EN ISO 3126 and HRN EN 1451-1
- Testing of longitudinal reversion ( heat reversion ) in accordance with norm HRN EN 743 and HRN EN ISO 2505
- Testing of resistance to external impact on 0 °C circumferential method in accordance with norm HRN EN 744
- Testing of watertightness in accordance with norm HRN EN 1053
- Testing of resistance to elevated temperature cycling in accordance with norm HRN EN 1055



## Description and purpose of system



*ALMAPLAST* sewer pipes and fittings are made out of polypropylene (PP) in wide range of types and dimensions which are used for house sewage and water drainage. They are built in inside building construction (scope BD) intended for residential and industrial use, especially are used for sewage waste and rainwater high and low temperatures as for ventilation of complete drainage system. They are delivered with integrated socket & build-in seals and are produced in accordance with standard HRN EN 1451-1.

*ALMAPLAST* pipes and fittings can be produced with property of self extinguishing in accordance with classification B1 (hard combustible material).

Availability of different lengths of pipes by diameter allows adjustment in every requested project. Polypropylene (PP) is thermoplastic resin, respectively one of the materials which change their physical condition in accordance with heat. Positive properties of polypropylene (PP) are: high mechanical resistance, high fusion point (185 °C), perfect stability of shape and high resistance of chemical compound. There are different kinds of polypropylene (PP) with different characteristics and with different applications, depending on their macromolecular structure. For industrial applications only isotactic polymer is used, because other polymers do not have a wide usage in commercial area.

*ALMAPLAST* installation system consists of following programs:

*ALMAPLAST ST* - Single layer pipes and fittings

*ALMAPLAST 3S* - Three layer pipes

*ALMAPLAST PLUS* - Low noise three layer pipes and single layer fittings

*ALMAPLAST ULTRA* - Ultra low noise single layer pipes and fittings

## System assembly

*ALMAPLAST* pipes and fittings are assembled by integrated socket with factory-fitted seals. Seals are inserted in a special groove which ensures waterproof junction, safety and simple assembly

Dimensions of seals, standards of production, technology and regular control of quality meet European standard HRN EN 681 „Materials requirements for pipe joint seals used in water and drainage applications“.

## System advantages



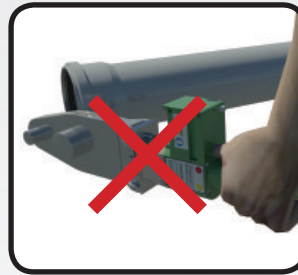
Easy manipulation and storage  
Characteristic of products allows easy manipulation and storage.



Easy and quick installation  
Installation is very quick with „push-fit“ type of installation.  
Wide range of connecting parts provides the ability of assembly in various situations.



No problems with itinerant electricity  
*ALMAPLAST* installation system has low conduct of electricity therefore there is no possibility of damages because of itinerant electricity



No need to use tools  
*ALMAPLAST* pipes and fittings are connected manually without tools.



No bonding  
Because of integrated seal there is no need to use glue in assembly process.



Watertightness  
Integrated seal ensure safe and waterproof junction.



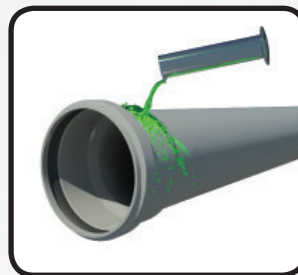
Resistance to hot water discharge  
Resistance to high temperatures, up to 90 °C.



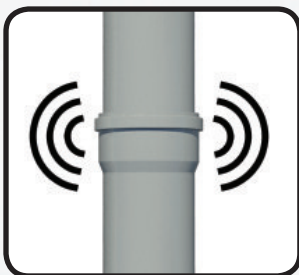
The inability of fouling  
The smooth inner surface does not retain microorganisms or a deposition.



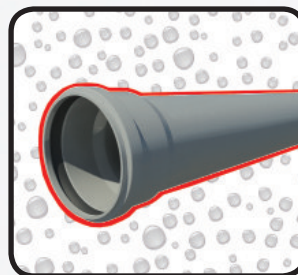
Resistance on mechanical damages  
*ALMAPLAST* pipes are made of PP which is resistant to external impacts comparing to conventional materials.



Huge resistance to aggressive chemicals  
*ALMAPLAST* pipes and fittings have huge resistance to wide range of chemicals.



Excellent acoustic performance  
*ALMAPLAST PLUS 3S* three layer pipe have excellent acoustic performance due to filling reinforcement (PP/MF) of the middle layer



Excellent thermal performance  
Low thermal conduct of *ALMAPLAST* pipes prevent condensation on the outer surface of the pipe.

## Product Packaging

Until installation *ALMAPLAST* pipes are exposed to manipulation at loading and unloading, transport and temporary storage therefore it is necessary to pay attention to the correct way in their handling

Immediately after the production pipes are placed and packed in original factory packaging, and pallets of standardized quantity and size. For this purpose, floor bars are used to lay pipes on, in order to prevent pipe contact with inadequate surface. Depending on the diameter and length of pipe two or three bars are used to ensure the stability of the connection and the ability to manipulate with forklift. Pipes inside the bundles are reinforced with pipe brushes. Entire bundle is secured with plastic strip that gives additional strength to the package.



Legend:

w= width of bundle h= height of bundle L= length of bundle a= number of pipes by width b= number of pipes by height



*ALMAPLAST* pipes of smaller dimensions and fittings are packed in raschel bags. Exceptionally on buyer request can be packed in boxes.



| PACKAGING OF PIPES BUNDLE (PALLETS) |                                               |                       |                       |                       |                       |                       |
|-------------------------------------|-----------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| DIAMETER<br>OF PIPE<br>DN           | LENGTH OF PIPE(mm)                            |                       |                       |                       |                       |                       |
|                                     | 500                                           | 1000                  | 1500                  | 2000                  | 3000                  | 4000                  |
|                                     | NUMBER OF PIPES IN BUNDLE (pcs) (a x b)       |                       |                       |                       |                       |                       |
|                                     | DIMENSION OF PIPES IN BUNDLE (mm) (w x h x L) |                       |                       |                       |                       |                       |
| 32                                  | -                                             | -                     | 30<br>(5 x 6)         | 30<br>(5 x 6)         | 20<br>(5 x 4)         | -                     |
|                                     | -                                             | -                     | 210 x 245<br>x 1622   | 210 x 245<br>x 2122   | 210 x 175<br>x 3122   | -                     |
| 40                                  | -                                             | -                     | 30<br>(5 x 6)         | 30<br>(5 x 6)         | 20<br>(5 x 4)         | -                     |
|                                     | -                                             | -                     | 250 x 305<br>x 1626   | 250 x 305<br>x 2126   | 250 x 210<br>x 3126   | -                     |
| 50                                  | 100<br>(5 x 20)                               | 50<br>(5 x 10)        | 30<br>(5 x 6)         | 30<br>(5 x 6)         | 20<br>(5 x 4)         | -                     |
|                                     | 305 x 1200<br>x 630                           | 305 x 590<br>x 1130   | 305 x 350<br>x 1630   | 305 x 350<br>x 2130   | 305 x 245<br>x 3130   | -                     |
| 75                                  | 50<br>(5 x 10)                                | 40<br>(5 x 8)         | 30<br>(5 x 6)         | 30<br>(5 x 6)         | 20<br>(5 x 4)         | -                     |
|                                     | 435 x 865<br>x 640                            | 435 x 685<br>x 1140   | 435 x 525<br>x 1640   | 435 x 525<br>x 2140   | 435 x 340<br>x 3140   | -                     |
| 90                                  | 25<br>(5 x 5)                                 | 96<br>(8 x 12)        | 96<br>(8 x 12)        | 96<br>(8 x 12)        | 96<br>(8 x 12)        | 96<br>(8 x 12)        |
|                                     | 500 x 500<br>x 648                            | 800 x 1200<br>x 1148  | 800 x 1200<br>x 1648  | 800 x 1200<br>x 2148  | 800 x 1200<br>x 3148  | 800 x 1200<br>x 4148  |
| 110                                 | 25<br>(5 x 5)                                 | 81<br>(9 x 9)         | 81<br>(9 x 9)         | 81<br>(9 x 9)         | 81<br>(9 x 9)         | 81<br>(9 x 9)         |
|                                     | 625 x 620<br>x 650                            | 1100 x 1150<br>x 1150 | 1100 x 1150<br>x 1650 | 1100 x 1150<br>x 2150 | 1100 x 1150<br>x 3150 | 1100 x 1150<br>x 4150 |
| 125                                 | 20<br>(4 x 5)                                 | 64<br>(8 x 8)         | 64<br>(8 x 8)         | 64<br>(8 x 8)         | 64<br>(8 x 8)         | 64<br>(8 x 8)         |
|                                     | 560 x 700<br>x 662                            | 1110 x 1140<br>x 1162 | 1110 x 1140<br>x 1662 | 1110 x 1140<br>x 2162 | 1110 x 1140<br>x 3162 | 1110 x 1140<br>x 4162 |
| 160                                 | 9<br>(3 x 3)                                  | 36<br>(6 x 6)         | 36<br>(6 x 6)         | 36<br>(6 x 6)         | 36<br>(6 x 6)         | 36<br>(6 x 6)         |
|                                     | 540 x 530 x<br>688                            | 1060 x 1080<br>x 1188 | 1060 x 1080<br>x 1688 | 1060 x 1080<br>x 2188 | 1060 x 1080<br>x 3188 | 1060 x 1080<br>x 4188 |

## Transportation of products

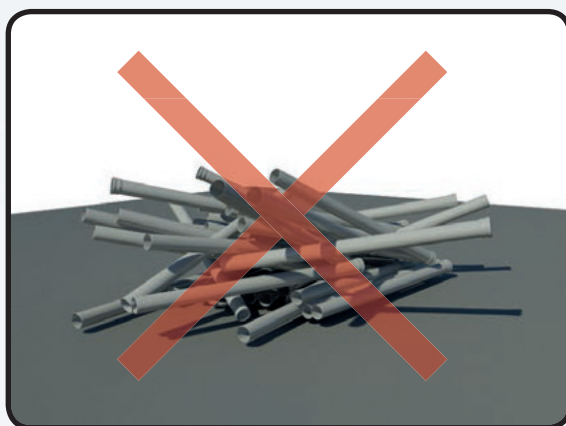
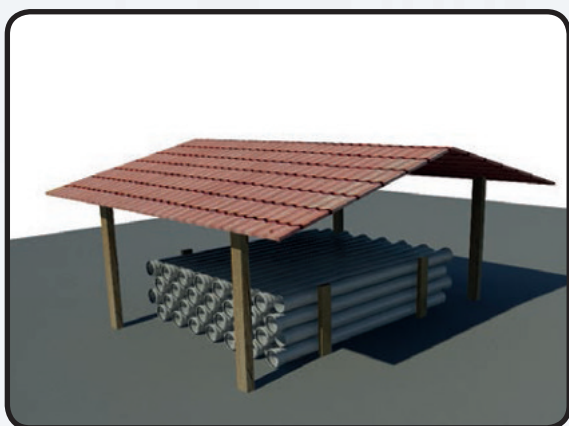
When loading and unloading of bundles it is necessary to pay attention to the pipe ends in order to avoid the deformation / breakage of the pipe sleeve, damage of the seal or flat end of the pipe. Placing heavy objects over the pipes can cause ovality of pipes which will disappear on its own when the load is decreased. For better utilization of transport bundles can be stacked in height to full height of loading space (max. 3m) without risk of damage. During transport it is recommended to stack pipes up to four bundles in height, for diameters from Ø 32 to Ø 75 or up to two bundles in height for diameters from Ø 110 to Ø 160.



## Storage of products

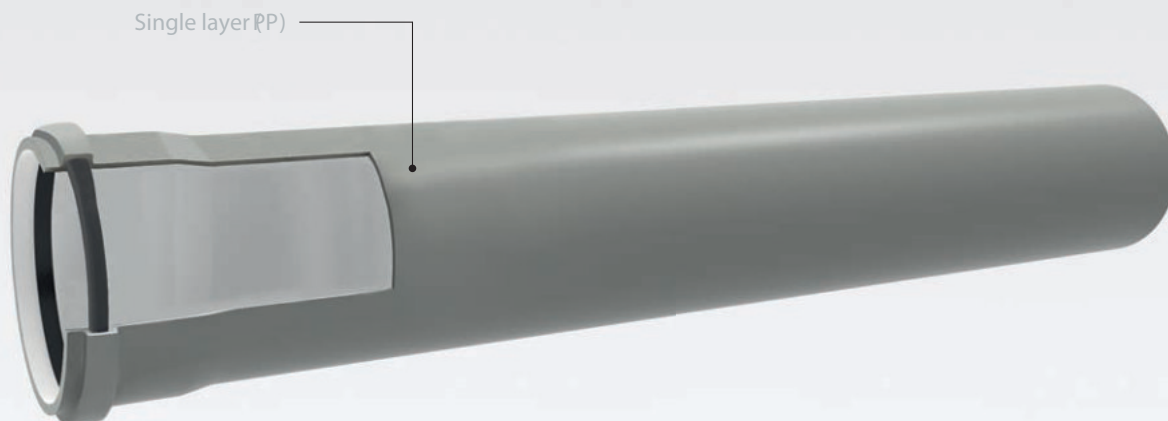
It is recommended to use indoor warehouse or covered space in order to protect pipes from the effects of weathering. It is not recommended to expose pipes (and seals) to sunlight for more than 6 months in order to avoid change of the material properties. In conditions of low ambient temperature (0 °C or lower) all polymeric materials become brittle and less elastic so it is necessary to pay attention to protect pipes from dropping from a height.

If the pipes are on stock, they can be stacked up to four bundles in height, for diameters from Ø 32 to Ø 75 or up to two bundles in height for diameters from Ø 110 to Ø 160.



## Pipe ST

Single layer pipe PP



*ALMAPLAST ST* pipes are produced from polypropylene (PP) polymers. The primary application of the pipe is drainage of waste water for residential and industrial use.

Pipes are manufactured with integrated connection socket & have compact single-layer wall and are supplied with the appropriate connection seal. The pipe wall is made from a single layer of pure PP. The pipe is grey RAL 7037.

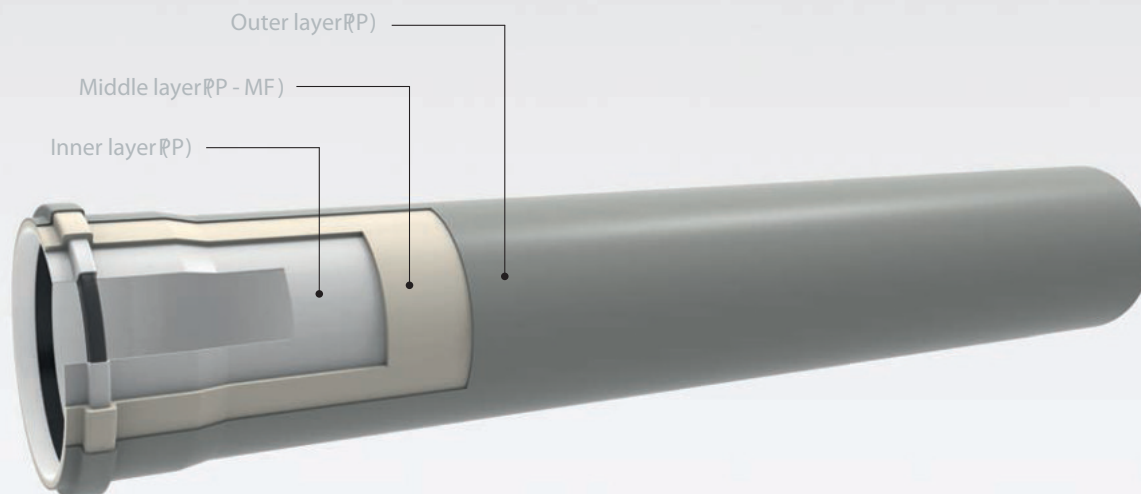
*ALMAPLAST ST* pipes comply with standard HRN EN 1451-1 which specifies the required mechanical and physical properties of pipes and fittings manufactured from PP in the field of drainage and waste water within the building structure.

Pipes are supplied with associated fittings in the appropriate dimensions.

| Outside diameter<br>DN | Wall thickness<br>s mm | Inner diameter<br>mm | Calculative<br>pipe weight<br>kg/m |
|------------------------|------------------------|----------------------|------------------------------------|
| 32                     | 1,8                    | 28,4                 | 0,160                              |
| 40                     | 1,8                    | 36,4                 | 0,205                              |
| 50                     | 1,8                    | 46,4                 | 0,262                              |
| 75                     | 1,9                    | 71,2                 | 0,410                              |
| 90                     | 2,2                    | 85,6                 | 0,548                              |
| 110                    | 2,7                    | 104,6                | 0,836                              |
| 125                    | 3,1                    | 118,6                | 1,093                              |
| 160                    | 3,9                    | 152,2                | 1,731                              |

## Pipe 3S

Three layer pipe PP / MF



*ALMAPLAST 3S* pipes are produced from polypropylene (PP) polymers with the addition of the mineral filler (MF). The primary application of the pipe is drainage of waste water for residential and industrial use.

Pipes are manufactured with integrated connection socket, have compact multi-layered wall and come with a corresponding connection seal. The pipe wall is made from three layers, the outer and inner layer made of pure PP and middle layer with the addition of the mineral filler. The outer layer of the pipe is grey RAL 7037, and the inner layer is white RAL 9003.

Wall thickness of *ALMAPLAST 3S* three-layer pipes is the same as the wall thickness of *ALMAPLAST ST* single pipe. While discharging media through the pipe, although they have the same wall thickness, *ALMAPLAST 3S* pipes emit less noise than *ALMAPLAST ST* pipes. This is because the middle layer is produced with mineral filler that has good sound absorption, and also provides a larger circumferential rigidity than the classical single-layer PP pipes.

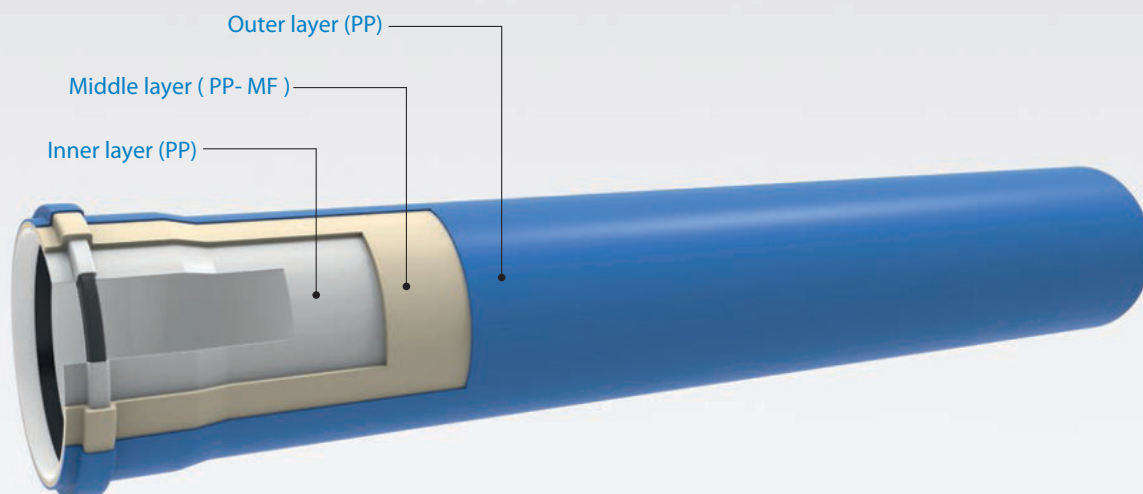
*ALMAPLAST 3S* pipes comply with the HRN EN 1451-1 which specifies the required mechanical and physical properties of pipes and fittings manufactured from PP in the field of drainage and waste water within the building construction.

Pipes are supplied with associated fittings in the appropriate dimensions.

| Outside diameter<br>DN | Wall thickness<br>s mm | Inner diameter<br>mm | Calculative<br>pipe weight<br>kg/m |
|------------------------|------------------------|----------------------|------------------------------------|
| 32                     | 1,8                    | 28,4                 | 0,217                              |
| 40                     | 1,8                    | 36,4                 | 0,274                              |
| 50                     | 1,8                    | 46,4                 | 0,340                              |
| 75                     | 1,9                    | 71,2                 | 0,547                              |
| 90                     | 2,2                    | 85,6                 | 0,760                              |
| 110                    | 2,7                    | 104,6                | 1,100                              |
| 125                    | 3,1                    | 118,6                | 1,400                              |
| 160                    | 3,9                    | 152,2                | 2,300                              |

## Pipe Plus 3S

Low noise three layer pipe PP / MF



**ALMAPLAST PLUS 3S** pipes are produced from polypropylene (PP) polymers with the addition of the mineral filler (MF). The primary application of the pipe is drainage of waste water for residential and industrial use.

The pipes are manufactured with integrated connection socket, have compact multi-layered wall and come with a corresponding connection seal. The pipe wall is made of three layers, the outer and inner layer made of pure PP and the middle layer with the addition of mineral filler. The outer layer of the pipe is blue RAL 5015, and the inner layer is white RAL 9003.

Wall thickness of **ALMAPLAST PLUS 3S** pipes is higher than the thickness of **ALMAPLAST 3S** pipes. While discharging media through pipes, **ALMAPLAST PLUS 3S** emits much less noise than **ALMAPLAST 3S** pipe, which means that the noise level of **ALMAPLAST PLUS 3S** pipe is lower than on **ALMAPLAST 3S** pipes. This is because the thicker middle layer is produced with mineral filler that has the property of good sound absorption, and also provides larger circumferential rigidity of **ALMAPLAST 3S** pipes.

**ALMAPLAST PLUS 3S** pipes comply with norm HRN EN 1451-1 which specifies the required mechanical and physical properties of pipes and fittings manufactured from PP in the field of drainage and waste water within the building structure.

Pipes are supplied with associated fittings in the appropriate dimensions.

| Outside diameter<br>DN | Wall thickness<br>s mm | Inner diameter<br>mm | Calculative<br>pipe weight<br>kg/m |
|------------------------|------------------------|----------------------|------------------------------------|
| 40                     | 1,8                    | 36,4                 | 0,320                              |
| 50                     | 1,8                    | 46,4                 | 0,400                              |
| 75                     | 2,6                    | 69,8                 | 0,882                              |
| 90                     | 3,1                    | 83,8                 | 1,200                              |
| 110                    | 3,6                    | 103,2                | 1,769                              |
| 125                    | 3,9                    | 117,2                | 2,201                              |
| 160                    | 4,9                    | 150,2                | 3,460                              |

# Installation system *PLUS*

## Acoustic properties

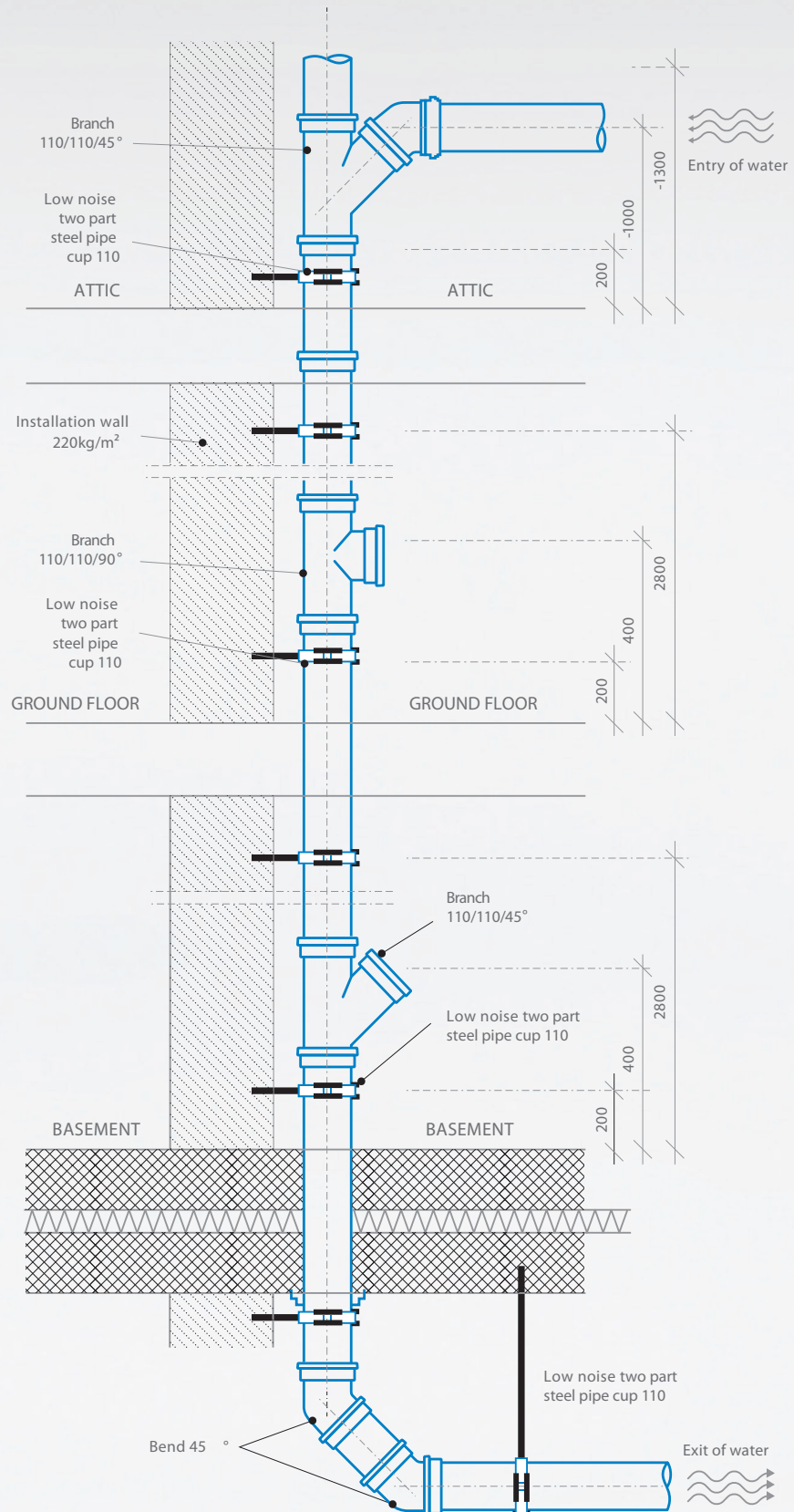
Reducing noise in homes and workplaces has become an essential criteria for better quality of life and working environment. For this reason factory began researching and testing sound insulation properties of materials used in *ALMAPLAST* system. Tests on sound insulation properties of *ALMAPLAST PLUS* system were conducted at the Fraunhofer Institute in Stuttgart, the world known laboratory for testing audio performance.

Research results have shown that the system *ALMAPLAST PLUS* fully complies with the applicable standards.

In accordance with the European standard EN 14366, and for testing purposes, installation system *ALMAPLAST PLUS* is used with pipes DN 110 x 3,6.

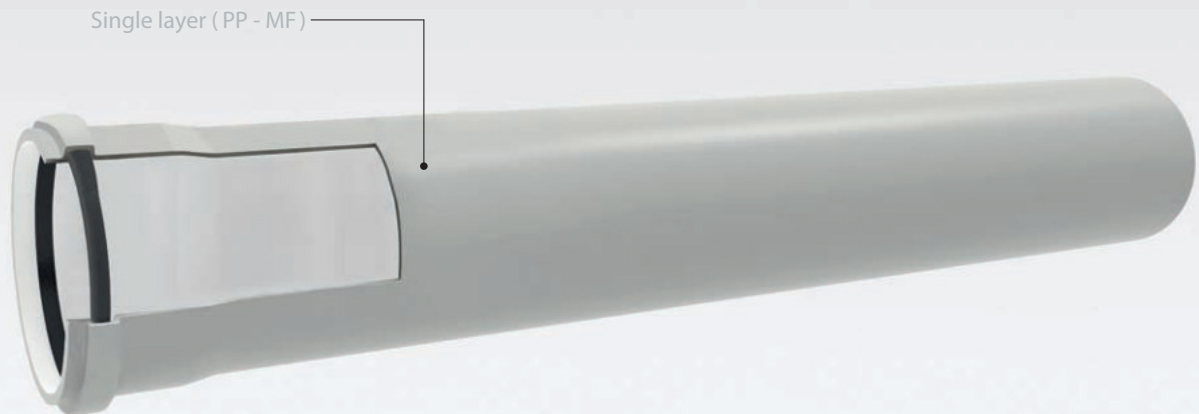
### Test results:

Test results obtained by measuring the water flow rate of 2 l / s indicate that the installation system *ALMAPLAST PLUS* does not exceed the noise levels higher than 17 dB (A).



## Pipe *ULTRA*

Ultra low noise single layer pipe PP / MF



*ALMAPLAST ULTRA* pipes are produced from polypropylene (PP) polymers with the addition of the mineral filler (MF). The primary application of the pipe is drainage of waste water for residential and industrial use.

The pipes are manufactured with integrated socket for connection, characterized by a compact single-wall and come with a corresponding connection seal. The pipe wall is made from a single layer of pure PP with the addition of mineral filler. The pipe is light grey RAL 7035.

Wall thickness of *ALMAPLAST ULTRA* pipe is higher than the thickness of the *ALMAPLAST PLUS 3S* pipes.

While discharging media through *ALMAPLAST ULTRA* pipes they emit much less noise than *ALMAPLAST PLUS 3S* pipes, which means the noise level of *ALMAPLAST ULTRA* pipes is lower than on *ALMAPLAST PLUS 3S* pipes. This is because the thicker wall is produced with mineral filler which has the property of good sound absorption, and also provides a larger circumferential rigidity of *ALMAPLAST PLUS 3S* pipes.

*ALMAPLAST ULTRA* pipes comply with the HRN EN 1451-1 which specifies the required mechanical and physical properties of pipes and fittings manufactured from PP in the field of drainage and waste water within the building construction

Pipes are supplied with associated fittings in the appropriate dimensions.

| Outside diameter<br>DN | Wall thickness<br>s mm | Inner diameter<br>mm | Calculative<br>pipe weight<br>kg/m |
|------------------------|------------------------|----------------------|------------------------------------|
| 58                     | 4                      | 49,6                 | 1,32                               |
| 78                     | 4,5                    | 68,8                 | 2,03                               |
| 110                    | 5,4                    | 99,2                 | 3,42                               |
| 135                    | 5,6                    | 123,8                | 4,34                               |
| 160                    | 5,6                    | 148,8                | 5,24                               |

## The noise level in the pipeline

### Noise in nature

Noise in the nature is unwished or harmful sound to human health and the environment in outer space caused by human activity including noise emitted by means of transport, road transport, railway transport, air transport, maritime and inland waterway transport as well as the plant and projects for which the special regulations in the field of environmental protection shall obtain a decision on integrated environmental protection requirements or decision on environmental impact on the environment.

### Noise protection

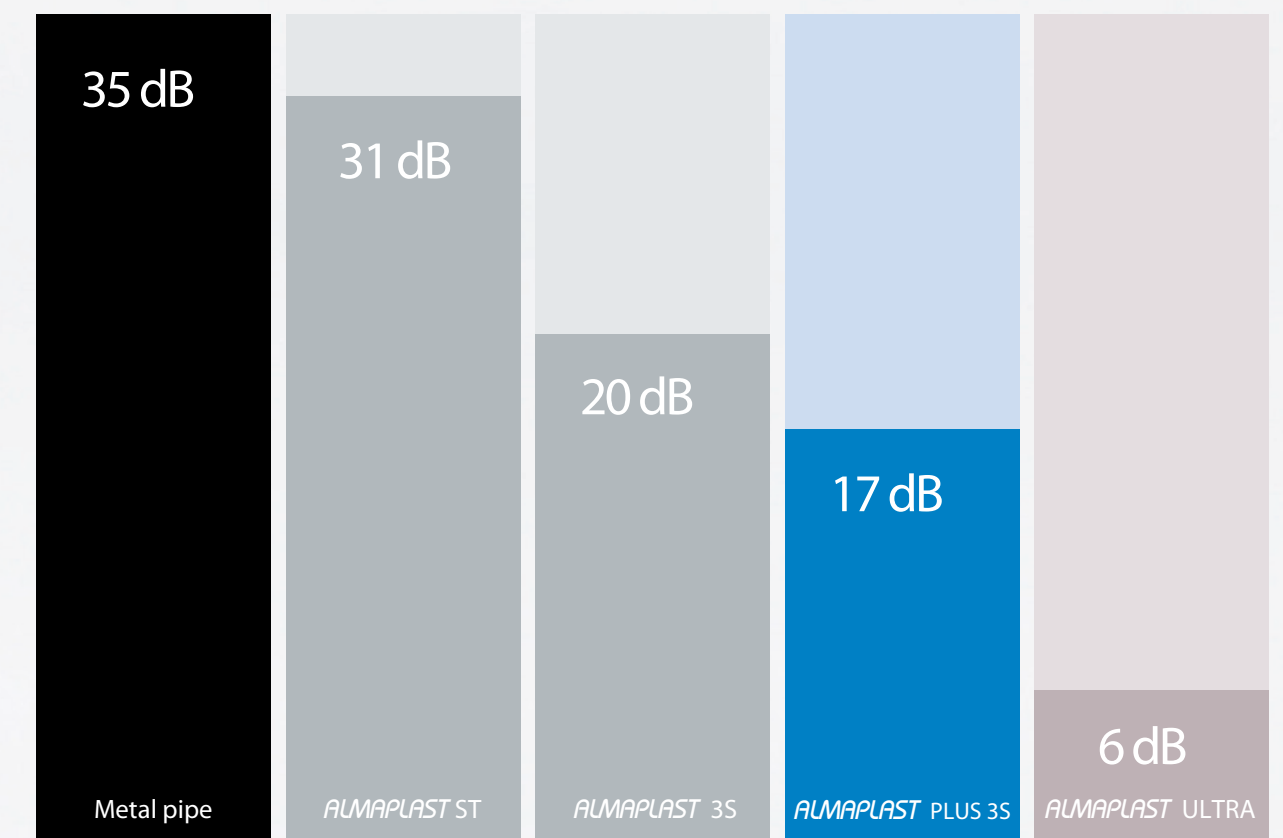
Noise protection in buildings is a very demanding task for architects and builders while planning and constructing. The flow of wastewater through the sewage systems is one of the possible sources of noise in buildings.

Soundproofing of house drainage installation systems has gained in importance due to the high demands of comfort living. The total noise can be significantly reduced by selecting the appropriate piping system. The types and the vibration of pipes depend on various factors such as the weight of pipes, the material and its internal insulation. Pipes produce air noise caused by vibration and vibration noise caused by fixation on installation wall.

Noise reduction is achieved by using:

1. Special materials in the manufacture process
2. Using special clamps with rubber clamp

Sound levels for different types of drainage pipes:



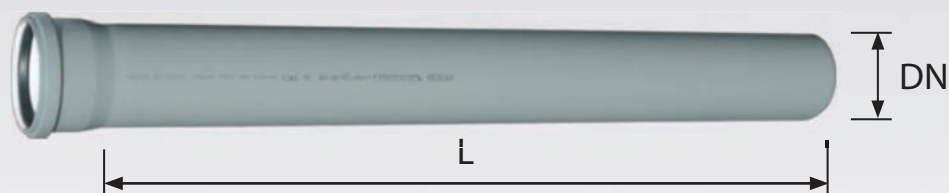
The table shows the noise level at a flow rate of 2 liters of water per second.

## PIPES

Art. 101 / 1

THREE LAYER PIPE WITH SOCKET with seal

PKEM



| DN | L<br>mm | s<br>mm | EAN             | □ | □   |
|----|---------|---------|-----------------|---|-----|
| 32 | 150     | 1,8     | 3 856015 905246 | - | 100 |
| 32 | 250     | 1,8     | 3 856015 905253 | - | 100 |
| 32 | 500     | 1,8     | 3 856015 905260 | - | 100 |
| 32 | 750     | 1,8     | 3 856015 905277 | - | 50  |
| 32 | 1000    | 1,8     | 3 856015 905284 | - | 50  |
| 32 | 1500    | 1,8     | 3 856015 905291 | - | 30  |
| 32 | 2000    | 1,8     | 3 856015 905307 | - | 30  |
| 32 | 3000    | 1,8     | 3 856015 905314 | - | 20  |
| 40 | 150     | 1,8     | 3 856015 905321 | - | 100 |
| 40 | 250     | 1,8     | 3 856015 905338 | - | 100 |
| 40 | 500     | 1,8     | 3 856015 905345 | - | 100 |
| 40 | 750     | 1,8     | 3 856015 905352 | - | 50  |
| 40 | 1000    | 1,8     | 3 856015 905369 | - | 50  |
| 40 | 1500    | 1,8     | 3 856015 905376 | - | 30  |
| 40 | 2000    | 1,8     | 3 856015 905383 | - | 30  |
| 40 | 3000    | 1,8     | 3 856015 905390 | - | 20  |
| 50 | 150     | 1,8     | 3 856015 905406 | - | 100 |
| 50 | 250     | 1,8     | 3 856015 905413 | - | 100 |
| 50 | 500     | 1,8     | 3 856015 905420 | - | 100 |
| 50 | 750     | 1,8     | 3 856015 905437 | - | 50  |
| 50 | 1000    | 1,8     | 3 856015 905444 | - | 50  |
| 50 | 1500    | 1,8     | 3 856015 905451 | - | 30  |
| 50 | 2000    | 1,8     | 3 856015 905468 | - | 30  |
| 50 | 3000    | 1,8     | 3 856015 905475 | - | 20  |
| 75 | 150     | 1,9     | 3 856015 903136 | - | 80  |
| 75 | 250     | 1,9     | 3 856015 902528 | - | 80  |
| 75 | 500     | 1,9     | 3 856015 902535 | - | 50  |
| 75 | 750     | 1,9     | 3 856015 903501 | - | 40  |
| 75 | 1000    | 1,9     | 3 856015 902542 | - | 40  |
| 75 | 1500    | 1,9     | 3 856015 903143 | - | 30  |
| 75 | 2000    | 1,9     | 3 856015 902559 | - | 30  |
| 75 | 3000    | 1,9     | 3 856015 902566 | - | 20  |

| DN  | L<br>mm | s<br>mm | EAN             | □ | □  |
|-----|---------|---------|-----------------|---|----|
| 90  | 150     | 2,2     | 3 856015 905666 | - | 20 |
| 90  | 250     | 2,2     | 3 856015 905673 | - | 20 |
| 90  | 500     | 2,2     | 3 856015 905680 | - | 25 |
| 90  | 750     | 2,2     | 3 856015 905697 | 9 | 81 |
| 90  | 1000    | 2,2     | 3 856015 905703 | 9 | 81 |
| 90  | 1500    | 2,2     | 3 856015 905710 | 9 | 81 |
| 90  | 2000    | 2,2     | 3 856015 905727 | 9 | 81 |
| 90  | 3000    | 2,2     | 3 856015 905734 | 9 | 81 |
| 110 | 150     | 2,7     | 3 856015 903150 | - | 20 |
| 110 | 250     | 2,7     | 3 856015 902573 | - | 20 |
| 110 | 500     | 2,7     | 3 856015 902580 | - | 25 |
| 110 | 750     | 2,7     | 3 856015 903518 | 9 | 81 |
| 110 | 1000    | 2,7     | 3 856015 902597 | 9 | 81 |
| 110 | 1500    | 2,7     | 3 856015 903068 | 9 | 81 |
| 110 | 2000    | 2,7     | 3 856015 902603 | 9 | 81 |
| 110 | 3000    | 2,7     | 3 856015 902610 | 9 | 81 |
| 110 | 4000    | 2,7     | 3 856015 902627 | 9 | 81 |
| 125 | 150     | 3,1     | 3 856015 903167 | - | 30 |
| 125 | 250     | 3,1     | 3 856015 902634 | - | 30 |
| 125 | 500     | 3,1     | 3 856015 902641 | - | 20 |
| 125 | 750     | 3,1     | 3 856015 903525 | 8 | 64 |
| 125 | 1000    | 3,1     | 3 856015 902658 | 8 | 64 |
| 125 | 1500    | 3,1     | 3 856015 903075 | 8 | 64 |
| 125 | 2000    | 3,1     | 3 856015 902665 | 8 | 64 |
| 125 | 3000    | 3,1     | 3 856015 902672 | 8 | 64 |
| 125 | 4000    | 3,1     | 3 856015 902689 | 8 | 64 |
| 160 | 150     | 3,9     | 3 856015 903174 | - | 10 |
| 160 | 250     | 3,9     | 3 856015 902696 | - | 10 |
| 160 | 500     | 3,9     | 3 856015 902702 | - | 9  |
| 160 | 750     | 3,9     | 3 856015 903532 | 6 | 36 |
| 160 | 1000    | 3,9     | 3 856015 902719 | 6 | 36 |
| 160 | 1500    | 3,9     | 3 856015 903181 | 6 | 36 |
| 160 | 2000    | 3,9     | 3 856015 902726 | 6 | 36 |
| 160 | 3000    | 3,9     | 3 856015 902733 | 6 | 36 |
| 160 | 4000    | 3,9     | 3 856015 902740 | 6 | 36 |

Art. 101 / 2

PKDM

THREE LAYER PIPE WITH DOUBLE SOCKET with seals



| DN | L<br>mm | s<br>mm | EAN             | ☐ | ☐   |
|----|---------|---------|-----------------|---|-----|
| 32 | 500     | 1,8     | 3 856015 905482 | - | 100 |
| 32 | 750     | 1,8     | 3 856015 905499 | - | 50  |
| 32 | 1000    | 1,8     | 3 856015 905505 | - | 50  |
| 32 | 1500    | 1,8     | 3 856015 905512 | - | 30  |
| 32 | 2000    | 1,8     | 3 856015 905529 | - | 30  |
| 32 | 3000    | 1,8     | 3 856015 905536 | - | 20  |
| 40 | 500     | 1,8     | 3 856015 905543 | - | 100 |
| 40 | 750     | 1,8     | 3 856015 905550 | - | 50  |
| 40 | 1000    | 1,8     | 3 856015 905567 | - | 50  |
| 40 | 1500    | 1,8     | 3 856015 905574 | - | 30  |
| 40 | 2000    | 1,8     | 3 856015 905581 | - | 30  |
| 40 | 3000    | 1,8     | 3 856015 905598 | - | 20  |
| 50 | 500     | 1,8     | 3 856015 905604 | - | 100 |
| 50 | 750     | 1,8     | 3 856015 905611 | - | 50  |
| 50 | 1000    | 1,8     | 3 856015 905628 | - | 50  |
| 50 | 1500    | 1,8     | 3 856015 905635 | - | 30  |
| 50 | 2000    | 1,8     | 3 856015 905642 | - | 30  |
| 50 | 3000    | 1,8     | 3 856015 905659 | - | 20  |
| 75 | 500     | 1,9     | 3 856015 902818 | - | 50  |
| 75 | 750     | 1,9     | 3 856015 903549 | - | 40  |
| 75 | 1000    | 1,9     | 3 856015 902825 | - | 40  |
| 75 | 1500    | 1,9     | 3 856015 903228 | - | 30  |
| 75 | 2000    | 1,9     | 3 856015 902832 | - | 30  |
| 75 | 3000    | 1,9     | 3 856015 902849 | - | 20  |
| 90 | 500     | 2,2     | 3 856015 905741 | - | 25  |
| 90 | 750     | 2,2     | 3 856015 905758 | 9 | 81  |
| 90 | 1000    | 2,2     | 3 856015 905765 | 9 | 81  |
| 90 | 1500    | 2,2     | 3 856015 905772 | 9 | 81  |
| 90 | 2000    | 2,2     | 3 856015 905789 | 9 | 81  |
| 90 | 3000    | 2,2     | 3 856015 905796 | 9 | 81  |

| DN  | L<br>mm | s<br>mm | EAN             | ☐ | ☐  |
|-----|---------|---------|-----------------|---|----|
| 110 | 500     | 2,7     | 3 856015 902863 | - | 25 |
| 110 | 750     | 2,7     | 3 856015 903556 | 9 | 81 |
| 110 | 1000    | 2,7     | 3 856015 902870 | 9 | 81 |
| 110 | 1500    | 2,7     | 3 856015 903235 | 9 | 81 |
| 110 | 2000    | 2,7     | 3 856015 902887 | 9 | 81 |
| 110 | 3000    | 2,7     | 3 856015 902894 | 9 | 81 |
| 110 | 4000    | 2,7     | 3 856015 902900 | 9 | 81 |
| 125 | 500     | 3,1     | 3 856015 902924 | - | 20 |
| 125 | 750     | 3,1     | 3 856015 903563 | 8 | 64 |
| 125 | 1000    | 3,1     | 3 856015 902931 | 8 | 64 |
| 125 | 1500    | 3,1     | 3 856015 903242 | 8 | 64 |
| 125 | 2000    | 3,1     | 3 856015 902948 | 8 | 64 |
| 125 | 3000    | 3,1     | 3 856015 902955 | 8 | 64 |
| 125 | 4000    | 3,1     | 3 856015 902962 | 8 | 64 |
| 160 | 500     | 3,9     | 3 856015 902986 | - | 9  |
| 160 | 750     | 3,9     | 3 856015 903570 | 6 | 36 |
| 160 | 1000    | 3,9     | 3 856015 902993 | 6 | 36 |
| 160 | 1500    | 3,9     | 3 856015 903259 | 6 | 36 |
| 160 | 2000    | 3,9     | 3 856015 903006 | 6 | 36 |
| 160 | 3000    | 3,9     | 3 856015 903013 | 6 | 36 |
| 160 | 4000    | 3,9     | 3 856015 903020 | 6 | 36 |

## PIPES

Art. 100 / 1

SINGLE LAYER PIPE WITH SOCKET with seal

HTEM



| DN | L<br>mm | s<br>mm | EAN             | □ | □   |
|----|---------|---------|-----------------|---|-----|
| 32 | 150     | 1,8     | 3 856015 903099 | - | 100 |
| 32 | 250     | 1,8     | 3 856015 900005 | - | 100 |
| 32 | 500     | 1,8     | 3 856015 900012 | - | 100 |
| 32 | 750     | 1,8     | 3 856015 903297 | - | 50  |
| 32 | 1000    | 1,8     | 3 856015 900029 | - | 50  |
| 32 | 1500    | 1,8     | 3 856015 903037 | - | 30  |
| 32 | 2000    | 1,8     | 3 856015 900036 | - | 30  |
| 32 | 3000    | 1,8     | 3 856015 900043 | - | 20  |
| 40 | 150     | 1,8     | 3 856015 903105 | - | 100 |
| 40 | 250     | 1,8     | 3 856015 900050 | - | 100 |
| 40 | 500     | 1,8     | 3 856015 900067 | - | 100 |
| 40 | 750     | 1,8     | 3 856015 903266 | - | 50  |
| 40 | 1000    | 1,8     | 3 856015 900074 | - | 50  |
| 40 | 1500    | 1,8     | 3 856015 903129 | - | 30  |
| 40 | 2000    | 1,8     | 3 856015 900081 | - | 30  |
| 40 | 3000    | 1,8     | 3 856015 900098 | - | 20  |
| 50 | 150     | 1,8     | 3 856015 903112 | - | 100 |
| 50 | 250     | 1,8     | 3 856015 900104 | - | 100 |
| 50 | 500     | 1,8     | 3 856015 900111 | - | 100 |
| 50 | 750     | 1,8     | 3 856015 903273 | - | 50  |
| 50 | 1000    | 1,8     | 3 856015 900128 | - | 50  |
| 50 | 1500    | 1,8     | 3 856015 903044 | - | 30  |
| 50 | 2000    | 1,8     | 3 856015 900135 | - | 30  |
| 50 | 3000    | 1,8     | 3 856015 900142 | - | 20  |
| 75 | 150     | 1,9     | 3 856015 903303 | - | 80  |
| 75 | 250     | 1,9     | 3 856015 900159 | - | 80  |
| 75 | 500     | 1,9     | 3 856015 900166 | - | 50  |
| 75 | 750     | 1,9     | 3 856015 903310 | - | 40  |
| 75 | 1000    | 1,9     | 3 856015 900173 | - | 40  |
| 75 | 1500    | 1,9     | 3 856015 903051 | - | 30  |
| 75 | 2000    | 1,9     | 3 856015 900180 | - | 30  |
| 75 | 3000    | 1,9     | 3 856015 900197 | - | 20  |

| DN  | L<br>mm | s<br>mm | EAN             | □ | □  |
|-----|---------|---------|-----------------|---|----|
| 90  | 150     | 2,2     | 3 856015 905802 | - | 20 |
| 90  | 250     | 2,2     | 3 856015 905819 | - | 20 |
| 90  | 500     | 2,2     | 3 856015 905826 | - | 25 |
| 90  | 750     | 2,2     | 3 856015 905833 | 9 | 81 |
| 90  | 1000    | 2,2     | 3 856015 905840 | 9 | 81 |
| 90  | 1500    | 2,2     | 3 856015 905857 | 9 | 81 |
| 90  | 2000    | 2,2     | 3 856015 905864 | 9 | 81 |
| 90  | 3000    | 2,2     | 3 856015 905871 | 9 | 81 |
| 110 | 150     | 2,7     | 3 856015 903327 | - | 20 |
| 110 | 250     | 2,7     | 3 856015 900203 | - | 20 |
| 110 | 500     | 2,7     | 3 856015 900210 | - | 25 |
| 110 | 750     | 2,7     | 3 856015 903280 | 9 | 81 |
| 110 | 1000    | 2,7     | 3 856015 900227 | 9 | 81 |
| 110 | 1500    | 2,7     | 3 856015 903082 | 9 | 81 |
| 110 | 2000    | 2,7     | 3 856015 900234 | 9 | 81 |
| 110 | 3000    | 2,7     | 3 856015 900241 | 9 | 81 |
| 110 | 4000    | 2,7     | 3 856015 900258 | 9 | 81 |
| 125 | 150     | 3,1     | 3 856015 903334 | - | 30 |
| 125 | 250     | 3,1     | 3 856015 900265 | - | 30 |
| 125 | 500     | 3,1     | 3 856015 900272 | - | 20 |
| 125 | 750     | 3,1     | 3 856015 903341 | 8 | 64 |
| 125 | 1000    | 3,1     | 3 856015 900289 | 8 | 64 |
| 125 | 1500    | 3,1     | 3 856015 903358 | 8 | 64 |
| 125 | 2000    | 3,1     | 3 856015 900296 | 8 | 64 |
| 125 | 3000    | 3,1     | 3 856015 900302 | 8 | 64 |
| 125 | 4000    | 3,1     | 3 856015 900319 | 8 | 64 |
| 160 | 150     | 3,9     | 3 856015 903365 | - | 10 |
| 160 | 250     | 3,9     | 3 856015 900326 | - | 10 |
| 160 | 500     | 3,9     | 3 856015 900333 | - | 9  |
| 160 | 750     | 3,9     | 3 856015 903372 | 6 | 36 |
| 160 | 1000    | 3,9     | 3 856015 900340 | 6 | 36 |
| 160 | 1500    | 3,9     | 3 856015 903389 | 6 | 36 |
| 160 | 2000    | 3,9     | 3 856015 900357 | 6 | 36 |
| 160 | 3000    | 3,9     | 3 856015 900364 | 6 | 36 |
| 160 | 4000    | 3,9     | 3 856015 900371 | 6 | 36 |

Art. 100 / 2

SINGLE LAYER PIPE WITH DOUBLE SOCKET with seals

HTDM



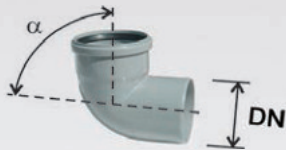
| D  | L<br>mm | s<br>mm | EAN             | □ | □   |
|----|---------|---------|-----------------|---|-----|
| 32 | 500     | 1,8     | 3 856015 900395 | - | 100 |
| 32 | 750     | 1,8     | 3 856015 903396 | - | 50  |
| 32 | 1000    | 1,8     | 3 856015 900401 | - | 50  |
| 32 | 1500    | 1,8     | 3 856015 903198 | - | 30  |
| 32 | 2000    | 1,8     | 3 856015 900418 | - | 30  |
| 32 | 3000    | 1,8     | 3 856015 900425 | - | 20  |
| 40 | 500     | 1,8     | 3 856015 900449 | - | 100 |
| 40 | 750     | 1,8     | 3 856015 903402 | - | 50  |
| 40 | 1000    | 1,8     | 3 856015 900456 | - | 50  |
| 40 | 1500    | 1,8     | 3 856015 903204 | - | 30  |
| 40 | 2000    | 1,8     | 3 856015 900463 | - | 30  |
| 40 | 3000    | 1,8     | 3 856015 900470 | - | 20  |
| 50 | 500     | 1,8     | 3 856015 900494 | - | 100 |
| 50 | 750     | 1,8     | 3 856015 903419 | - | 50  |
| 50 | 1000    | 1,8     | 3 856015 900500 | - | 50  |
| 50 | 1500    | 1,8     | 3 856015 903211 | - | 30  |
| 50 | 2000    | 1,8     | 3 856015 900517 | - | 30  |
| 50 | 3000    | 1,8     | 3 856015 900524 | - | 20  |
| 75 | 500     | 1,9     | 3 856015 900548 | - | 50  |
| 75 | 750     | 1,9     | 3 856015 903426 | - | 40  |
| 75 | 1000    | 1,9     | 3 856015 900555 | - | 40  |
| 75 | 1500    | 1,9     | 3 856015 903433 | - | 30  |
| 75 | 2000    | 1,9     | 3 856015 900562 | - | 30  |
| 75 | 3000    | 1,9     | 3 856015 900579 | - | 20  |
| 90 | 500     | 2,2     | 3 856015 905888 | - | 25  |
| 90 | 750     | 2,2     | 3 856015 905895 | 9 | 81  |
| 90 | 1000    | 2,2     | 3 856015 905901 | 9 | 81  |
| 90 | 1500    | 2,2     | 3 856015 905918 | 9 | 81  |
| 90 | 2000    | 2,2     | 3 856015 905925 | 9 | 81  |
| 90 | 3000    | 2,2     | 3 856015 905932 | 9 | 81  |

| D   | L<br>mm | s<br>mm | EAN             | □ | □  |
|-----|---------|---------|-----------------|---|----|
| 110 | 500     | 2,7     | 3 856015 900593 | - | 25 |
| 110 | 750     | 2,7     | 3 856015 903440 | 9 | 81 |
| 110 | 1000    | 2,7     | 3 856015 900609 | 9 | 81 |
| 110 | 1500    | 2,7     | 3 856015 903457 | 9 | 81 |
| 110 | 2000    | 2,7     | 3 856015 900616 | 9 | 81 |
| 110 | 3000    | 2,7     | 3 856015 900623 | 9 | 81 |
| 125 | 500     | 3,1     | 3 856015 900654 | - | 20 |
| 125 | 750     | 3,1     | 3 856015 903464 | 8 | 64 |
| 125 | 1000    | 3,1     | 3 856015 900661 | 8 | 64 |
| 125 | 1500    | 3,1     | 3 856015 903471 | 8 | 64 |
| 125 | 2000    | 3,1     | 3 856015 900678 | 8 | 64 |
| 125 | 3000    | 3,1     | 3 856015 900685 | 8 | 64 |
| 160 | 500     | 3,9     | 3 856015 900715 | - | 9  |
| 160 | 750     | 3,9     | 3 856015 903488 | 6 | 36 |
| 160 | 1000    | 3,9     | 3 856015 900722 | 6 | 36 |
| 160 | 1500    | 3,9     | 3 856015 903495 | 6 | 36 |
| 160 | 2000    | 3,9     | 3 856015 900739 | 6 | 36 |
| 160 | 3000    | 3,9     | 3 856015 900746 | 6 | 36 |
| 160 | 4000    | 3,9     | 3 856015 900753 | 6 | 36 |

## FITTINGS

Art. 105  
BEND with seal

HTB



| DN  | ?   | EAN             | ☐  | ☐   |
|-----|-----|-----------------|----|-----|
| 32  | 45° | 3 856015 900760 | -  | 100 |
| 32  | 87° | 3 856015 900777 | -  | 100 |
| 40  | 15° | 3 856015 900784 | 50 | 150 |
| 40  | 30° | 3 856015 900791 | 50 | 150 |
| 40  | 45° | 3 856015 900807 | -  | 100 |
| 40  | 67° | 3 856015 900814 | 50 | 150 |
| 40  | 87° | 3 856015 900821 | -  | 100 |
| 50  | 15° | 3 856015 900838 | -  | 50  |
| 50  | 30° | 3 856015 900845 | -  | 50  |
| 50  | 45° | 3 856015 900852 | -  | 100 |
| 50  | 67° | 3 856015 900869 | -  | 50  |
| 50  | 87° | 3 856015 900876 | -  | 100 |
| 75  | 45° | 3 856015 900883 | -  | 40  |
| 75  | 87° | 3 856015 900890 | -  | 40  |
| 110 | 15° | 3 856015 900906 | -  | 35  |
| 110 | 30° | 3 856015 900913 | -  | 30  |
| 110 | 45° | 3 856015 900920 | -  | 30  |
| 110 | 67° | 3 856015 900937 | -  | 25  |
| 110 | 87° | 3 856015 900944 | -  | 25  |
| 125 | 45° | 3 856015 900999 | -  | 25  |
| 125 | 87° | 3 856015 901002 | -  | 20  |
| 160 | 45° | 3 856015 901019 | -  | 10  |
| 160 | 87° | 3 856015 901026 | -  | 9   |

Art. 107  
BRANCH with seals

HTEA



| DN  | DN1 | ?   | EAN             | ☐  | ☐   |
|-----|-----|-----|-----------------|----|-----|
| 32  | 32  | 45° | 3 856015 901033 | 40 | 120 |
| 32  | 32  | 87° | 3 856015 901040 | 40 | 120 |
| 40  | 40  | 45° | 3 856015 901057 | -  | 70  |
| 40  | 40  | 87° | 3 856015 901064 | 35 | 70  |
| 50  | 50  | 45° | 3 856015 901071 | -  | 50  |
| 50  | 50  | 87° | 3 856015 901088 | -  | 50  |
| 75  | 75  | 45° | 3 856015 901095 | -  | 30  |
| 75  | 75  | 87° | 3 856015 901101 | -  | 35  |
| 110 | 110 | 45° | 3 856015 901118 | -  | 15  |
| 110 | 110 | 87° | 3 856015 901125 | -  | 20  |
| 125 | 125 | 45° | 3 856015 901132 | -  | 9   |
| 125 | 125 | 87° | 3 856015 901149 | -  | 10  |
| 160 | 160 | 45° | 3 856015 901156 | -  | 5   |
| 160 | 160 | 87° | 3 856015 901163 | -  | 5   |

Art. 109  
REDUCED BRANCH with seals

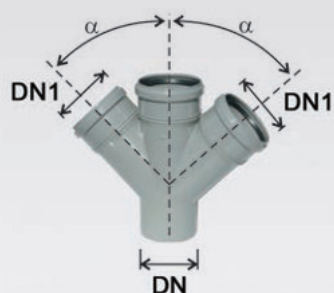
HTEA



| DN  | DN1 | ?   | EAN             | ☐  | ☐  |
|-----|-----|-----|-----------------|----|----|
| 50  | 40  | 45° | 3 856015 901170 | 25 | 50 |
| 50  | 40  | 87° | 3 856015 901187 | -  | 20 |
| 75  | 50  | 45° | 3 856015 901194 | -  | 15 |
| 75  | 50  | 87° | 3 856015 901200 | 25 | 50 |
| 110 | 50  | 45° | 3 856015 901217 | -  | 25 |
| 110 | 50  | 87° | 3 856015 901224 | -  | 25 |
| 110 | 75  | 45° | 3 856015 901231 | -  | 15 |
| 110 | 75  | 87° | 3 856015 901248 | -  | 20 |
| 125 | 110 | 45° | 3 856015 901255 | -  | 10 |
| 125 | 110 | 87° | 3 856015 901262 | -  | 12 |
| 160 | 110 | 45° | 3 856015 901279 | -  | 7  |
| 160 | 110 | 87° | 3 856015 901286 | -  | 8  |
| 160 | 125 | 45° | 3 856015 901293 | -  | 5  |
| 160 | 125 | 87° | 3 856015 901309 | -  | 5  |

Art. 112  
DOUBLE BRANCH with seals

HTDA



| DN  | DN1 | ?   | EAN             | ☐  | □  |
|-----|-----|-----|-----------------|----|----|
| 50  | 50  | 45° | 3 856015 901316 | 10 | 30 |
| 50  | 50  | 87° | 3 856015 901323 | 10 | 40 |
| 75  | 75  | 45° | 3 856015 901330 | 10 | 30 |
| 75  | 75  | 87° | 3 856015 901347 | 10 | 30 |
| 110 | 50  | 45° | 3 856015 901354 | -  | 10 |
| 110 | 50  | 87° | 3 856015 901361 | 10 | 20 |
| 110 | 110 | 45° | 3 856015 901378 | 4  | 8  |
| 110 | 110 | 87° | 3 856015 901385 | 5  | 10 |

Art. 115  
ECCENTRIC REDUCER with seal

HTR



| TYPE | DN  | DN1 | EAN             | ☐  | □   |
|------|-----|-----|-----------------|----|-----|
| A    | 32  | 40  | 3 856015 901392 | 50 | 250 |
| A    | 32  | 50  | 3 856015 901408 | -  | 100 |
| A    | 40  | 50  | 3 856015 901415 | -  | 50  |
| B    | 50  | 75  | 3 856015 900951 | -  | 40  |
| B    | 50  | 110 | 3 856015 900968 | -  | 50  |
| B    | 75  | 110 | 3 856015 900975 | -  | 25  |
| A    | 110 | 125 | 3 856015 900982 | -  | 30  |
| B    | 110 | 160 | 3 856015 901422 | -  | 15  |
| B    | 125 | 160 | 3 856015 901439 | 15 | 30  |

Art. 118  
ACCESS PIPE WITH SOCKET with seal

HTRE



| DN  | EAN             | ☐  | □  |
|-----|-----------------|----|----|
| 50  | 3 856015 901446 | -  | 40 |
| 75  | 3 856015 901453 | 15 | 45 |
| 110 | 3 856015 901460 | -  | 20 |
| 125 | 3 856015 901477 | 5  | 15 |
| 160 | 3 856015 901484 | 4  | 8  |

Art. 121  
SLIP COUPLER with seals

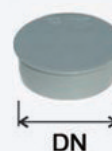
HTU



| DN  | EAN             | ☐  | □   |
|-----|-----------------|----|-----|
| 32  | 3 856015 901491 | 50 | 300 |
| 40  | 3 856015 901507 | 50 | 150 |
| 50  | 3 856015 901514 | -  | 40  |
| 75  | 3 856015 901521 | 20 | 40  |
| 110 | 3 856015 901538 | -  | 35  |
| 125 | 3 856015 901545 | 5  | 25  |
| 160 | 3 856015 901552 | 5  | 15  |

Art. 125  
CAP

HTM



| DN  | EAN             | ☐ | □   |
|-----|-----------------|---|-----|
| 32  | 3 856015 901569 | - | 50  |
| 40  | 3 856015 901576 | - | 50  |
| 50  | 3 856015 901583 | - | 100 |
| 75  | 3 856015 901590 | - | 50  |
| 110 | 3 856015 901606 | - | 80  |
| 125 | 3 856015 901613 | - | 25  |
| 160 | 3 856015 901620 | - | 20  |

## FITTINGS

## Art. 130

NON-RETURN VALVE WITH HANDLE PVC with seal

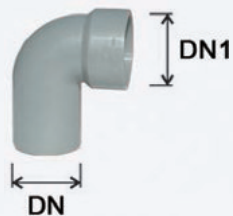


| DN  | EAN             |   |   |
|-----|-----------------|---|---|
| 110 | 3 856015 902085 | - | 1 |
| 125 | 3 856015 902092 | - | 1 |
| 160 | 3 856015 902108 | - | 1 |
| 200 | 3 856015 902115 | - | 1 |

## Art. 133

SPIGOT BEND SHORT shortwithout gasket

HTSW



| DN | DN1 | EAN             |    |     |
|----|-----|-----------------|----|-----|
| 40 | 53  | 3 856015 901637 | 75 | 150 |
| 50 | 53  | 3 856015 901644 | -  | 100 |

## Art. 135

DOUBLE CONNECTOR FOR TRAPSshort with gaskets

HTSDW



| DN | DN1 | DN2   | EAN             |   |    |
|----|-----|-------|-----------------|---|----|
| 50 | 53  | 24-32 | 3 856015 901651 | 5 | 20 |
| 50 | 53  | 36-40 | 3 856015 901668 | 5 | 20 |

## Art. 137

STRAIGHT FITTING with gasket

HTS



| DN | DN1 | DN2   | EAN             |   |    |
|----|-----|-------|-----------------|---|----|
| 50 | 53  | 24-32 | 3 856015 901675 | 5 | 20 |
| 50 | 53  | 36-40 | 3 856015 901682 | 5 | 20 |

## Art. 140

FLOOR LEVEL WC PAN TRAP HORIZONTAL OUTLET with gasket



| DN  | EAN             |   |   |
|-----|-----------------|---|---|
| 110 | 3 856015 902122 | - | 5 |

## Art. 143

WC COUPLING with gasket

HTSK

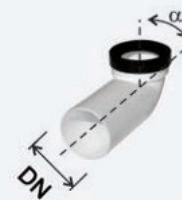


| DN  | L mm | EAN             |   |    |
|-----|------|-----------------|---|----|
| 110 | 120  | 3 856015 901699 | - | 30 |
| 110 | 400  | 3 856015 902146 | 2 | 20 |

## Art. 146

WC WHITE BEND, SHORT with gasket

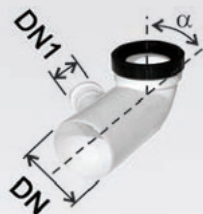
HTSB



| DN  | ?   | EAN             |   |    |
|-----|-----|-----------------|---|----|
| 110 | 45° | 3 856015 902153 | 4 | 20 |
| 110 | 22° | 3 856015 902160 | 4 | 20 |
| 110 | 87° | 3 856015 902177 | 4 | 20 |

Art. 146 / 1  
WC WHITE BEND, SHORT  
right side socket with gasket and seal

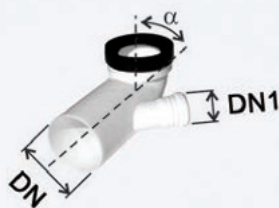
HTSB



| DN  | DN1 | ?   | EAN             |   |    |
|-----|-----|-----|-----------------|---|----|
| 110 | 50  | 87° | 3 856015 902184 | 3 | 15 |

Art. 146 / 2  
WC WHITE BEND, SHORT  
left side socket with gasket and seal

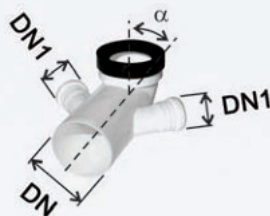
HTSB



| DN  | DN1 | ?   | EAN             |   |    |
|-----|-----|-----|-----------------|---|----|
| 110 | 50  | 87° | 3 856015 902191 | 3 | 15 |

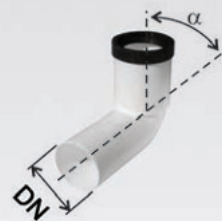
Art. 146 / 3  
WC WHITE BEND, SHORT  
double socket with gasket and seal

HTSB



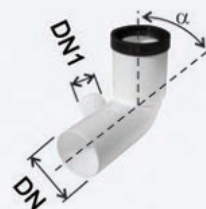
| DN  | DN1 | ?   | EAN             |   |    |
|-----|-----|-----|-----------------|---|----|
| 110 | 50  | 87° | 3 856015 902207 | 2 | 10 |

Art. 147  
WC WHITE BEND, TALL with gasket



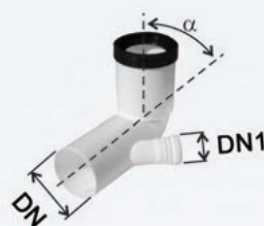
| DN  | ?   | EAN             |   |    |
|-----|-----|-----------------|---|----|
| 110 | 87° | 3 856015 902214 | 3 | 15 |

Art. 147 / 1  
WC WHITE BEND, TALL  
right side socket with gasket and seal



| DN  | DN1 | ?   | EAN             |   |    |
|-----|-----|-----|-----------------|---|----|
| 110 | 50  | 87° | 3 856015 902221 | 2 | 10 |

Art. 147 / 2  
WC WHITE BEND, TALL  
left side socket with gasket and seal



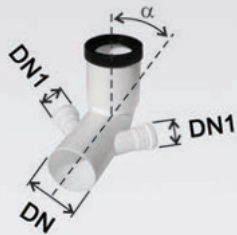
| DN  | DN1 | ?   | EAN             |   |    |
|-----|-----|-----|-----------------|---|----|
| 110 | 50  | 87° | 3 856015 902238 | 2 | 10 |

## FITTINGS

Art. 147 / 3

WC WHITE BEND, TALL

double socket with gasket and seal



| DN  | DN1 | ?   | EAN             |   |    |
|-----|-----|-----|-----------------|---|----|
| 110 | 50  | 87° | 3 856015 902245 | 2 | 10 |

Art. 152 / 4

BEND WITH DOUBLE SOCKET with seals

HTB

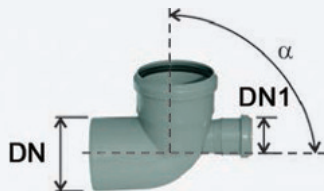


| DN  | DN1 | ?   | EAN             |   |   |
|-----|-----|-----|-----------------|---|---|
| 110 | 50  | 87° | 3 856015 901736 | - | 4 |

Art. 152 / 1

BEND WITH FRONT ATTACHMENT with seals

HTB



| DN  | DN1 | ?   | EAN             |   |   |
|-----|-----|-----|-----------------|---|---|
| 110 | 50  | 87° | 3 856015 901705 | - | 4 |

Art. 155

ADAPTER TO PP/PVC

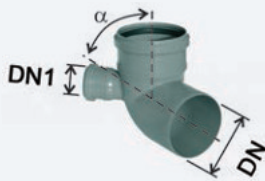


| DN  | DN1 | L mm | EAN             |   |    |
|-----|-----|------|-----------------|---|----|
| 110 | 100 | 265  | 3 856015 902306 | 4 | 20 |

Art. 152 / 2

BEND WITH RIGHT SIDE SOCKET with seals

HTB



| DN  | DN1 | ?   | EAN             |   |   |
|-----|-----|-----|-----------------|---|---|
| 110 | 50  | 87° | 3 856015 901712 | - | 4 |

Art. 158

GREY VENT

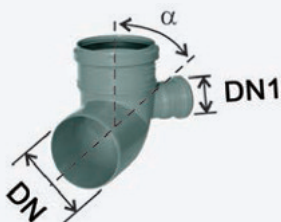


| DN  | EAN             |    |    |
|-----|-----------------|----|----|
| 50  | 3 856015 901743 | 10 | 40 |
| 75  | 3 856015 901750 | 5  | 35 |
| 110 | 3 856015 901767 | 5  | 15 |

Art. 152 / 3

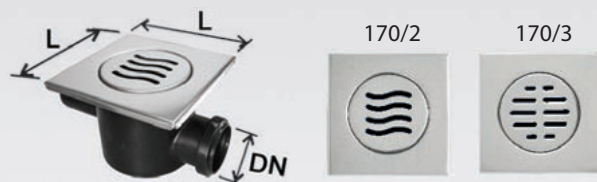
BEND WITH LEFT SIDE SOCKET with seals

HTB



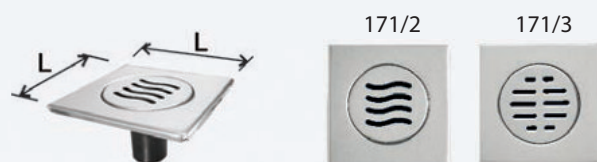
| DN  | DN1 | ?   | EAN             |   |   |
|-----|-----|-----|-----------------|---|---|
| 110 | 50  | 87° | 3 856015 901729 | - | 4 |

Art. 170  
FLOOR TRAP 2/1 – HORIZONTAL  
with stainless steel grid and sleeve



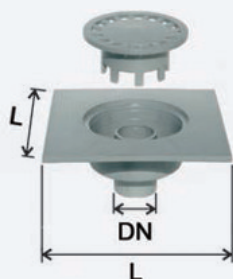
| Dimension |      | EAN |   |    |
|-----------|------|-----|---|----|
| DN        | L mm |     |   |    |
| 50        | 150  | -   | 1 | 20 |

Art. 171  
GRIDDED CAP STAINLESS STEEL TRAP GRID



| Dimension | EAN |  |  |
|-----------|-----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| L mm      |     |                                                                                   |                                                                                   |
| 150       | -   | 5                                                                                 | 50                                                                                |

Art. 175  
SYPHON-TYPE FLOOR DRAIN VERTICAL  
with outer socket



| Dimension |      | EAN             |   |    |
|-----------|------|-----------------|---|----|
| DN        | L mm |                 |   |    |
| 40        | 100  | 3 856015 901811 | - | 12 |
| 50        | 100  | 3 856015 901828 | - | 12 |
| 50        | 150  | 3 856015 901835 | - | 12 |
| 50        | 200  | 3 856015 901842 | - | 12 |
| 75        | 200  | 3 856015 901859 | - | 8  |
| 75        | 250  | 3 856015 901866 | - | 6  |
| 75        | 300  | 3 856015 901873 | - | 6  |
| 110       | 200  | 3 856015 901880 | - | 8  |
| 110       | 250  | 3 856015 901897 | - | 6  |
| 110       | 300  | 3 856015 901903 | - | 6  |

Art. 180  
SEAL LABIRINT "VARGOKAL ST"  
for pipes and fittings

BL



| DN  | EAN             |   |     |
|-----|-----------------|---|-----|
| 32  | 3 856015 901910 | - | 100 |
| 40  | 3 856015 901927 | - | 100 |
| 50  | 3 856015 901934 | - | 100 |
| 75  | 3 856015 901941 | - | 100 |
| 90  | 3 856015 907011 | - | 50  |
| 110 | 3 856015 901958 | - | 50  |
| 125 | 3 856015 901965 | - | 50  |
| 160 | 3 856015 901972 | - | 50  |

Art. 180 / 1  
SEAL LABIRINT "VARGOKAL PLUS"  
for pipes and fittings

BL



| DN  | EAN             |   |     |
|-----|-----------------|---|-----|
| 32  | 3 856015 906533 | - | 100 |
| 40  | 3 856015 906540 | - | 100 |
| 50  | 3 856015 906557 | - | 100 |
| 75  | 3 856015 906564 | - | 100 |
| 90  | 3 856015 907080 | - | 50  |
| 110 | 3 856015 906571 | - | 50  |
| 125 | 3 856015 906588 | - | 50  |
| 160 | 3 856015 906595 | - | 50  |

Art. 181  
RING SEAL  
(for Art. 133)



| DN1 | DN2     | EAN             |   |    |
|-----|---------|-----------------|---|----|
| 53  | 24 - 32 | 3 856015 901989 | 1 | 60 |
| 53  | 36 - 40 | 3 856015 901996 | 1 | 60 |

## Art. 183 / 1

RUBBER GASKET FOR WC DRAIN CONNECTION  
ECCENTRIC

| DN       | DN1 | EAN             |    |    |
|----------|-----|-----------------|----|----|
| 90 - 105 | 110 | 3 856015 902313 | 12 | 36 |

## Art. 183 / 2

RUBBER GASKET FOR WC DRAIN CONNECTION  
STRAIGHT

| DN       | DN1 | EAN             |    |    |
|----------|-----|-----------------|----|----|
| 90 - 105 | 110 | 3 856015 902320 | 20 | 40 |

## Art. 183 / 3

RUBBER GASKET FOR WC DRAIN CONNECTION  
ECCENTRIC hard

| DN       | DN1 | EAN             |   |    |
|----------|-----|-----------------|---|----|
| 90 - 105 | 110 | 3 856015 902337 | 3 | 15 |

## Art. 183 / 4

RUBBER GASKET FOR WC DRAIN CONNECTION  
ECCENTRIC hard rotating

| DN       | DN1 | EAN             |   |    |
|----------|-----|-----------------|---|----|
| 90 - 105 | 110 | 3 856015 902344 | 5 | 45 |

## Art. 190

LUBRICANT  
for pipes and fittings

| Volume | EAN             |   |    |
|--------|-----------------|---|----|
| 250 ml | 3 856015 902016 | 5 | 50 |

## Art. 191

WHITE PP LOCK-SHIELD FLEXIBLE



| for Art. | EAN             |   |    |
|----------|-----------------|---|----|
| 192, 193 | 3 856015 902023 | 5 | 10 |

## Art. 192

FLEXIBLE PIPE FOR DRAIN CONNECTION BALTİK



| DN | DN1 | L mm      | EAN             |   |    |
|----|-----|-----------|-----------------|---|----|
| 90 | 105 | 250 - 510 | 3 856015 902269 | 5 | 20 |
| 90 | 105 | 250 - 625 | 3 856015 902276 | 4 | 16 |

## Art. 193

FLEXIBLE COUPLING FOR DRAIN CONNECTION  
BALTİK

| DN | DN1 | L mm | EAN             |   |    |
|----|-----|------|-----------------|---|----|
| 90 | 105 | 400  | 3 856015 902283 | 5 | 15 |
| 90 | 105 | 540  | 3 856015 902290 | 5 | 15 |

## Art. 199 / 1

TWO-PART STEEL PIPE CUP ZN  
with rubber and nut M8



| DN  | Ø           | EAN             | ☐  | ☐   |
|-----|-------------|-----------------|----|-----|
| 32  | (32 - 35)   | 3 856015 902351 | 10 | 100 |
| 40  | (40 - 43)   | 3 856015 902368 | 10 | 100 |
| 50  | (50 - 55)   | 3 856015 902375 | 10 | 50  |
| 75  | (74 - 80)   | 3 856015 902382 | 10 | 50  |
| 110 | (108 - 114) | 3 856015 902399 | 10 | 50  |
| 125 | (125)       | 3 856015 902405 | 10 | 30  |
| 160 | (159)       | 3 856015 902412 | 3  | 30  |

## Art. 199 / 2

SCREW RB-16 ZN with plug



| Dimension | EAN             | ☐  | ☐   |
|-----------|-----------------|----|-----|
| M8 x 80   | 3 856015 912992 | 10 | 250 |
| M8 x 100  | 3 856015 913005 | 10 | 200 |
| M8 x 120  | 3 856015 913012 | 10 | 150 |

Art. 102 / 1

PKEM

LOW NOISE THREE LAYER PIPE WITH SOCKET with seal



| DN | L<br>mm | s<br>mm | EAN             | ☐ | ☐   |
|----|---------|---------|-----------------|---|-----|
| 40 | 150     | 1,8     | 3 856015 906601 | 1 | 100 |
| 40 | 250     | 1,8     | 3 856015 906618 | 1 | 100 |
| 40 | 500     | 1,8     | 3 856015 906625 | 1 | 100 |
| 40 | 1000    | 1,8     | 3 856015 906632 | 1 | 50  |
| 40 | 1500    | 1,8     | 3 856015 906649 | 1 | 30  |
| 40 | 2000    | 1,8     | 3 856015 906656 | 1 | 30  |
| 40 | 3000    | 1,8     | 3 856015 906663 | 1 | 20  |
| 50 | 150     | 1,8     | 3 856015 904850 | 1 | 100 |
| 50 | 250     | 1,8     | 3 856015 904126 | 1 | 100 |
| 50 | 500     | 1,8     | 3 856015 904133 | 1 | 100 |
| 50 | 1000    | 1,8     | 3 856015 904140 | 1 | 50  |
| 50 | 1500    | 1,8     | 3 856015 904867 | 1 | 30  |
| 50 | 2000    | 1,8     | 3 856015 904157 | 1 | 30  |
| 50 | 3000    | 1,8     | 3 856015 904164 | 1 | 20  |
| 75 | 150     | 2,6     | 3 856015 903587 | 1 | 80  |
| 75 | 250     | 2,6     | 3 856015 903594 | 1 | 80  |
| 75 | 500     | 2,6     | 3 856015 903600 | 1 | 50  |
| 75 | 1000    | 2,6     | 3 856015 903624 | 1 | 40  |
| 75 | 1500    | 2,6     | 3 856015 903631 | 1 | 30  |
| 75 | 2000    | 2,6     | 3 856015 903648 | 1 | 30  |
| 75 | 3000    | 2,6     | 3 856015 903655 | 1 | 20  |
| 90 | 150     | 3,1     | 3 856015 905949 | 1 | 20  |
| 90 | 250     | 3,1     | 3 856015 905956 | 1 | 20  |
| 90 | 500     | 3,1     | 3 856015 905963 | 1 | 25  |
| 90 | 1000    | 3,1     | 3 856015 905970 | 1 | 96  |
| 90 | 1500    | 3,1     | 3 856015 905987 | 1 | 96  |
| 90 | 2000    | 3,1     | 3 856015 905994 | 1 | 96  |
| 90 | 3000    | 3,1     | 3 856015 906007 | 1 | 96  |

| DN  | L<br>mm | s<br>mm | EAN             | ☐ | ☐  |
|-----|---------|---------|-----------------|---|----|
| 110 | 150     | 3,6     | 3 856015 903662 | 1 | 20 |
| 110 | 250     | 3,6     | 3 856015 903679 | 1 | 20 |
| 110 | 500     | 3,6     | 3 856015 903686 | 1 | 25 |
| 110 | 1000    | 3,6     | 3 856015 903709 | 1 | 81 |
| 110 | 1500    | 3,6     | 3 856015 903716 | 1 | 81 |
| 110 | 2000    | 3,6     | 3 856015 903723 | 1 | 81 |
| 110 | 3000    | 3,6     | 3 856015 903730 | 1 | 81 |
| 125 | 150     | 3,9     | 3 856015 903754 | 1 | 30 |
| 125 | 250     | 3,9     | 3 856015 903761 | 1 | 30 |
| 125 | 500     | 3,9     | 3 856015 903778 | 1 | 20 |
| 125 | 1000    | 3,9     | 3 856015 903792 | 1 | 64 |
| 125 | 1500    | 3,9     | 3 856015 903808 | 1 | 64 |
| 125 | 2000    | 3,9     | 3 856015 903815 | 1 | 64 |
| 125 | 3000    | 3,9     | 3 856015 903822 | 1 | 64 |
| 160 | 150     | 4,9     | 3 856015 903846 | 1 | 10 |
| 160 | 250     | 4,9     | 3 856015 903853 | 1 | 10 |
| 160 | 500     | 4,9     | 3 856015 903860 | 1 | 9  |
| 160 | 1000    | 4,9     | 3 856015 903884 | 1 | 36 |
| 160 | 1500    | 4,9     | 3 856015 903891 | 1 | 36 |
| 160 | 2000    | 4,9     | 3 856015 903907 | 1 | 36 |
| 160 | 3000    | 4,9     | 3 856015 903914 | 1 | 36 |

Art. 102 / 2

PKDM

LOW NOISE THREE LAYER PIPE WITH DOUBLE SOCKET with seals



| DN | L<br>mm | s<br>mm | EAN             | ☐ | ☐   |
|----|---------|---------|-----------------|---|-----|
| 40 | 500     | 1,8     | 3 856015 906670 | 1 | 100 |
| 40 | 1000    | 1,8     | 3 856015 906687 | 1 | 50  |
| 40 | 1500    | 1,8     | 3 856015 906694 | 1 | 30  |
| 40 | 2000    | 1,8     | 3 856015 906700 | 1 | 30  |
| 40 | 3000    | 1,8     | 3 856015 906717 | 1 | 20  |
| 50 | 500     | 1,8     | 3 856015 902757 | 1 | 100 |
| 50 | 1000    | 1,8     | 3 856015 902764 | 1 | 50  |
| 50 | 1500    | 1,8     | 3 856015 902771 | 1 | 30  |
| 50 | 2000    | 1,8     | 3 856015 902788 | 1 | 30  |
| 50 | 3000    | 1,8     | 3 856015 902795 | 1 | 20  |
| 75 | 500     | 2,6     | 3 856015 904874 | 1 | 50  |
| 75 | 1000    | 2,6     | 3 856015 904881 | 1 | 40  |
| 75 | 1500    | 2,6     | 3 856015 904898 | 1 | 30  |
| 75 | 2000    | 2,6     | 3 856015 904904 | 1 | 30  |
| 75 | 3000    | 2,6     | 3 856015 904911 | 1 | 20  |
| 90 | 500     | 3,1     | 3 856015 906014 | 1 | 25  |
| 90 | 1000    | 3,1     | 3 856015 906021 | 1 | 96  |
| 90 | 1500    | 3,1     | 3 856015 906038 | 1 | 96  |
| 90 | 2000    | 3,1     | 3 856015 906045 | 1 | 96  |
| 90 | 3000    | 3,1     | 3 856015 906052 | 1 | 96  |

| DN  | L<br>mm | s<br>mm | EAN             | ☐ | ☐  |
|-----|---------|---------|-----------------|---|----|
| 110 | 500     | 3,6     | 3 856015 904928 | 1 | 25 |
| 110 | 1000    | 3,6     | 3 856015 904935 | 1 | 81 |
| 110 | 1500    | 3,6     | 3 856015 904942 | 1 | 81 |
| 110 | 2000    | 3,6     | 3 856015 904959 | 1 | 81 |
| 110 | 3000    | 3,6     | 3 856015 904966 | 1 | 81 |
| 125 | 500     | 3,9     | 3 856015 904973 | 1 | 20 |
| 125 | 1000    | 3,9     | 3 856015 904980 | 1 | 64 |
| 125 | 1500    | 3,9     | 3 856015 904997 | 1 | 64 |
| 125 | 2000    | 3,9     | 3 856015 905000 | 1 | 64 |
| 125 | 3000    | 3,9     | 3 856015 905017 | 1 | 64 |
| 160 | 500     | 4,9     | 3 856015 905024 | 1 | 9  |
| 160 | 1000    | 4,9     | 3 856015 905031 | 1 | 36 |
| 160 | 1500    | 4,9     | 3 856015 905048 | 1 | 36 |
| 160 | 2000    | 4,9     | 3 856015 905055 | 1 | 36 |
| 160 | 3000    | 4,9     | 3 856015 905062 | 1 | 36 |

Art. 105 / 1  
BEND with seal

PKB



| DN  | ?   | EAN             | ☞ | ☐  |
|-----|-----|-----------------|---|----|
| 40  | 45° | 3 856015 906823 | 1 | 50 |
| 40  | 87° | 3 856015 906830 | 1 | 50 |
| 50  | 15° | 3 856015 906847 | 1 | 30 |
| 50  | 30° | 3 856015 906854 | 1 | 30 |
| 50  | 45° | 3 856015 903952 | 1 | 30 |
| 50  | 67° | 3 856015907066  | 1 | 30 |
| 50  | 87° | 3 856015 903969 | 1 | 30 |
| 75  | 45° | 3 856015 905178 | 1 | 20 |
| 75  | 87° | 3 856015 905185 | 1 | 20 |
| 110 | 15° | 3 856015 904171 | 1 | 20 |
| 110 | 30° | 3 856015 903976 | 1 | 20 |
| 110 | 45° | 3 856015 903983 | 1 | 20 |
| 110 | 67° | 3 856015 904188 | 1 | 20 |
| 110 | 87° | 3 856015 903990 | 1 | 20 |
| 125 | 45° | 3 856015 905079 | 1 | 15 |
| 125 | 87° | 3 856015 905086 | 1 | 10 |
| 160 | 45° | 3 856015 906861 | 1 | 4  |
| 160 | 87° | 3 856015 906878 | 1 | 4  |

Art. 109 / 1  
REDUCED BRANCH with seals

PKEA



| DN  | DN1 | ?   | EAN             | ☞ | ☐  |
|-----|-----|-----|-----------------|---|----|
| 75  | 50  | 45° | 3 856015 905192 | 1 | 25 |
| 75  | 50  | 87° | 3 856015 905208 | 1 | 25 |
| 110 | 50  | 45° | 3 856015 904041 | 1 | 20 |
| 110 | 50  | 87° | 3 856015 902498 | 1 | 20 |
| 110 | 75  | 45° | 3 856015 904058 | 1 | 15 |
| 110 | 75  | 87° | 3 856015 906885 | 1 | 15 |
| 125 | 110 | 45° | 3 856015 905116 | 1 | 8  |
| 125 | 110 | 87° | 3 856015 905215 | 1 | 8  |
| 160 | 110 | 45° | 3 856015 906892 | 1 | 3  |
| 160 | 110 | 87° | 3 856015 907028 | 1 | 3  |
| 160 | 125 | 45° | 3 856015 906908 | 1 | 3  |
| 160 | 125 | 87° | 3 856015 907035 | 1 | 3  |
| 200 | 110 | 45° | 3 856015 906915 | 1 | 1  |
| 200 | 125 | 45° | 3 856015 906922 | 1 | 1  |

Art. 107 / 1  
BRANCH with seals

PKEA



| DN  | DN1 | ?   | EAN             | ☞ | ☐  |
|-----|-----|-----|-----------------|---|----|
| 40  | 40  | 45° | 3 856015 906748 | 1 | 20 |
| 40  | 40  | 87° | 3 856015 906755 | 1 | 20 |
| 50  | 50  | 45° | 3 856015 904003 | 1 | 20 |
| 50  | 50  | 87° | 3 856015 904010 | 1 | 20 |
| 75  | 75  | 45° | 3 856015 902474 | 1 | 20 |
| 75  | 75  | 87° | 3 856015 902481 | 1 | 20 |
| 110 | 110 | 45° | 3 856015 904027 | 1 | 10 |
| 110 | 110 | 87° | 3 856015 904034 | 1 | 10 |
| 125 | 125 | 45° | 3 856015 905093 | 1 | 5  |
| 125 | 125 | 87° | 3 856015 905109 | 1 | 10 |
| 160 | 160 | 45° | 3 856015 906762 | 1 | 3  |
| 160 | 160 | 87° | 3 856015 906779 | 1 | 3  |

Art. 112 / 1  
DOUBLE BRANCH with seals

PKDA



| DN  | DN1 | ?   | EAN             | ☞ | ☐  |
|-----|-----|-----|-----------------|---|----|
| 110 | 50  | 45° | 3 856015 907073 | 1 | 10 |
| 110 | 110 | 45° | 3 856015 904195 | 1 | 5  |

Art. 115 / 1  
REDUCTION with seal

PKR

Type 'A'



Type 'B'



| TYPE | DN  | DN1 | EAN             |  |  |
|------|-----|-----|-----------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| A    | 32  | 40  | 3 856015 906939 | 1                                                                                 | 50                                                                                |
| A    | 32  | 50  | 3 856015 906946 | 1                                                                                 | 40                                                                                |
| A    | 40  | 50  | 3 856015 904065 | 1                                                                                 | 50                                                                                |
| B    | 50  | 75  | 3 856015 905222 | 1                                                                                 | 30                                                                                |
| B    | 50  | 110 | 3 856015 904072 | 1                                                                                 | 20                                                                                |
| B    | 75  | 110 | 3 856015 904089 | 1                                                                                 | 20                                                                                |
| A    | 110 | 125 | 3 856015 905123 | 1                                                                                 | 20                                                                                |
| B    | 110 | 160 | 3 856015 906953 | 1                                                                                 | 20                                                                                |
| B    | 125 | 160 | 3 856015 905239 | 1                                                                                 | 20                                                                                |
| B    | 110 | 200 | 3 856015 906960 | 1                                                                                 | 4                                                                                 |
| B    | 160 | 200 | 3 856015 906977 | 1                                                                                 | 4                                                                                 |

Art. 118 / 1  
ACCESS-PIPE WITH SOCKET with seal

PKRE



| DN  | EAN             |  |  |
|-----|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 75  | 3 856015 902504 | 1                                                                                   | 20                                                                                  |
| 110 | 3 856015 904096 | 1                                                                                   | 15                                                                                  |
| 125 | 3 856015 905130 | 1                                                                                   | 10                                                                                  |
| 160 | 3 856015 906984 | 1                                                                                   | 4                                                                                   |

Art. 121 / 1  
SLIP COUPLER with seals

PKU



| DN  | EAN             |  |  |
|-----|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 50  | 3 856015 907042 | 1                                                                                   | 30                                                                                  |
| 75  | 3 856015 906991 | 1                                                                                   | 20                                                                                  |
| 110 | 3 856015 904102 | 1                                                                                   | 20                                                                                  |
| 125 | 3 856015 905147 | 1                                                                                   | 20                                                                                  |
| 160 | 3 856015 907004 | 1                                                                                   | 5                                                                                   |

## PIPES

Art. 103 / 1

PKEM

ULTRA LOW NOISE ONE LAYER PIPE WITH SOCKET with seal



| D  | L<br>mm | s<br>mm | EAN             | ☐ | ☐   |
|----|---------|---------|-----------------|---|-----|
| 58 | 150     | 4,0     | 3 856015 904324 | 1 | 100 |
| 58 | 250     | 4,0     | 3 856015 904331 | 1 | 100 |
| 58 | 500     | 4,0     | 3 856015 904348 | 1 | 100 |
| 58 | 1000    | 4,0     | 3 856015 904355 | 1 | 50  |
| 58 | 2000    | 4,0     | 3 856015 904362 | 1 | 30  |
| 58 | 3000    | 4,0     | 3 856015 904379 | 1 | 20  |
| 78 | 150     | 4,5     | 3 856015 904386 | 1 | 80  |
| 78 | 250     | 4,5     | 3 856015 904393 | 1 | 80  |
| 78 | 500     | 4,5     | 3 856015 904409 | 1 | 50  |
| 78 | 1000    | 4,5     | 3 856015 904416 | 1 | 40  |
| 78 | 2000    | 4,5     | 3 856015 904423 | 1 | 30  |
| 78 | 3000    | 4,5     | 3 856015 904430 | 1 | 20  |

| D   | L<br>mm | s<br>mm | EAN             | ☐ | ☐  |
|-----|---------|---------|-----------------|---|----|
| 110 | 150     | 5,4     | 3 856015 904447 | 1 | 20 |
| 110 | 250     | 5,4     | 3 856015 904454 | 1 | 20 |
| 110 | 500     | 5,4     | 3 856015 904461 | 1 | 25 |
| 110 | 1000    | 5,4     | 3 856015 904478 | 1 | 81 |
| 110 | 2000    | 5,4     | 3 856015 904485 | 1 | 81 |
| 110 | 3000    | 5,4     | 3 856015 904492 | 1 | 81 |
| 135 | 150     | 5,6     | 3 856015 904508 | 1 | 30 |
| 135 | 250     | 5,6     | 3 856015 904515 | 1 | 30 |
| 135 | 500     | 5,6     | 3 856015 904522 | 1 | 20 |
| 135 | 1000    | 5,6     | 3 856015 904539 | 1 | 64 |
| 135 | 2000    | 5,6     | 3 856015 904546 | 1 | 64 |
| 135 | 3000    | 5,6     | 3 856015 904553 | 1 | 64 |
| 160 | 150     | 5,6     | 3 856015 904560 | 1 | 10 |
| 160 | 250     | 5,6     | 3 856015 904577 | 1 | 10 |
| 160 | 500     | 5,6     | 3 856015 904584 | 1 | 9  |
| 160 | 1000    | 5,6     | 3 856015 904591 | 1 | 36 |
| 160 | 2000    | 5,6     | 3 856015 904607 | 1 | 36 |
| 160 | 3000    | 5,6     | 3 856015 904614 | 1 | 36 |

Art. 105 / 2  
BEND with seal

PKB



| D   | ?   | EAN             | ☐ | ☐  |
|-----|-----|-----------------|---|----|
| 58  | 45° | 3 856015 904621 | 1 | 30 |
| 58  | 87° | 3 856015 904638 | 1 | 30 |
| 110 | 15° | 3 856015 904645 | 1 | 20 |
| 110 | 30° | 3 856015 904652 | 1 | 20 |
| 110 | 45° | 3 856015 904669 | 1 | 20 |
| 110 | 67° | 3 856015 904676 | 1 | 20 |
| 110 | 87° | 3 856015 904683 | 1 | 20 |
| 135 | 45° | 3 856015 906328 | 1 | 15 |
| 135 | 87° | 3 856015 906335 | 1 | 10 |
| 160 | 45° | 3 856015 906342 | 1 | 1  |

Art. 107 / 2  
BRANCH with seals

PKEA



| D   | D1  | ?   | EAN             | ☐ | ☐  |
|-----|-----|-----|-----------------|---|----|
| 58  | 58  | 45° | 3 856015 904690 | 1 | 20 |
| 58  | 58  | 87° | 3 856015 904706 | 1 | 20 |
| 78  | 78  | 45° | 3 856015 906359 | 1 | 20 |
| 78  | 78  | 87° | 3 856015 906366 | 1 | 20 |
| 110 | 110 | 45° | 3 856015 904713 | 1 | 10 |
| 110 | 110 | 87° | 3 856015 904720 | 1 | 10 |
| 135 | 135 | 45° | 3 856015 906373 | 1 | 5  |
| 135 | 135 | 87° | 3 856015 906380 | 1 | 10 |
| 160 | 160 | 45° | 3 856015 906397 | 1 | 1  |

Art. 109 / 2  
REDUCED BRANCH with seals

PKEA



| D   | D1  | ?   | EAN             | ☐ | ☐  |
|-----|-----|-----|-----------------|---|----|
| 110 | 58  | 45° | 3 856015 904737 | 1 | 20 |
| 110 | 78  | 45° | 3 856015 904744 | 1 | 15 |
| 135 | 110 | 45° | 3 856015 904805 | 1 | 8  |
| 160 | 110 | 45° | 3 856015 906403 | 1 | 1  |

Art. 112 / 2  
DOUBLE BRANCH with seals

PKDA



| D   | D1  | ?   | EAN             | ☐ | ☐ |
|-----|-----|-----|-----------------|---|---|
| 110 | 110 | 45° | 3 856015 906410 | 1 | 5 |
| 135 | 110 | 45° | 3 856015 906427 | 1 | 8 |

## FITTINGS

Art. 115 / 2  
ECCENTRIC REDUCTION with seal

PKR



| D   | D1  | EAN             |  |  |
|-----|-----|-----------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 58  | 78  | 3 856015 906434 | 1                                                                                 | 50                                                                                |
| 58  | 110 | 3 856015 904768 | 1                                                                                 | 20                                                                                |
| 78  | 110 | 3 856015 904775 | 1                                                                                 | 20                                                                                |
| 110 | 135 | 3 856015 906441 | 1                                                                                 | 20                                                                                |
| 110 | 160 | 3 856015 906458 | 1                                                                                 | 1                                                                                 |
| 135 | 160 | 3 856015 906465 | 1                                                                                 | 1                                                                                 |

Art. 121 / 2  
SLIP COUPLER with seals

PKU



| D   | EAN             |  |  |
|-----|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 58  | 3 856015 906496 | 1                                                                                   | 20                                                                                  |
| 78  | 3 856015 906526 | 1                                                                                   | 20                                                                                  |
| 110 | 3 856015 904799 | 1                                                                                   | 20                                                                                  |
| 135 | 3 856015 905161 | 1                                                                                   | 20                                                                                  |
| 160 | 3 856015 906502 | 1                                                                                   | 1                                                                                   |

Art. 118 / 2  
ACCESS-PIPE WITH SOCKET with seal

PKRE



| D   | EAN             |  |  |
|-----|-----------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| 58  | 3 856015 906472 | 1                                                                                   | 20                                                                                  |
| 78  | 3 856015 906519 | 1                                                                                   | 20                                                                                  |
| 110 | 3 856015 904782 | 1                                                                                   | 15                                                                                  |
| 135 | 3 856015 905154 | 1                                                                                   | 10                                                                                  |
| 160 | 3 856015 906489 | 1                                                                                   | 1                                                                                   |

Art. 155 / 2  
ADAPTER TO ST / ULTRA with seals

PKU



| Ø   | Ø1  | EAN             |  |  |
|-----|-----|-----------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 50  | 58  | 3 856015 904829 | 1                                                                                     | 20                                                                                    |
| 70  | 78  | 3 856015 904836 | 1                                                                                     | 20                                                                                    |
| 125 | 135 | 3 856015 904843 | 1                                                                                     | 20                                                                                    |

Art. 199 / 10

WALRAVEN LOW NOISE TWO-PART STEEL PIPE CUP  
"BISMAT 1000" for vertical installation



| DN  | Ø   | EAN             | 📏 | □ |
|-----|-----|-----------------|---|---|
| 70  | 75  | 3 856015 906069 | 1 | 5 |
| 70  | 78  | 3 856015 906076 | 1 | 5 |
| 80  | 83  | 3 856015 906083 | 1 | 5 |
| 100 | 110 | 3 856015 906090 | 1 | 5 |
| 125 | 125 | 3 856015 906106 | 1 | 5 |
| 150 | 160 | 3 856015 906113 | 1 | 5 |

Art. 199 / 11

WALRAVEN LOW NOISE TWO-PART STEEL PIPE CUP  
BISMAT 2000"



| DN  | Ø       | EAN             | 📏 | □  |
|-----|---------|-----------------|---|----|
| 50  | 57-64   | 3 856015 906120 | 1 | 50 |
| 50  | 64-70   | 3 856015 906137 | 1 | 50 |
| 65  | 73-80   | 3 856015 906144 | 1 | 50 |
| 80  | 83-91   | 3 856015 906151 | 1 | 25 |
| 80  | 100-105 | 3 856015 906168 | 1 | 25 |
| 100 | 108-114 | 3 856015 906175 | 1 | 25 |
| 100 | 116-119 | 3 856015 906182 | 1 | 25 |
| 100 | 122-125 | 3 856015 906199 | 1 | 25 |
| 125 | 133-141 | 3 856015 906205 | 1 | 25 |
| 150 | 159-168 | 3 856015 906212 | 1 | 10 |

Art. 199 / 12

WALRAVEN LOW NOISE TWO-PART STEEL PIPE CUP  
"BISMAT HD 1501"



| DN  | Ø       | EAN             | 📏 | □  |
|-----|---------|-----------------|---|----|
| 50  | 59-64   | 3 856015 906229 | 1 | 25 |
| 50  | 65-71   | 3 856015 906236 | 1 | 25 |
| 65  | 72-78   | 3 856015 906243 | 1 | 25 |
| 65  | 79-85   | 3 856015 906250 | 1 | 25 |
| 80  | 86-92   | 3 856015 906267 | 1 | 25 |
| 80  | 101-109 | 3 856015 906274 | 1 | 25 |
| 100 | 108-116 | 3 856015 906281 | 1 | 25 |
| 100 | 125-133 | 3 856015 906298 | 1 | 25 |
| 125 | 132-140 | 3 856015 906304 | 1 | 15 |
| 150 | 159-169 | 3 856015 906311 | 1 | 15 |

## NOTES

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# Europe



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