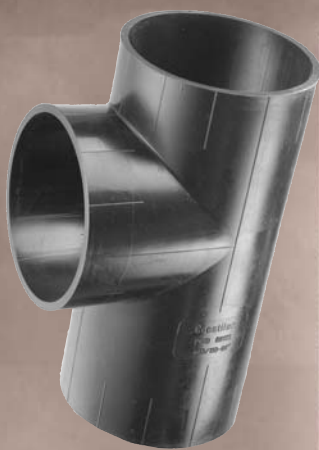


company

Coestilen®



building the future **together**

Technical manual 2017



The system	Pag.3
Connection	Pag.4
Installation	Pag.7
Uses	Pag.12
Transportation and storage	Pag.13
PE Pipes	Pag.15
PE fittings	Pag.16
Connections with stuffing box fitting	Pag.28
Connections flanges	Pag.29
Joint connection	Pag.30
Connections to sanitary fixtures	Pag.32

Coestilen® is a drainage system made of welding polyethylene that is exceptionally elastic and resistant to mechanical stress and vibrations.

The product line consists of pipes and fittings with diam. from 32 to 315 mm and includes a wide range of fittings and service connections to sanitary and sewage systems. The high PE molecular weight ensures great resistance against cracking due to prolonged use. Moreover, its capacity to afford mechanical stress of significant intensity, makes it suitable for installations in seismic areas.

It also has high resistance to operating temperatures between -40°/+ 70°C, with the ability to manage peak loads up to 95°C. Coestilen® pipes and fittings are compliant with standard UNI EN 1519.

- EXCEPTIONAL ELASTICITY AND RESISTANCE TO MECHANICAL STRESS AND VIBRATIONS. IDEAL FOR SEISMIC AREAS
- EXCEPTIONAL ELASTICITY AND RESISTANCE TO MECHANICAL STRESS AND VIBRATIONS. IDEAL FOR SEISMIC AREAS
- EXCELLENT RESISTANCE TO PRESSURE AND INCIDENTAL OVERPRESSURE

TECHNICAL SPECIFICATIONS

physical	value	unit of measure	Test methods
density	954	kg/m ³	ISO 1183 D
melt index 190°C/5kg	0,5	g/10Min.	ISO 1133 Cond. 18
carbon black content	2,0±2,5	%	ASTM D 1603
tensile strength	>20	MPa	ISO/DIS 6259
elongation at break	>600	%	ISO/DIS 6259
coefficient of linearexpansion from 20° to 90°C	0,20mm/m°C		ASTM D 696

Temperature resistance: keeps its characteristics unchanged. Does not break and does not deform permanently in case of water freezing in the pipes, in a temperature range between -40°C up to + 70°C, with the possibility to manage peak loads up to 95°C.

Low thermal conductivity: does not tend to form condensation.

Resistance to mechanical stress: Coestilen® is elastic enough to withstand external stress, impact and deformation, similar to steel.
Provided that certain specific technical rules are observed, Coestilen® can be embedded into concrete.

Smoothness and abrasion resistance: thanks to the surface structure that prevents the formation of deposits and incrustations.

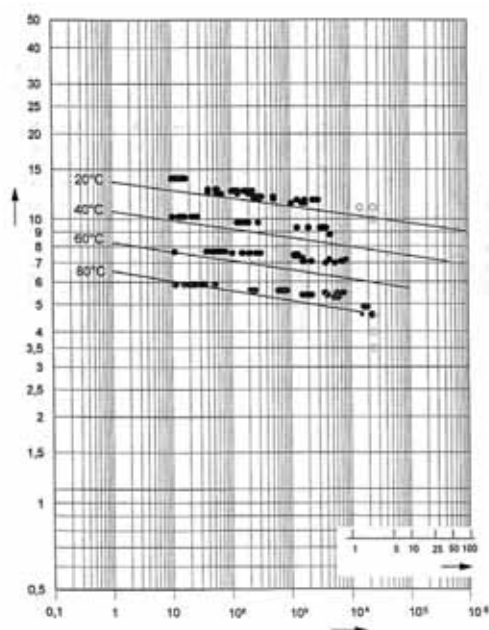
Resistance to chemical agents: organic and inorganic solvents. At 20°C it is resistant to detergents and acids used for unclogging sinks and toilets.

Absorption of vibrations: thanks to its flexibility and elasticity it is able to withstand small deformations without breaking (for example: in case of structural settlement in buildings).

Weldability: by means of butt welding process or by electrofusion.

Weathering resistance: thanks to the carbon black it contained, which prevents photo-oxygenation processes due to U.V. rays.

Regression curves



- duration regression curves
- test in progress
- actual test period

Size of the pipes

Ø external	Ø internal	thickness	cm ² passing section
32	26	3	5,3
40	34	3	9
50	44	3	15,2
56	50	3	19,2
63	57	3	25,4
75	69	3	37,3
90	83	3,5	54,1
110	101,4	4,3	80,7
125	115,2	4,9	104,2
160	147,6	6,2	171,1
200	187,6	6,2	276,4
250	234,4	7,8	431,5
315	295,4	9,8	685,3

Coestilen® connections are classified into 3 groups:

- 1) Fixed connections resistant to traction
- 2) Removable connections not resistant to traction
- 3) Removable connections resistant to traction

FIXED CONNECTIONS RESISTANT TO TRACTION

Obtained by welding together two elements only by using heat to obtain, after solidification, a single structurally continuous piece.

This type of connection can be obtained by **butt welding** or **welding using an electric sleeve**.

a) Butt weld

The following must be performed:

- Clean the surfaces to be welded.
- Cut and deburring of the ends to be welded.

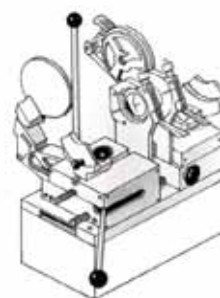
Up to Ø 63 mm:

- Place the ends to be welded on a heating mirror previously brought to a temperature of $210^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
 - Apply light pressure until a uniform bead forms along the entire circumference.
 - Once removed from the heating mirror, join the two pieces by applying increasing axial force (and avoiding rotations).
- Let the piece to cool.



For diameters greater than Ø 63mm:

- Position the two pieces to be welded into the clamps of the welding machine.
- Mill and degrease the surfaces.
- Using the special lever mechanism, place the two pieces next to the heating mirror, previously brought to a temperature of $210^{\circ}\text{C} \pm 5^{\circ}\text{C}$.
- Once the softening temperature of the polyethylene has been achieved, extract the heating mirror and join the two ends to be welded together by applying small compression. The time and precision of the operation depend on the diameter of the pieces.



N.B. Welds must be allowed to cool naturally and the pieces cannot be subjected to mechanical stress before they are completely cooled.

b) Welding by electric sleeve

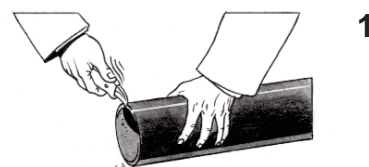
This is obtained by using a special sleeve equipped with an electrical resistance that, with the passage of electricity, overheats, thereby allowing the two pieces of pipe placed at the ends to soften and weld.



Welds by electric sleeve take place in the following phases:

- 1** Cut the two pieces of pipe at a right angle.
- 2** Scrape and bevel the heads the two pieces of pipe (Fig.1), degrease the inside of the electric sleeve using the appropriate detergent (Fig.2).
- 3** Insert the two pieces of pipe into the electric sleeve, until abutment (Figure 3).
- 4** Connect the contacts of the sleeve to the pins of the welder. Switch on the welding device (Figure 4).

N.B. After welding, the electric sleeve must not be subjected to mechanical stress before it has completely cooled.



1



2



3



4

REMOVABLE CONNECTIONS NOT RESISTANT TO TRACTION

This type of connection, whose characteristic is that of allowing, if necessary, the easy and quick disassembly of the system, is obtained using **coupling and expansion sleeves or screw or gland fittings**.

a) Plug-in sleeves and dilation

Coupling sleeves are equipped with an elastomeric seal that guarantees the seal. The connection takes place in the following phases:

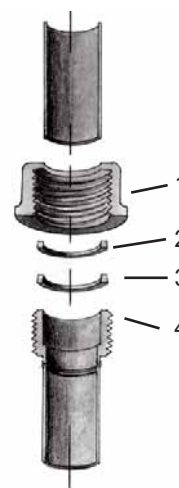
- Bevel the part to be inserted to about 15°.
- Lubricate.
- Insert to abutment. For expansion sleeves, follow the directions printed on them.

b) Screw or glandfitting

The fitting comprises:

1. Threaded ring nut
2. Packing ring
3. Seal
4. Threaded union

The coupling is welded on the end of one of the two pipes to be joined. Slide the nut, the packing ring and the seal onto the end of the other pipe. Insert the pipe into the union and tighten the nut.



REMOVABLE CONNECTIONS RESISTANT TO TRACTION

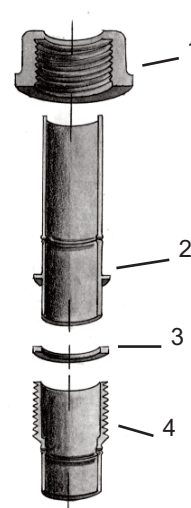
If there is a possibility that axial thrusts may cause the pipe to escape the seat of the fittings, use connection systems with **screw fittings and fastening collars or flanges to assemble the system.**

a) Screw fitting with fastening collar

This type of fitting is similar to a screw fitting, but with the gland ring replaced by a fastening collar (2) onto which the end of pipe with the nut is welded.

The fitting comprises:

- 1 Threaded ring nut
- 2 Connecting collar
- 3 Seal
- 4 Threaded union

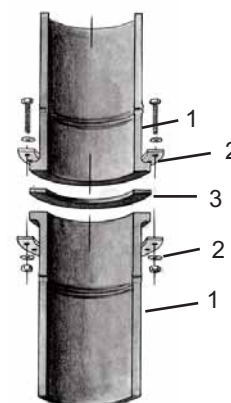


b) Flanges

The connection system with flanges is particularly suitable in industrial systems and for connecting large diameter pipes. It allows easy connection of polyethylene pipes with others made of different materials, pumps, tanks and collectors.

The fitting comprises:

- 1 Neck for flanges
- 2 Flange
- 3 Seal



DIMENSIONING

The design and dimensioning of drainage and rainwater systems must take into account the standard UNI 12056-1-2-3-4-5.

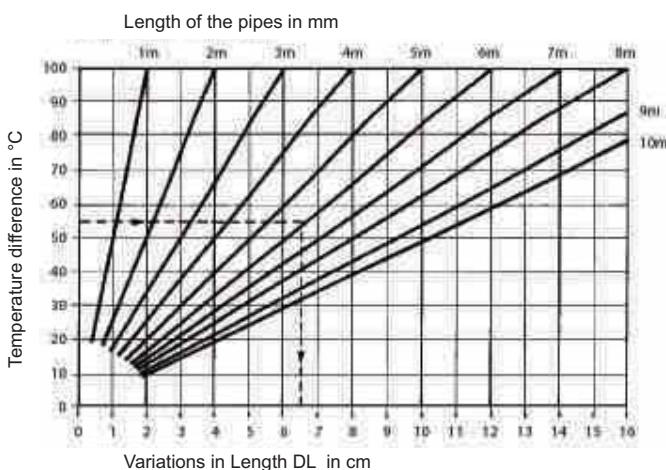
COESTILEN® CHANGE IN LENGTH (caused by temperature variations)

When subjected to temperature variations the dimensions of Coestilen® change, like every material does. The phenomena affecting the systems are only those involving changes in the length of the pipes. An increase in temperature is accompanied by material expansion phenomena, which correspond to the elongation of the pipes or a decrease in the contraction phenomena with related shortening of pipes. These changes in length are, for the temperatures in question, proportional to the thermal difference the material is subjected, as an expression of the relation:

$$\Delta L = \alpha L \Delta T$$

where: ΔL = change in length in mm
 α = linear expansion coefficient 0.2 mm/m/°C
 ΔT = thermal difference °C
 L = initial pipe length in m

The temperature difference ΔT is given by the difference in temperature during the mounting phase (T_i) and the maximum or minimum temperature achieved during operation.



The temperature can depend on:

- variations in the external temperature T_e
- the temperature T_f of the fluid flowing in the pipes

However in this second case, the value taken is not always the fluid's T_f but a T_c value reduced by about 10 - 20°C. That is because extreme operating conditions last for short time, while poor thermal conductivity of polyethylene does not permit the pipe to reach the temperature of the fluid.

Examples of calculations

a) Pipes subjected to increasing temperature:

T_f = fluid temperature 95°C

T_c = maximum reduced operating temperature 75°C

T_i = initial pipe temperature 20°C

$\Delta T = 75 - 20 = 55^\circ\text{C}$

L = length of the pipes 6m

$$\Delta L = 6 \times 0,2 \times 55 = 66 \text{ mm (expansion)}$$

b) Pipes subjected to decreasing temperature:

T_f = minimum operating temperature -10°C

T_i = initial pipe temperature 20°C

$\Delta T = 20 - (-10) = 30^\circ\text{C}$

ΔL = length of the pipes 6m

$$\Delta L = 6 \times 0,2 \times 30 = 36 \text{ mm (contraction)}$$

N.B. We recommend using the sign – to indicate decreases in length

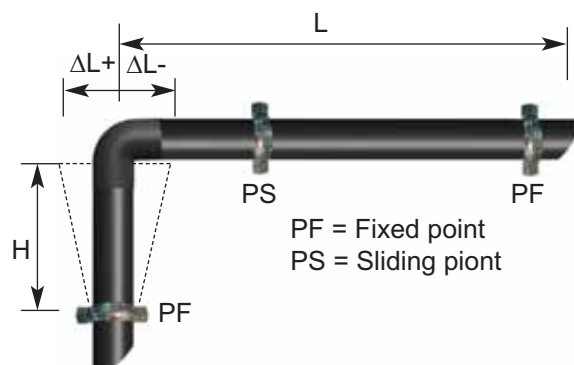
COMPENSATION OF CHANGES IN LENGTH OF PIPES

Expansion compensators

To prevent pipes from being subjected to mechanical stresses (axial thrusts), they must be able to change in lengthfreely. This can be achieved by using:

a) Systems that use the elasticity and inflection of some sections of pipe in the system.

With this device, the change in length is compensated by the elastic deformation which may affect some sections of the pipes in the system. It is particularly advantageous when the geometric configuration of the system, with suitably positioned fastenings, allows the exploitation of the material's elasticity

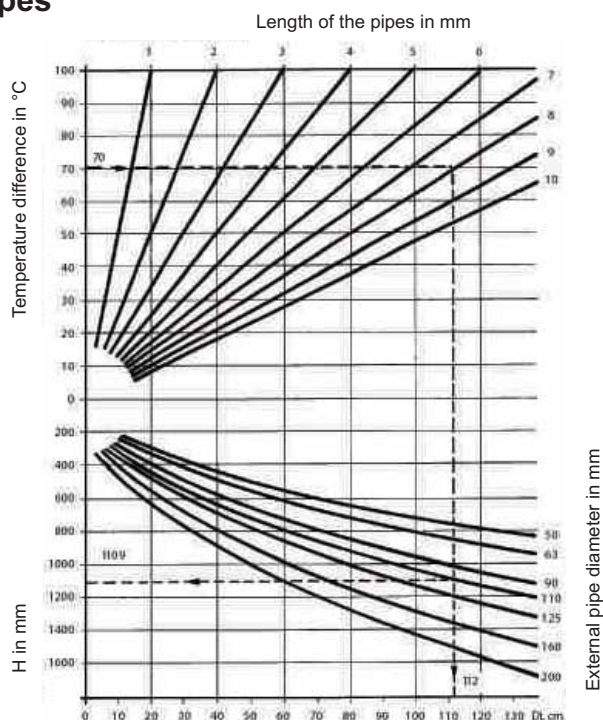


The length "H" of the pipe section subjected to inflection is given by:

$$H = 10 \cdot \sqrt{\Delta L \cdot D}$$

- ΔL is the change in length that needs to be compensated
- D is the diameter of the pipe

Calculation of the thermal expansion and the length of the expansion fusion for Coestilen® pipes



Exemples:

Pipe length 8m Ø110mm,
drainage liquid 80°C.
Ambient temperature 10°C.
Temperature difference 70°C.
 ΔL = length change 112mm
H = Flexing arm 1109mm

Behaviour with expansion compensators

b) Expansion sleeves or joints

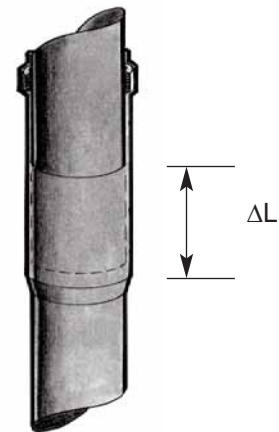
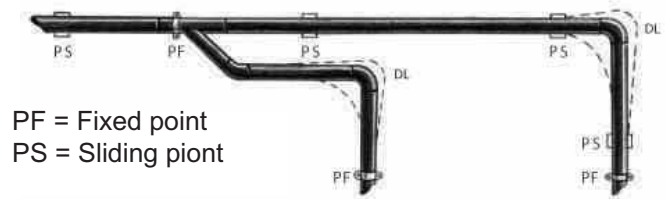
Devices with seats where the free end of a pipe can slide to compensate for its change in length.

The expansion sleeve is used for:

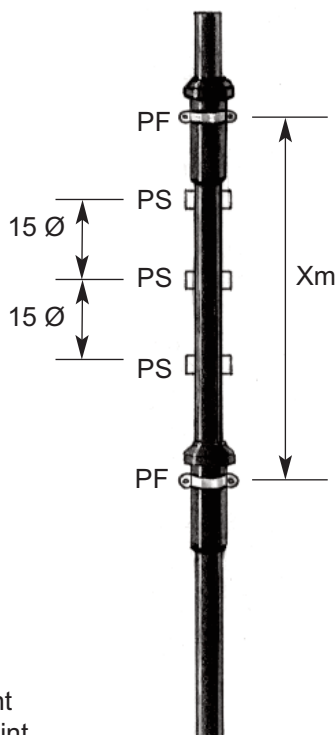
- vertical drain pipes (see Fig. A)
- horizontal collectors/dorsals (see Fig. B on next page)

To install the expansion sleeve properly, it is necessary to take into account the following parameters:

- length of the pipe
- maximum temperature range the pipe is subjected (ΔT)
- installation temperature

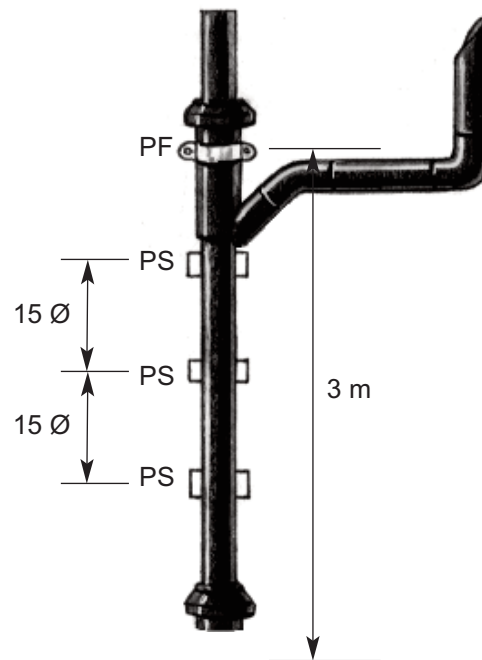


Installing drainage pipes



PF = Fixed point
PS = Sliding point

Fig. A



Expected behavior of the expansion sleeve

It is assumed that changes in pipe lenght take place according to design previsions for the expansion sleeve to work properly.

Therefore, it is necessary to strictly constrain the ends of the pipe demanded for compensation in a way that movements in the direction of the installed compensation devices are allowed.

These constraints are the fixed points in the system. They are selected and positioned according to the system’s construction characteristics, structural conditions, branches, passing through structures, etc., which may constitute fixed points themselves. To create fixed points, metal supports are normally used, including:

- a) collar to support and fasten the pipes or the expansion sleeve
- b) rod
- c) anchor plate
- d) screws or bolts.

Creation of fixed points

Thrusts

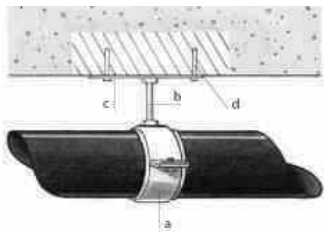
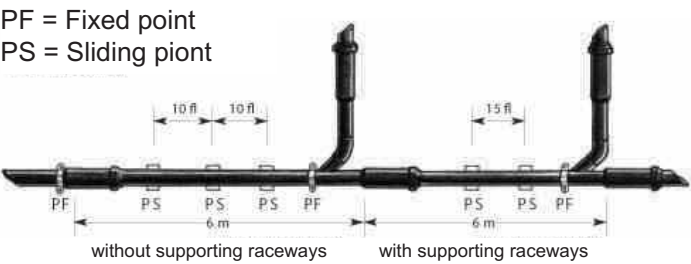
The forces that fixed points are subjected to are:

P = thrust exercised by the pipe

p = weight of the pipe and the liquid contained therein.

In the case of expansion sleeves, the force is represented by the reaction offered by the sleeve to the sliding of the pipe in its seat. In the case of dilators, it is represented by the resistance of the pipe section subjected to elastic deformation and is obtainable from relations such as:

$$P=n*\Delta L*EJ/H^3$$



N.B. The plate and screws may be missing if the rod is fastened directly to the wall structure.

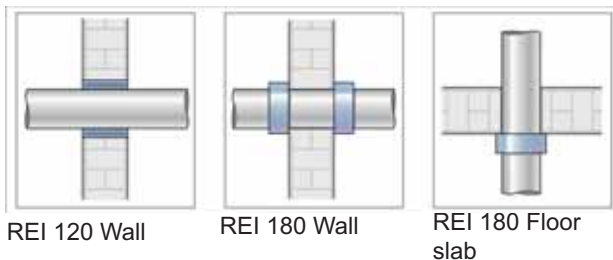
Sliding resistance values of Coestilen® sleeves

Ø external mm	Thrust N.	Kg f
50/63	200	20
75	300	30
90	400	40
110	500	50
125	600	60
160	800	80
200	1100	110
250	1500	150
315	2000	200

FIRE PROTECTION ACCESSORIES

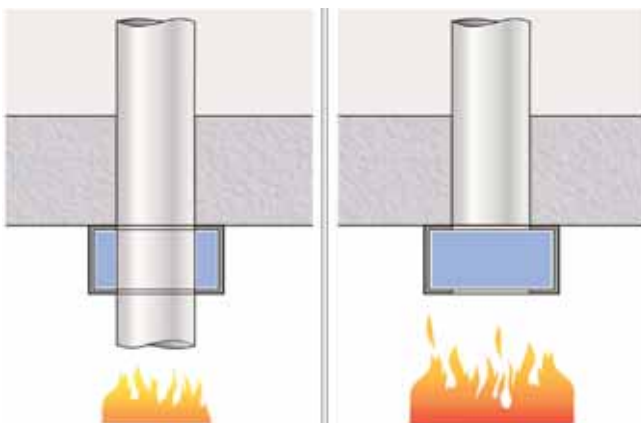
The **fireproof sleeve** is the essential accessory against the propagation of fire and the spread of smoke it produces. Due to its characteristics and depending on the type of drainage system, it provides protection classified as REI 120 or REI 180.

This means that even when subjected to fire, thanks to the material it is made of, the collar maintains its mechanical characteristics, and stops the spreading of flames and gases, for a set time of 120 or 180 minutes.



The sleeve includes a metal bracket, which acts as a "container" for a ring made of intumescent thermo-expanding material, that reacts to high temperatures. In case of fire, the sleeve ring expands, closing pipe passage and isolating the connection between the environments.

Operation of the fireproof sleeve



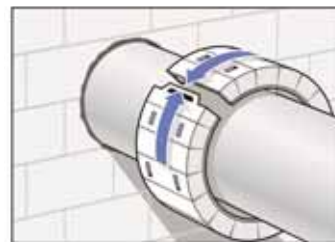
Installation of fireproof sleeve



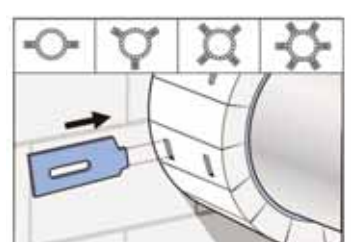
1-Seal cracks around the pipe using grout.



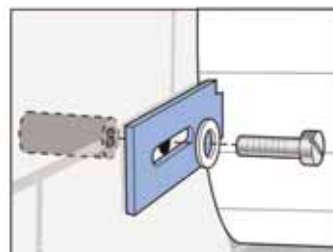
2-Clean the pipe before applying the fireproof sleeve.



3-Fasten the sleeve to the pipe



4-Fasten the hooks into the special holes around the fireproof sleeve.



5-Use metal plates and anchor to fasten the sleeve.

Fields of use

Coestilen® is designed for internal drainage systems of civil and industrial buildings, in the following areas of application:

- **Sanitary appliance drainage**
- **Washing machine and dishwasher drainage**
- **Prolonged waste water drainage** (large kitchens, laundries, industrial plants)
- **Aggressive fluid drainage** in schools, laboratories and industrial plants, according to ISO/TR 10358
- **Medium and large drainage manifolds**

Terms of use

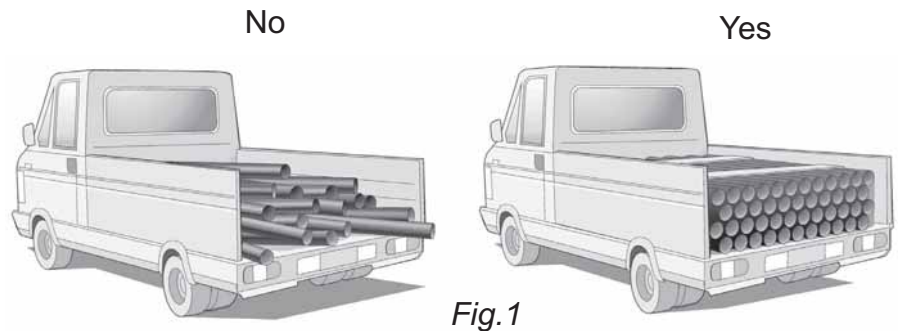
Maximum temperature of non pressurized fluids: 95°C.

N.B. Cannot be used to convey waste water containing petrol or benzene (DIN 1986/3, 2.3).

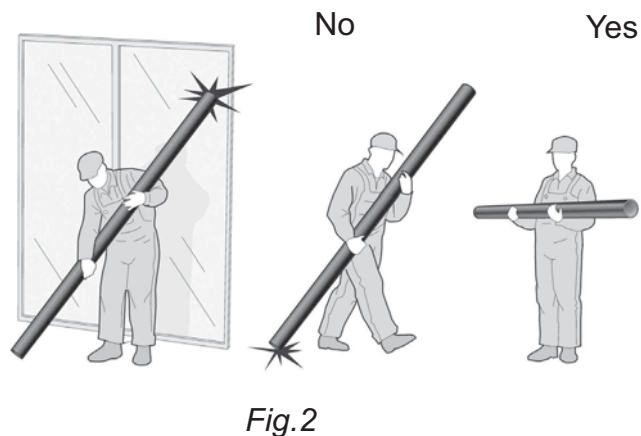


TRANSPORT

In event of pipes being removed from their factory packaging avoid disorderly transportation, (Fig.1).



Avoid dragging pipes on the ground or against the sides and tailgate of the vehicle (Fig.2).



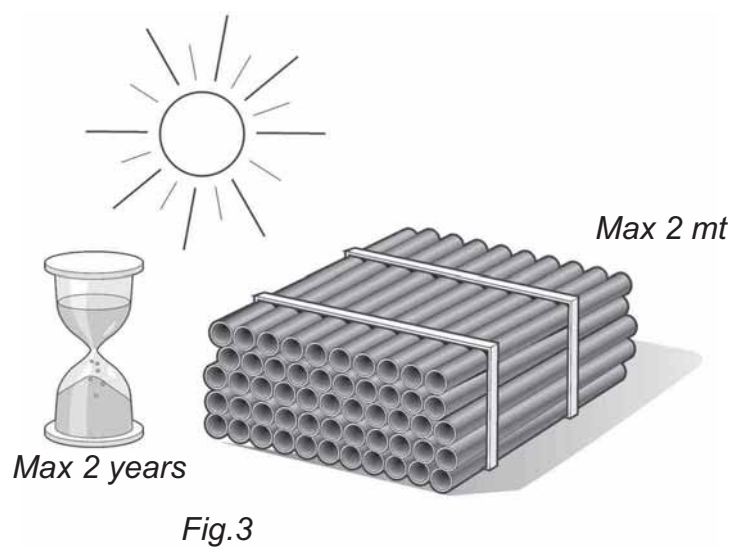
STORAGE

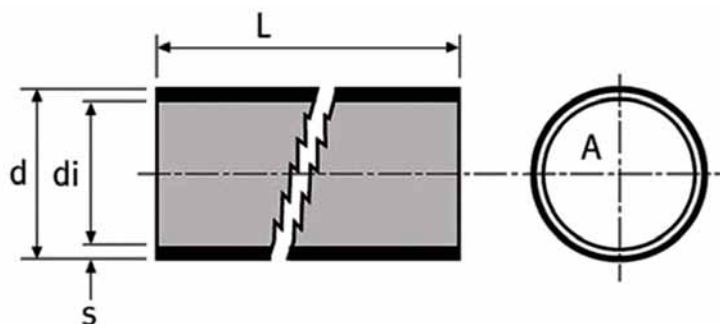
Pipe stacking

- Pipes should be placed on flat and smooth surfaces.
- In order to prevent deformations over time, the maximum stacking height must be no more than 2 m, whatever their diameter may be.
- Outdoor storage must not exceed 2 years.

Fittings storage

- The same criteria used for pipes also apply to fittings; they should be stored with care and protected from sunlight.





PIPE IN 5mt BARS

code	d	L	di	s	S*		
F05T5032B	32	5000	26	3	12,5	5mt	475mt
F05T5040B	40	5000	34	3	12,5	5mt	420mt
F05T5050B	50	5000	44	3	12,5	5mt	345mt
F05T5056B	56	5000	50	3	12,5	5mt	150mt
F05T5063B	63	5000	57	3	12,5	5mt	165mt
F05T5075B	75	5000	69	3	12,5	5mt	150mt
F05T5090B	90	5000	83	3,5	12,5	5mt	175mt
F05T5110B	110	5000	101,4	4,2	12,5	5mt	140mt
F05T5125B	125	5000	115,2	4,8	12,5	5mt	90mt
F05T5160B	160	5000	147,6	6,2	12,5	5mt	130mt
F05T5200B	200	5000	187,6	6,2	16	5mt	70mt
F05T5250B	250	5000	234,4	7,7	16	5mt	5mt
F05T5315B	315	5000	295,4	9,7	16	5mt	5mt

PIPE BENOR IN 5mt BARS

code	d	L	di	s	S*		
F05T3090B*	90	5000	84,0	3,0	16	5mt	175mt
F05T3110B*	110	5000	103,2	3,4	16	5mt	140mt
F05T3125B*	125	5000	117,2	3,9	16	5mt	90mt
F05T3160B*	160	5000	150,2	4,9	16	5mt	130mt
F05T4200B*	200	5000	184,6	7,7	12,5	5mt	70mt
F05T4250B*	250	5000	230,8	9,6	12,5	5mt	55mt
F05T4315B*	315	5000	290,8	12,1	12,5	5mt	25mt

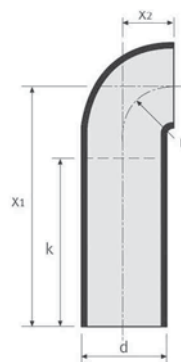
* On order only

PIPEIN 3mt BARS

code	d	L	di	s	S*		
F05T5032A	32	3000	26	3	12,5	3mt	285mt
F05T5040A	40	3000	34	3	12,5	3mt	252mt
F05T5050A	50	3000	44	3	12,5	3mt	207mt
F05T5063A	63	3000	50	3	12,5	3mt	99mt
F05T5075A	75	3000	69	3	12,5	3mt	90mt
F05T5090A	90	3000	83	3,5	12,5	3mt	105mt
F05T5110A	110	3000	101,4	4,3	12,5	3mt	84mt

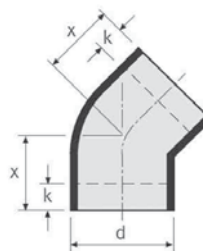
S* Dimension series under the standard EN15191

90° TRIMMED BEND



code	d	X1	X2/r	k	
F04CS0900	90	270	50	200	50
F04CS1100	110	300	60	220	30

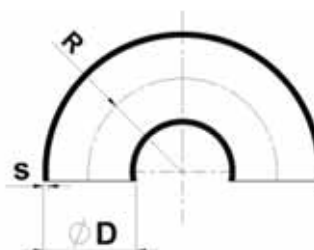
45° BEND



code	d	X	k	
F04C40300	32	33	10	50
F04C40400	40	40	15	50
F04C40500	50	43	15	50
F04C45600	56	45	15	50
F04C40600	63	50	15	30
F04C40700	75	50	15	30
F04C40900	90	55	18	20
F04C41100	110	60	20	20
F04C41200	125	65	20	10
F04C41600	160	74	22	5
F04C42000	200	130	-	1
F04C42500*	250	220	-	1
F04C43100*	315	240	-	1

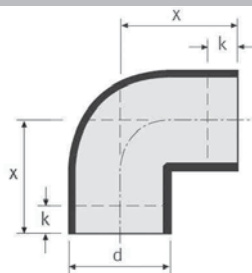
* Prefabricated

180° BEND



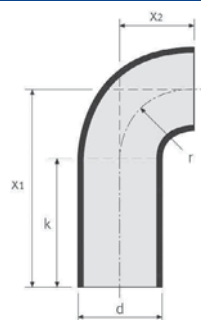
code	D	R	S	
F04C18040	40	40	3	1
F04C18050	50	50	3	1
F04C18090	90	90	3,5	1

88° ½ BEND



code	d	x	K	
F04C80300	32	43	20	50
F04C80400	40	50	20	40
F04C80500	50	60	20	40
F04C85600	56	65	20	60
F04C80600	63	70	20	30
F04C80700	75	75	20	20
F04C80900	90	80	20	40
F04C81100	110	95	25	20
F04C81200	125	100	25	10
F04C81600	160	-	-	1

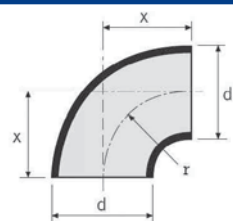
90° BEND



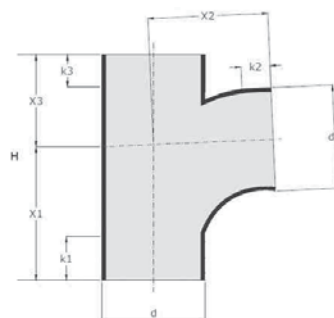
code	d	X1	X2/r	k	
F04C90300	32	100	30	70	50
F04C90400	40	150	30	100	50
F04C90500	50	180	40	125	50
F04C95600	56	210	40	150	50
F04C90600	63	210	50	140	20
F04C90700	75	210	70	125	20
F04C90900	90	240	90	135	20
F04C91100	110	270	100	155	20
F04C91200	125	200	110	75	5
F04C91600	160	140	140	0	5
F04C92000	200	200	200	0	1
F04C92500*	250	335	335	0	1
F04C93100*	315	370	370	0	1

* Prefabricated

90° REDUCING BEND

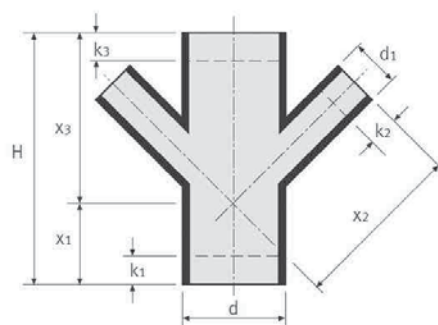


code	d	d1	X/r	
F04CR0504	50	40	40	30
F04CR5605	56	50	40	100
F04CR0605	63	50	50	80
F04CR0656	63	56	50	80



SWEPT-ENTRY BRANCH

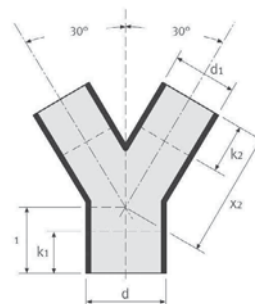
code	d	d1	H	X1	X2	X3	k1	k2	k3	
F04BFA1111	110	110	230	145	145	85	35	31	35	10



DOUBLE 45° BRANCH

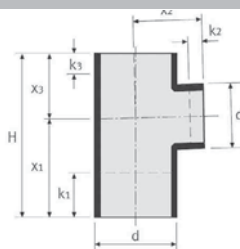
code	d	d1	H	X1	X2/X3	k1	k2	k3	
F04BD0904*	90	40	240	80	160	80	45	55	25
F04BD0905*	90	50	240	80	160	70	40	45	25
F04BD1104	110	40	270	90	180	95	50	60	25
F04BD1105	110	50	270	90	180	90	45	50	10
F04BD1111	110	110	270	90	180	50	15	10	10

* Prefabricated



60° Y BRANCH

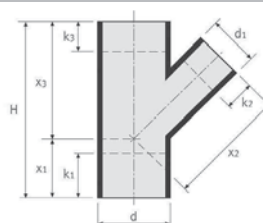
code	d	d1	X1	X2	k1	k2	
F04B60504	50	40	55	110	40	50	60
F04B60605	63	50	65	130	50	65	20
F04B60705	75	50	70	140	60	70	20
F04B60706	75	63	70	140	50	60	20
F04B61109	110	90	85	180	70	80	15
F04B61111	110	110	85	180	50	60	10



88° 1/2 BRANCH TEE

code	d	d1	H	X1	X2/X3	k1	k2	k3	
F04B80303	32	32	96	62	34	25	10	10	50
F04B80403	40	32	125	75	50	40	20	15	100
F04B80404	40	40	125	75	50	40	10	10	100
F04B80504	50	40	150	90	60	55	15	20	100
F04B80505	50	50	150	90	60	50	15	15	100
F04B85605	56	50	150	90	60	50	15	15	50
F04B85656	56	56	150	90	60	45	10	15	60
F04B80604	63	40	170	105	65	70	20	25	45
F04B80605	63	50	175	105	70	65	20	25	45
F04B80656	63	56	175	105	65	60	20	25	40
F04B80606	63	63	175	105	60	55	20	20	20
F04B80704	75	40	175	105	70	65	15	30	20
F04B80705	75	50	175	105	70	65	15	25	20
F04B80756	75	56	175	105	70	60	15	25	30
F04B80706	75	63	175	105	70	55	15	20	30
F04B80707	75	75	175	105	70	50	15	15	30
F04B80904	90	40	200	120	80	85	15	40	45
F04B80905	90	50	200	120	80	80	15	35	45
F04B80956	90	56	200	120	80	75	15	35	45
F04B80906	90	63	200	120	80	70	15	30	40
F04B80907	90	75	200	120	80	60	15	15	40
F04B80909	90	90	200	120	80	60	15	15	40
F04B81104	110	40	225	135	90	90	15	50	30
F04B81105	110	50	225	135	90	95	15	45	10
F04B81156	110	56	225	135	90	90	15	40	30
F04B81106	110	63	225	135	90	85	15	40	10
F04B81107	110	75	225	135	90	80	15	35	10
F04B81109	110	90	225	135	90	75	15	25	25
F04B81111	110	110	225	135	90	65	15	15	10
F04B81205*	125	50	250	150	100	110	20	55	25
F04B81256*	125	56	250	150	100	105	20	50	25
F04B81206*	125	63	250	150	100	100	20	50	25
F04B81207*	125	75	250	150	100	95	20	40	20
F04B81209*	125	90	250	150	100	90	20	35	20
F04B81211	125	110	250	150	100	80	20	25	20
F04B81212	125	125	250	150	100	70	15	15	15
F04B81607*	160	75	350	210	140	155	40	70	10
F04B81609*	160	90	350	210	140	150	40	75	10
F04B81611	160	110	350	210	140	140	40	65	5
F04B81612	160	125	350	210	140	130	40	55	10
F04B81616	160	160	350	210	140	115	40	40	5
F04B82007*	200	75	360	180	180	-	-	-	1
F04B82009*	200	90	360	180	180	-	-	-	1
F04B82011*	200	110	360	180	180	-	-	-	1
F04B82012*	200	125	360	180	180	-	-	-	1
F04B82016*	200	160	360	180	180	-	-	-	1
F04B82020*	200	200	360	180	180	-	-	-	1
F04B82511*	250	110	440	220	220	-	-	-	1
F04B82512*	250	125	440	220	220	-	-	-	1
F04B82516*	250	160	440	220	220	-	-	-	1
F04B82520*	250	200	440	220	220	-	-	-	1
F04B82525*	250	250	440	220	220	-	-	-	1
F04B83111*	315	110	560	280	280	-	-	-	1
F04B83112*	315	125	560	280	280	-	-	-	1
F04B83116*	315	160	560	280	280	-	-	-	1
F04B83120*	315	200	560	280	280	-	-	-	1
F04B83125*	315	250	560	280	280	-	-	-	1
F04B83131*	315	315	560	280	280	-	-	-	1

* Prefabricated



45° BRANCH

code	d	d1	H	X1	X2/X3	k1	k2	k3	
F04B40303	32	32	105	35	70	20	20	20	30
F04B40403	40	32	135	45	90	25	15	15	100
F04B40404	40	40	135	45	90	20	10	10	100
F04B40504	50	40	165	55	110	35	25	25	30
F04B40505	50	50	165	55	110	30	20	20	30
F04B45605	56	50	180	60	120	30	25	25	80
F04B45656	56	56	180	60	120	35	25	30	60
F04B40604	63	40	195	65	130	50	35	40	20
F04B40605	63	50	195	65	130	45	30	35	40
F04B40656	63	56	195	65	130	40	30	30	20
F04B40606	63	63	195	65	130	35	25	25	20
F04B40704	75	40	210	70	140	60	35	45	30
F04B40705	75	50	210	70	140	55	30	35	20
F04B40756	75	56	210	70	140	50	30	35	25
F04B40706	75	63	210	70	140	45	25	30	25
F04B40707	75	75	210	70	140	40	20	20	20
F04B40904	90	40	240	80	160	75	45	60	20
F04B40905	90	50	240	80	160	70	40	55	20
F04B40956	90	56	240	80	160	70	40	50	35
F04B40906	90	63	240	80	160	65	35	45	20
F04B40907	90	75	240	80	160	55	30	35	20
F04B40909	90	90	240	80	160	45	25	25	30
F04B41104	110	40	270	90	180	85	50	70	35
F04B41105	110	50	270	90	180	85	45	60	10
F04B41156	110	56	270	90	180	85	45	55	10
F04B41106	110	63	270	90	180	80	40	50	30
F04B41107	110	75	270	90	180	75	35	40	10
F04B41109	110	90	270	90	180	65	30	30	30
F04B41111	110	110	270	90	180	50	20	20	10
F04B41205	125	50	300	100	200	90	55	65	20
F04B41256*	125	56	300	100	200	95	50	60	20
F04B41206	125	63	300	100	200	95	50	55	20
F04B41207*	125	75	300	100	200	90	45	50	20
F04B41209*	125	90	300	100	200	80	40	40	20
F04B41211	125	110	300	100	200	65	25	25	10
F04B41212	125	125	300	100	200	55	15	15	15
F04B41607*	160	75	375	125	250	120	70	80	10
F04B41609*	160	90	375	125	250	120	65	70	10
F04B41611	160	110	375	125	250	110	55	55	5
F04B41612	160	125	375	125	250	95	40	45	5
F04B41616	160	160	375	125	250	75	20	20	5
F04B42007*	200	75	540	180	360	-	-	-	1
F04B42009*	200	90	540	180	360	-	-	-	1
F04B42011*	200	110	540	180	360	-	-	-	1
F04B42012*	200	125	540	180	360	-	-	-	1
F04B42016*	200	160	540	180	360	-	-	-	1
F04B42020	200	200	540	180	360	-	-	-	1
F04B42511*	250	110	660	220	440	-	-	-	1
F04B42512*	250	125	660	220	440	-	-	-	1
F04B42516*	250	160	660	220	440	-	-	-	1
F04B42520*	250	200	660	220	440	-	-	-	1
F04B42525*	250	250	660	220	440	-	-	-	1
F04B43111*	315	110	840	280	560	-	-	-	1
F04B43112*	315	125	840	280	560	-	-	-	1
F04B43116*	315	160	840	280	560	-	-	-	1
F04B43120*	315	200	840	280	560	-	-	-	1
F04B43125*	315	250	840	280	560	-	-	-	1
F04B43131*	315	315	840	280	560	-	-	-	1

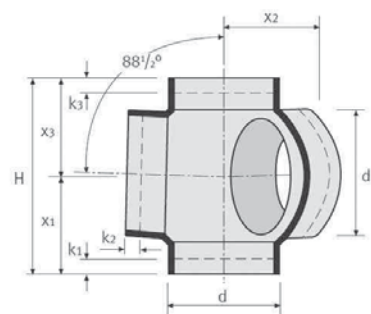
* Prefabricated



VENTILATION BRANCH

code	d	d1	d2	L	
F04BV1111	110	110	75	750	5

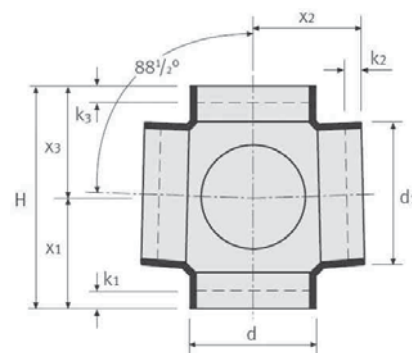
88°½ BALLBRANCH WITH THREE 135° BRANCHES



code	d	d1	H	X1/X3	X2	k1/k3	k2	
F04BY1105*	110	50	200	100	120	15	20	1
F04BY1107*	110	75	200	100	120	15	25	1
F04BY1109*	110	90	200	100	120	15	30	1
F04BY1111*	110	110	200	100	120	15	35	1
F04BY1205*	125	50	200	100	125	15	20	1
F04BY1207*	125	75	200	100	125	15	25	1
F04BY1211*	125	110	200	100	125	15	35	1

* Prefabricated

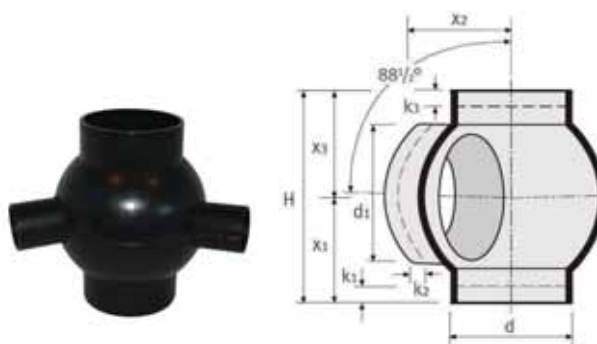
88° ½ BALLBRANCH WITH THREE 90° BRANCHES



code	d	d1	H	X1/X3	X2	k1/k3	k2	
F04BT1105*	110	50	200	100	120	15	20	1
F04BT1107*	110	75	200	100	120	15	25	1
F04BT1109*	110	90	200	100	120	15	30	1
F04BT1111*	110	110	200	100	120	15	35	1
F04BT1205*	125	50	200	100	125	15	20	1
F04BT1207*	125	75	200	100	125	15	25	1
F04BT1211*	125	110	200	100	125	15	35	1

* Prefabricated

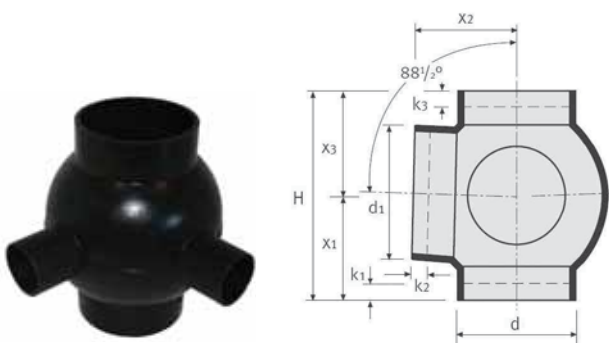
88°½ BALLBRANCH WITH TWO 135° BRANCHES



code	d	d1	H	X1/X3	X2	k1/k3	k2	
F04BB1105*	110	50	200	100	120	15	20	1
F04BB1156*	110	56	200	100	120	15	20	1
F04BB1106*	110	63	200	100	120	15	20	1
F04BB1107*	110	75	200	100	120	15	25	1
F04BB1109*	110	90	200	100	120	15	30	1
F04BB1111*	110	110	200	100	120	15	35	1
F04BB1205*	125	50	200	100	125	15	20	1
F04BB1207*	125	75	200	100	125	15	25	1
F04BB1211*	125	110	200	100	125	15	35	1

* Prefabricated

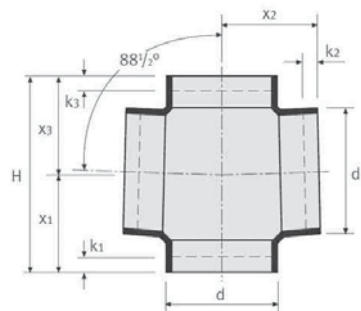
88°½ BALLBRANCH WITH TWO 90° BRANCHES



code	d	d1	H	X1/X3	X2	k1/k3	k2	
F04BA1105*	110	50	200	100	120	15	20	1
F04BA1156*	110	56	200	100	120	15	20	1
F04BA1106	110	63	200	100	120	15	20	1
F04BA1107*	110	75	200	100	120	15	25	1
F04BA1109*	110	90	200	100	120	15	30	1
F04BA1111*	110	110	200	100	120	15	35	1
F04BA1205*	125	50	200	100	125	15	20	1
F04BA1207*	125	75	200	100	125	15	25	1
F04BA1211*	125	110	200	100	125	15	35	1

* Prefabricated

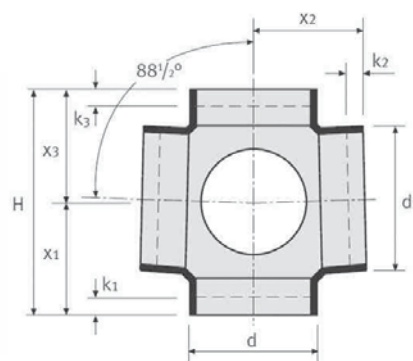
88°1/2 BALLBRANCH WITH TW 180° BRANCHES



code	d	d1	H	X1/X3	X2	k1/k3	k2	
F04BC1105*	110	50	200	100	120	15	20	1
F04BC1107*	110	75	200	100	120	15	25	1
F04BC1109*	110	90	200	100	120	15	30	1
F04BC1111*	110	110	200	100	120	15	35	1
F04BC1205*	125	50	200	100	125	15	20	1
F04BC1207*	125	75	200	100	125	15	25	1
F04BC1211*	125	110	200	100	125	15	35	1

* Prefabricated

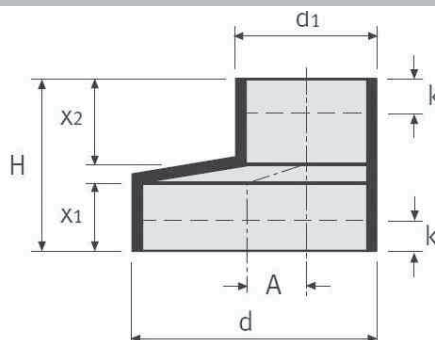
88° 1/2 BALLBRANCH WITH FOUR 90° BRANCHES



code	d	d1	H	X1/X3	X2	k1/k3	k2	
F04BX1105*	110	50	200	100	120	15	20	1
F04BX1107*	110	75	200	100	120	15	25	1
F04BX1109*	110	90	200	100	120	15	30	1
F04BX1111*	110	110	200	100	120	15	35	1
F04BX1205*	125	50	200	100	125	15	20	1
F04BX1207*	125	75	200	100	125	15	25	1
F04BX1211*	125	110	200	100	125	15	35	1

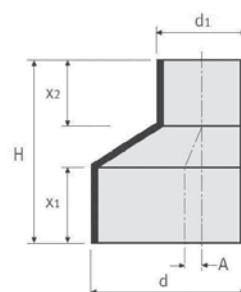
* Prefabricated

ECCENTRIC REDUCER



code	d	d1	H	X1	X2	k	A	
F04RE0504	50	40	80	35	37	20	5	30
F04RE5604	56	40	80	35	37	20	8	100
F04RE5605	56	50	80	35	37	20	3	30
F04RE0604	63	40	80	35	37	20	11,5	30
F04RE0605	63	50	80	35	37	20	6	30
F04RE0656	63	56	80	35	37	20	3	80
F04RE0704	75	40	80	35	37	20	17,5	60
F04RE0705	75	50	80	35	37	20	12	60
F04RE0756	75	56	80	35	37	20	10	60
F04RE0706	75	63	80	35	37	20	6	30
F04RE0904	90	40	80	35	37	20	25	50
F04RE0905	90	50	80	35	37	20	20	20
F04RE0956	90	56	80	35	37	20	16	50
F04RE0906	90	63	80	35	37	20	13	50
F04RE0907	90	75	80	35	37	20	7	20
F04RE1104	110	40	80	35	37	20	33,7	40
F04RE1105	110	50	80	35	37	20	29	20
F04RE1156	110	56	80	35	37	20	26	40
F04RE1106	110	63	80	35	37	20	22	40
F04RE1107	110	75	80	35	37	20	16	40
F04RE1109	110	90	80	35	37	20	9	20
F04RE1205	125	50	80	35	37	20	36	30
F04RE1206	125	63	80	35	37	20	29	30
F04RE1207	125	75	80	35	37	20	23	30
F04RE1209	125	90	80	35	37	20	16	30
F04RE1211	125	110	80	35	37	20	7	10
F04RE1611	160	110	90	40	42	25	23	5
F04RE1612	160	125	90	40	42	25	16	5

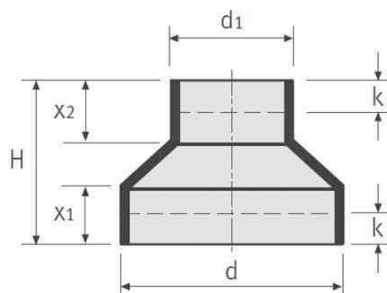
LONG TYPE OF 30° ECCENTRIC REDUCER



code	d	d1	H	X1	X2	A	
F04RL1211*	125	110	160	70	64	7	22
F04RL1611*	160	110	280	100	100	25	6
F04RL1612*	160	125	240	100	80	17	8
F04RE2011*	200	110	445	170	130	45	1
F04RE2012*	200	125	415	170	115	37	1
F04RE2016*	200	160	330	170	90	20	1
F04RE2520*	250	200	405	158	157	25	1
F04RE3120*	315	200	580	161	157	57	1
F04RE3125*	315	250	435	161	157	32	1

* Prefabricated

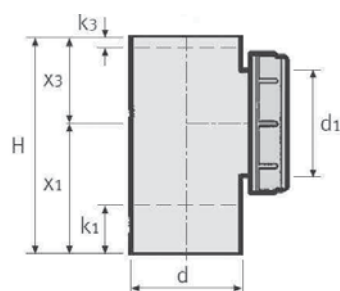
CONCENTRIC REDUCER



code	d	d1	H	X1	X2	k	
F04RC0403	40	32	80	30	30	10	30
F04RC0503	50	32	80	30	30	10	100
F04RC0504	50	40	80	30	30	10	30
F04RC5604	56	40	80	30	30	10	100
F04RC5605	56	50	80	30	30	10	100
F04RC0604	63	40	80	30	30	10	80
F04RC0605	63	50	80	30	30	10	30
F04RC0656	63	56	80	30	30	10	80
F04RC0704	75	40	80	30	30	10	60
F04RC0705	75	50	80	30	30	10	30
F04RC0706	75	63	80	30	30	10	30
F04RC0756	75	56	80	30	30	10	60
F04RC0904	90	40	80	30	30	10	20
F04RC0905	90	50	80	30	30	10	50
F04RC0906	90	63	80	30	30	10	50
F04RC0907	90	75	80	30	30	10	20
F04RC0956	90	56	80	30	30	10	50
F04RC1104	110	40	80	30	30	10	40
F04RC1105	110	50	80	30	30	10	20
F04RC1106	110	63	80	30	30	10	20
F04RC1107	110	75	80	30	30	10	20
F04RC1109	110	90	80	30	30	10	40
F04RC1156	110	56	80	30	30	10	40
F04RC1205	125	50	80	30	30	10	30
F04RC1206	125	63	80	30	30	10	30
F04RC1207	125	75	80	30	30	10	30
F04RC1209	125	90	80	30	30	10	30
F04RC1211	125	110	80	30	30	10	30
F04RC1611	160	110	95	40	30	15	5
F04RC1612	160	125	80	30	30	15	25
F04RC2011*	200	110	245	125	30	-	1
F04RC2012*	200	125	245	125	30	-	1
F04RC2016*	200	160	280	125	30	-	1

* Prefabricated

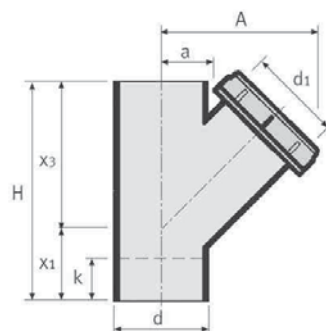
INSPECTION TEE



code	d	d1	H	X1	X3	k1	k3	
F04IL0606	63	63	174	108	66	50	10	10
F04IL0707	75	75	174	108	66	40	10	10
F04IL0909	90	90	200	120	80	40	-	10
F04IL1111	110	110	225	135	90	40	-	10
F04IL1211	125	110	250	150	100	55	5	10
F04IL1611	160	110	350	210	140	115	45	5
F04IL2011*	200	110	350	180	170	-	-	1
F04IL2511*	250	110	440	220	220	-	-	1
F04IL3111*	315	110	560	280	280	-	-	1

* Prefabricated

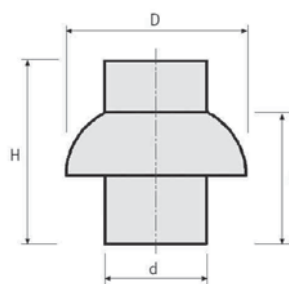
45° INSPECTION TEE



code	d	d1	H	X1	X3	a	k	A	
F04I41111*	110	110	270	90	180	65	50	210	15
F04I41211*	125	110	300	100	200	70	65	220	15

* Prefabricated

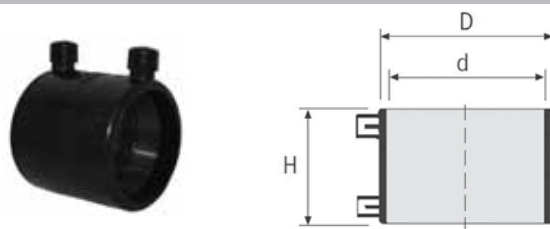
VENTILATION TOWER



code	d	D	H	h	
F14TV1100*	110	170	200	150	35
F14TV1200*	125	180	210	150	25

* Prefabricated

ELECTROFUSION COUPLING



code	d	D	H	
F04ME0300	32	43	61	10
F04ME0400	40	51	61	120
F04ME0500	50	61	61	120
F04ME5600	56	68	61	120
F04ME0600	63	75	61	30
F04ME0700	75	89	61	30
F04ME0900	90	106	61	30
F04ME1100	110	126	61	40
F04ME1200	125	142	61	20
F04ME1600	160	177	61	5
F04ME2005*	200	225	160	1
F04ME2505*	250	281	160	1
F04ME3105*	315	350	160	1

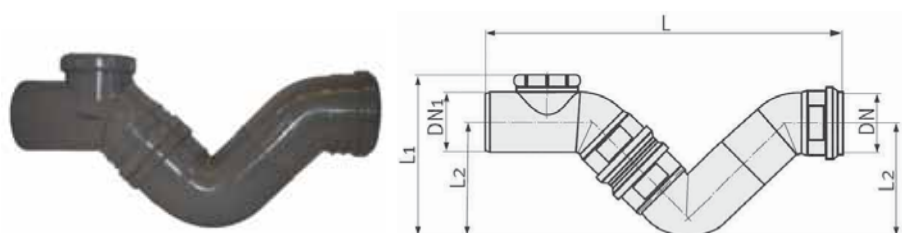
* Prefabricated

BLANK END



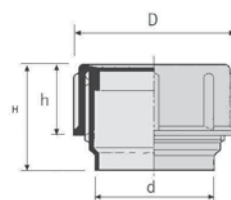
code	d	h	
F04TC030C	32	15	50
F04TC040C	40	15	20
F04TC050C	50	15	50
F04TC560C	56	15	50
F04TC060C	63	15	20
F04TC070C	75	15	20
F04TC090C	90	10,5	10
F04TC110C	110	16	10
F04TC120C	125	16,5	10
F04TC160C	160	25,5	10
F04TC200C	200	25,5	10

FIRENZE PP TRAP

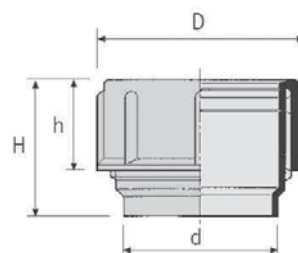


code	DN	DN1	L	L1	L2	
F9PSF1111*	110	110	535	260	180	5
F9PSF1212*	125	125	600	310	200	5

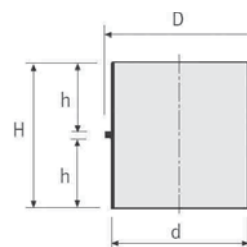
* Prefabricated

**CLOSING AND INSPECTION CAP**

code	d	D	H	h	
F04CF0300	32	56	45	26	50
F04CF0400	40	64	60	33	100
F04CF0500	50	72	60	33	20
F04CF5600	56	84	60	35	60
F04CF0600	63	86	62	42	20
F04CF0700	75	108	85	42	20
F04CF0900	90	124	85	50	10
F04CF1100	110	145	90	60	10

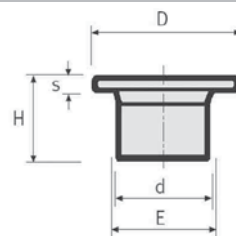
**STUFFING BOX FITTING WITH ROUND THREAD**

code	d	D	H	h	
F04RF0300	32	56	43	26	50
F04RF0400	40	64	60	33	20
F04RF0500	50	72	60	33	20
F04RF5600	56	84	60	35	60
F04RF0600	63	86	62	42	20
F04RF0700	75	108	85	42	20
F04RF0900	90	124	85	50	20
F04RF1100	110	145	90	60	25

**ANCHOR PIPE**

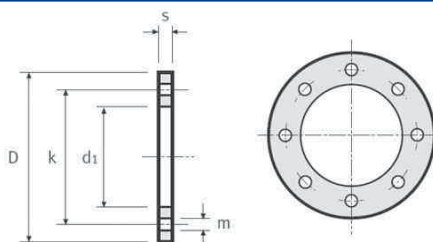
code	d	D	H	h	
F04CL0300	32	38	49	22	50
F04CL0400	40	46	66	31	100
F04CL0500	50	57	61	28	100
F04CL5600	56	64	57	26	50
F04CL0600	63	70	75	35	60
F04CL0700	75	90	96	45	30
F04CL0900	90	100	90	42	30
F04CL1100E	110	120	113	53	30

FLANGE ADAPTOR



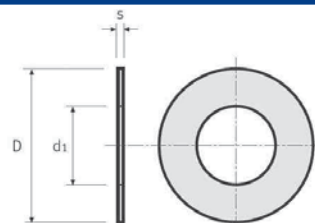
code	d	D	s	H	E	PN	
F04CE0500	50	88	12	50	61	6	1
F04CE5600*	56	102	14	50	75	6	1
F04CE0600	63	102	14	50	75	6	1
F04CE0700	75	122	16	50	89	4	1
F04CE0900	90	138	17	80	105	4	1
F04CE1100	110	158	18	80	125	4	1
F04CE1200	125	158	18	80	132	4	1
F04CE1600	160	212	18	80	175	4	1
F04CE2000	200	268	18	100	232	3,2	1
F04CE2500	250	320	20	80	285	4	1
F04CE3100	315	370	20	80	335	3,2	1

STEEL FLANGE



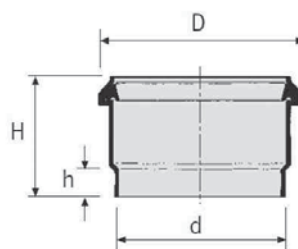
code	DN	D	d1	k	m	s	n° of Holes	
F22FA0500	50	150	62	110	18	16	4	1
F22FA0600	50/63	165	78	125	18	18	4	1
F22FA0700	75	185	92	145	18	18	4	1
F22FA0900	90	200	108	160	18	20	8	1
F22FA1100	110	220	128	180	18	22	8	1
F22FA1200	125	220	135	180	18	22	8	1
F22FA1600	160	285	178	240	22	24	8	1
F22FA2000	200/225	340	238	295	22	26	8	1
F22FA2500	250	395	294	350	22	28	12	1
F22FA3100	315	445	338	400	22	28	12	1

RUBBER SEAL FOR FLANGE



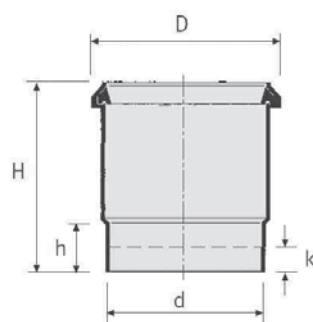
code	DN	d1	D	s	
F04GF0500	50	45	92	3	1
F04GF0600	56/63	59	107	3	1
F04GF0700	75	69	127	3	1
F04GF0900	90	83	142	3	1
F04GF1100	110	102	162	3	1
F04GF1200	125	115	192	3	1
F04GF1600	160	149	217	3	1
F04GF2000	200/225	191	272	3	1
F04GF2500	250	238	327	4	1
F04GF3100	315	298	377	4	1

COUPLING SLEEVE



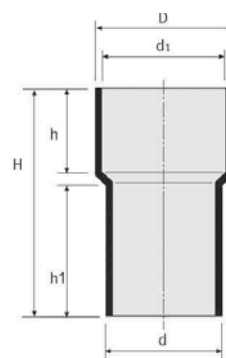
code	d	D	H	h	
F04MI0300	32	46	50	10	30
F04MI0400	40	57	63	16	30
F04MI0500	50	67	63	16	30
F04MI5600	56	73	63	16	80
F04MI0600	63	80	63	16	20
F04MI0700	75	92	88	20	20
F04MI0900	90	108	88	18	20
F04MI1100	110	131	88	18	20
F04MI1200	125	148	88	16	10
F04MI1600	160	192	125	20	10

EXPANSION SLEEVE

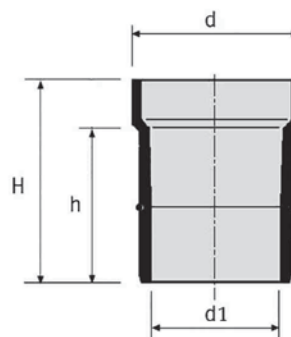


code	d	D	H	h	k	
F04MD0300	32	46	116	12	-	20
F04MD0400	40	58	230	60	40	20
F04MD0500	50	70	230	58	40	20
F04MD5600	56	78	230	58	40	40
F04MD0600	63	84	230	55	35	60
F04MD0700	75	96	230	55	40	20
F04MD0900	90	110	230	55	40	10
F04MD1100	110	130	238	58	40	10
F04MD1200	125	149	238	55	35	10
F04MD1600	160	194	248	63	45	5
F04MD2000*	200	250	400	110	-	1
F04MD2500*	250	306	325	62	-	1
F04MD3100*	315	375	355	70	-	1

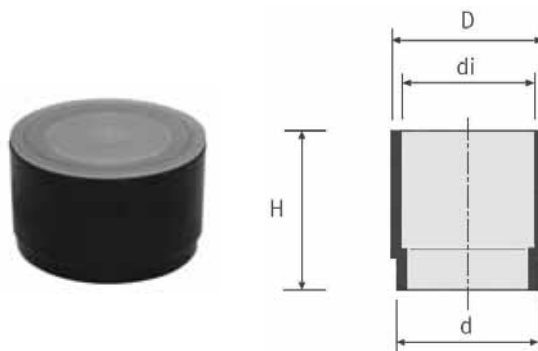
* Prefabricated

**CONTRACTION COUPLING**

code	d	D	d1	H	h	h1	
F14MC0574	50	74	66	250	80	140	1
F14MC0710	75	105	99	250	80	140	1
F14MC0911	90	117	110	250	90	117	1
F14MC1114	110	145	136	250	90	117	1
F14MC1216	125	165	155	250	90	110	1
F14MC1619	160	196	184	250	90	120	1

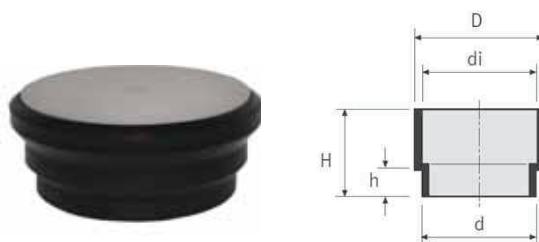
**PVC Ø 100 ADAPTOR, WITH O-ring**

code	d	d1	H	h	h1	
F14MP0900	90	100	105	70	35	10
F14MP1100	110	100	105	70	35	10

**HIGH W.C. COUPLING**

code	d	di	D	H	
F04MW0910•	90	114	120	125	30
F04MW1110•	110	114	120	120	10

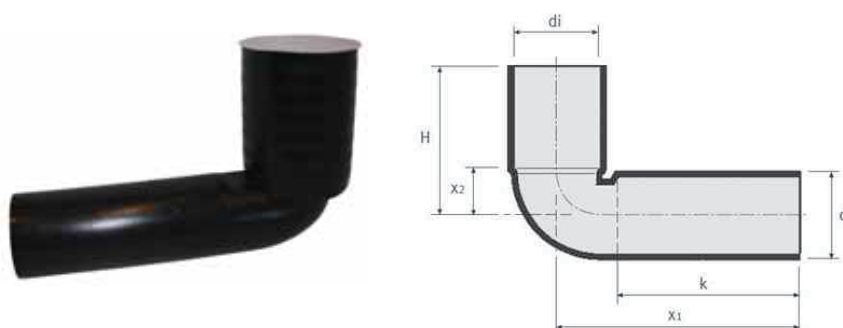
• Use together with gasket F04GW1020

**LOW W.C. COUPLING**

code	d	di	D	H	
F04MW0905•	90	114	120	70	60
F04MW1105*	110	120	130	70	60

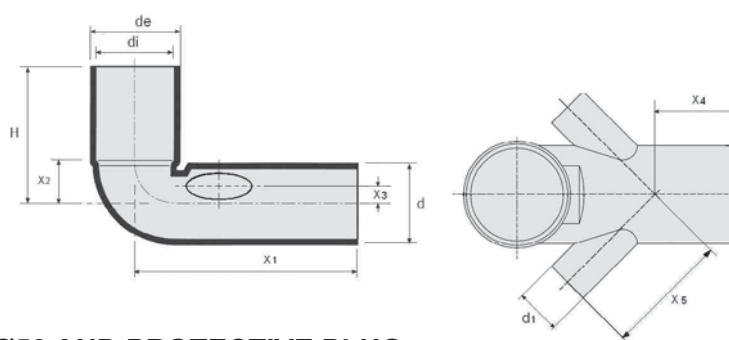
• Use together with gasket F04GW1020

* Use together with gasket F04GW1024

**W.C. BEND WITH EXTENDED COUPLING AND PROTECTIVE PLUG**

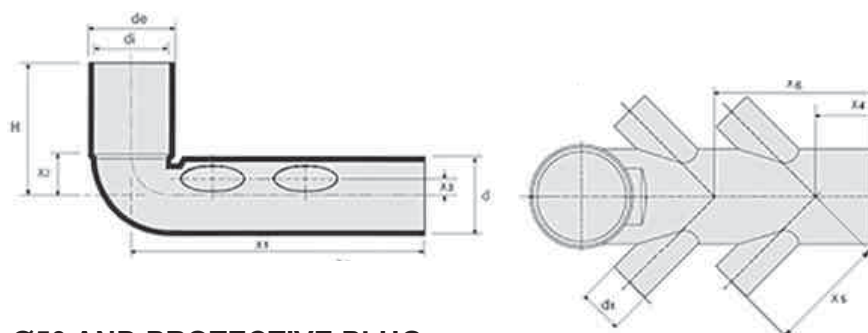
code	d	di	H	X1	X2	k	
F04CW0913•	90	114	180	300	35	185	5
F04CW1100•	110	114	180	300	35	185	5

Use together with gasket F04GW1020



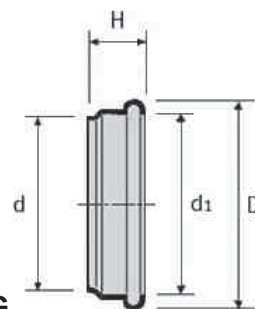
TWO-WAY OPEN W.C. BEND Ø50 AND PROTECTIVE PLUG

code	d	de	di	d1	H	X1	X2	X3	X4	X5	
F04CW0925	90	120	114	50	180	300	35	13	144	116	20
F04CW1125	110	120	114	50	190	300	45	21,5	144	139	15

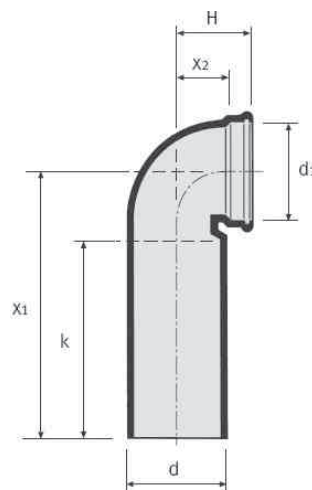


FOUR-WAY OPEN W.C. BEND Ø50 AND PROTECTIVE PLUG

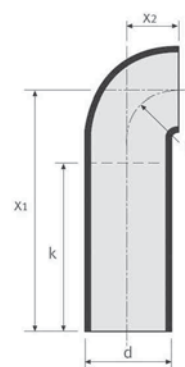
code	d	de	di	d1	H	X1	X2	X3	X4	X5	X6	
F04CW0945	90	120	114	50	180	300	35	13	38	116	144	15
F04CW1145	110	120	114	50	190	300	45	21,5	38	139	144	15

**WALL DRAIN W.C. COUPLING WITH O-ring AND PROTECTIVE PLUG**

code	d	d1	D	H	
F04MW0909	90	90	111	42	50
F04MW1109	110	90	111	31	50
F04MW1111	110	110	131	40	10

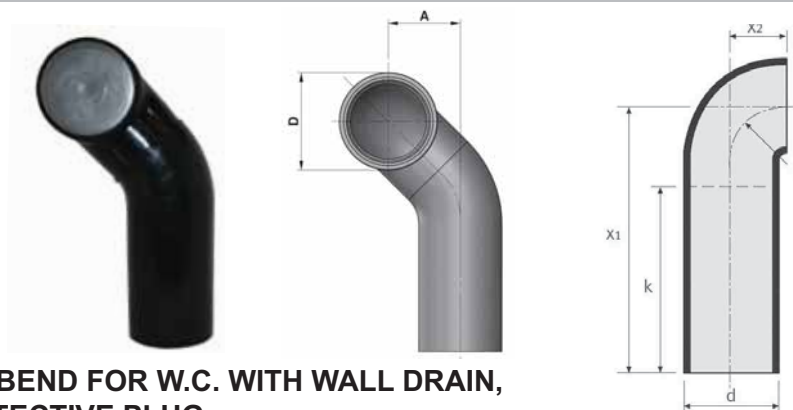
**COUPLING WITH BEND FOR W.C. WITH WALL DRAIN, WITH O-ring AND PROTECTIVE PLUG**

code	d	d1	H	X1	X2	k	
F04MW0900	90	90	85	270	57	155	5
F04MW1119	110	90	80	300	55	185	10
F04MW1100	110	110	85	300	45	185	5

**COUPLING WITH RIGHT BEND FOR W.C. WITH WALL DRAIN, WITH O-Ring AND PROTECTIVE PLUG**

code	d	D	x2	X1	k	A	
F04MW1129*	110	90	111	300	150	100	20
F04MW1101*	110	110	131	300	150	100	20

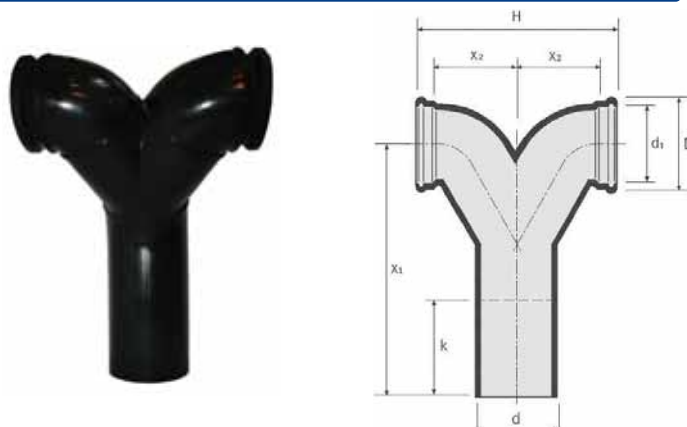
* Prefabricated



**COUPLING WITH LEFT BEND FOR W.C. WITH WALL DRAIN,
WITH O-Ring AND PROTECTIVE PLUG**

code	d	D	x2	X1	k	A	
F04MW1139*	110	90	111	300	150	100	20
F04MW1102*	110	110	131	300	150	100	20

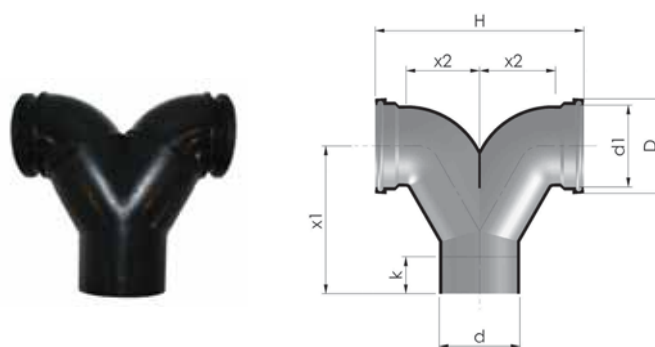
* Prefabricated



**COUPLING WITH DOUBLE BEND
FOR W.C. WITH WALL
DRAIN-HORIZONTAL
OUTLET WITH O-ring
AND PROTECTIVE PLUG**

code	d	d1	D	H	X1	X2	k	
F04MW1149*	110	90	111	270	330	102	95	10
F04MW1103*	110	110	131	270	330	102	95	10

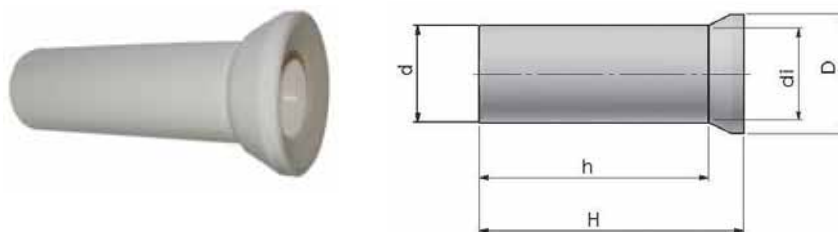
* Prefabricated



**COUPLING WITH DOUBLE BEND
FOR W.C. WITH WALL
DRAIN-VERTICAL
OUTLET WITH O-ring
AND PROTECTIVE PLUG**

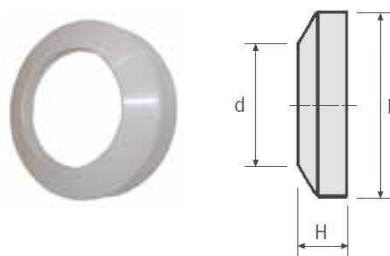
code	d	d1	D	H	X1	X2	k	
F04MW1159*	110	90	110	260	200	100	50	20
F04MW1104*	110	110	130	284	200	100	50	20

* Prefabricated



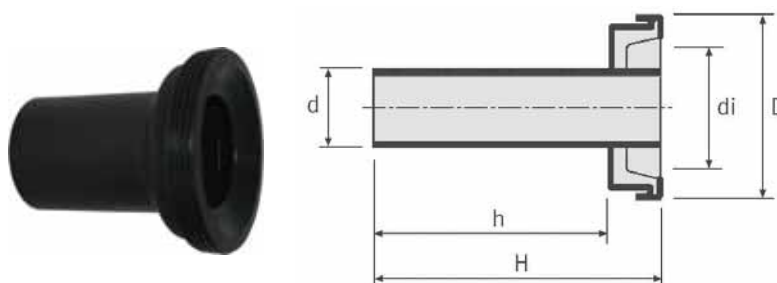
**WHITE PP HTSK COUPLING FOR W.C. CONNECTION WITH WALL DRAIN,
WITH WHITE SEAL**

code	d	D	di	H	h	
F04NB0900	90	135	85±5	300	249	10
F04NB1100	110	135	105±5	300	260	10



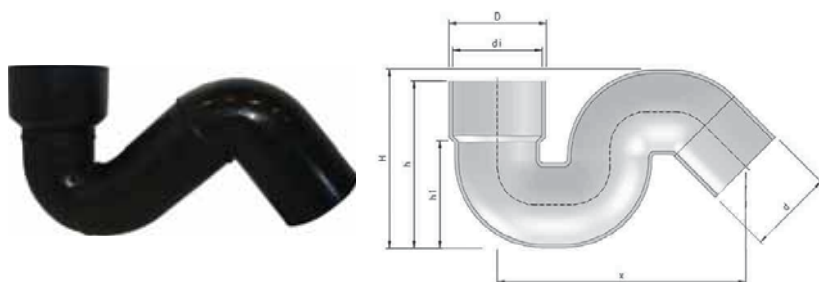
WHITE PP ROSETTE HTSK

code	d	D	H	
F04MA0917	90	145	43	100
F04MA1117	110	165	50	20



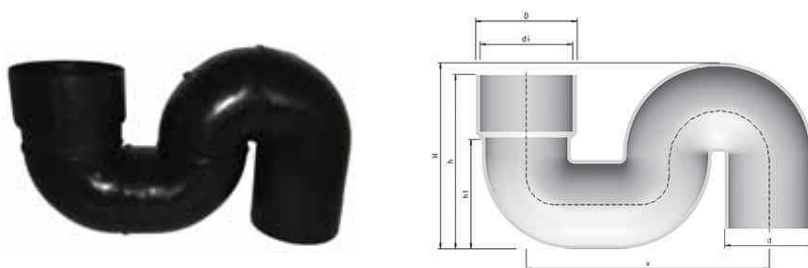
BLACK DRAIN CONNECTION COUPLING FOR SUSPENDED BOWLS, WITH SEAL

code	d	D	di	H	h	
F04MN0900	90	130	115	160	130	10
F04MN1100	110	135	120	160	130	10

**SIPHONED CONNECTION FOR SQUAT TOILETS IN WHITE PE WITH 45° OUTLET**

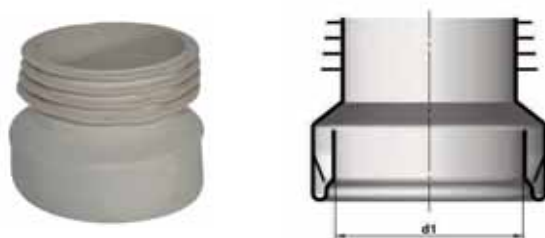
code	d	di	D	H	h	h1	x	
F03AT0945	90	115	125	230	210	150	320	20
F03AT1145E	110	115	125	230	210	150	320	15

Use together with gasket F04GW1021-1022

**SIPHONED CONNECTION FOR SQUAT TOILETS IN WHITE PE WITH 90° OUTLET**

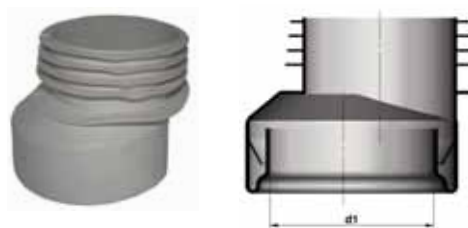
code	d	di	D	H	h	h1	x	
F03AT0990	90	115	125	230	215	135	300	20
F03AT1190	110	115	125	230	215	135	300	5

Use together with gasket F04GW1021-22

**EXTENDED W.C. SEAL**

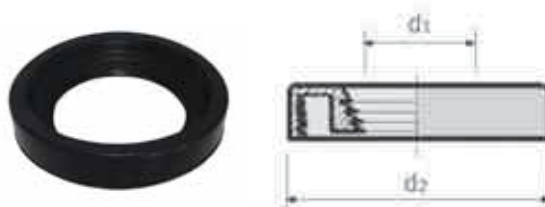
code	d1	d2	
F04GW1021	101±5	120	25

EXTENDED ECCENTRIC W.C. SEAL



code	d1	d2	
F04GW1022	102±5	120	25

W.C. COUPLING SEAL



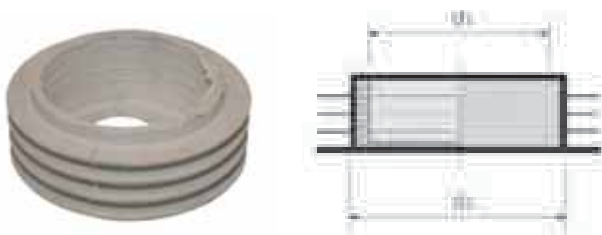
code	d1	d2	
F04GW1024	102	130	10

SEAL FOR FLOOR-STANDING W.C. COUPLING EXTENSION

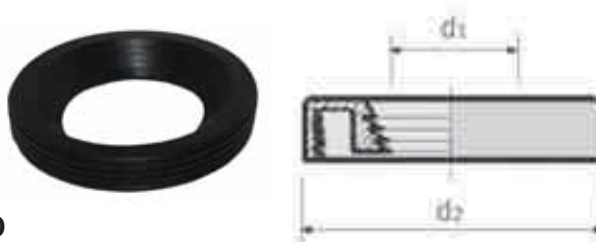


code	d1	d2	
F04GW1023	110	120/125	10

SEAL FOR FLUSHING PIPE CONNECTION COUPLING FOR SUSPENDED BOWL (FOR ART. MN1114)



code	d1	d2	
F04GW1025	45	55	10

**SEAL FOR W.C. COUPLING AND BEND**

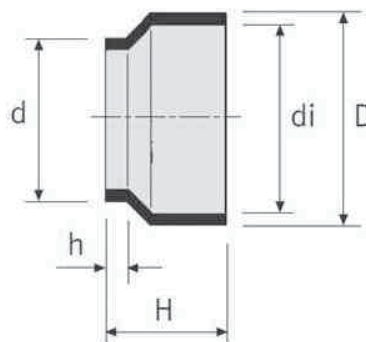
code	d1	d2	
F04GW1020	102±5	120	10

**BRASS FITTING WITH GAS-THREADED ROTATING NUT**

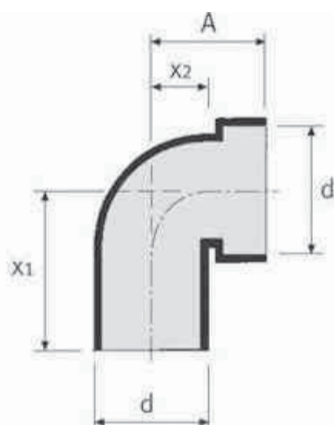
code	d	G	H	h	
F04ND3214	32	1"1/4	78	65	20
F04ND4014	40	1"1/4	78	65	20
F04ND4012	40	1"1/2	78	65	20
F04ND5014	50	1"1/4	78	65	20
F04ND5012	50	1"1/2	78	65	20

**BRASS FITTING WITH BEND AND GAS-THREADED ROTATING NUT**

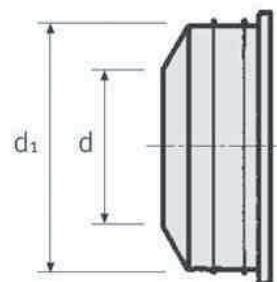
code	d	G	H	x1	x2	
F14NA1414	40	1"1/4	78	150	65	5
F14NA1412	40	1"1/2	78	150	65	10
F14NA1514	50	1"1/4	88	180	75	50
F14NA1512	50	1"1/2	88	180	75	50

**COUPLING FOR TRAP WITH PROTECTIVE PLUG**

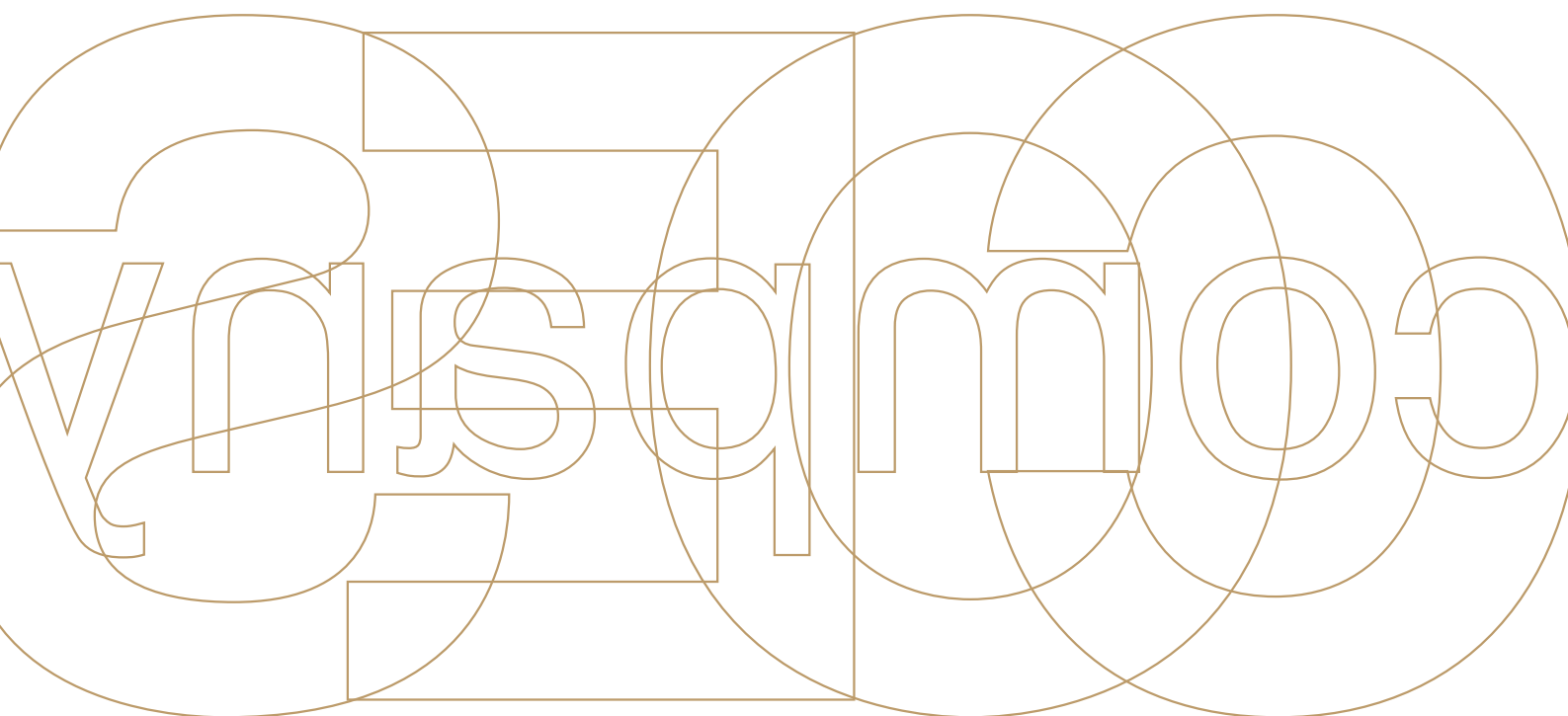
code	d	di	D	H	h	
F04MS0446	40	46	52	32	6	150
F04MS0546	50	46	52	32	6	100
F04MS0558	50	58	64	38	6	100
F04MS5646	56	46	52	36	10	100

**TECHNICAL BEND TTRAP WITH PROTECTIVE PLUG**

code	d	di	A	X1	X2	
F04CT0346	32	46	46	60	23	50
F04CT0446	40	46	50	63	27	30
F04CT0546	50	46	50	63	27	30
F04CT0558	50	58	47	70	24	30
F04CT5646	56	46	60	63	37	100

**SEAL FOR TECNICAL BEND AND TRAP COUPLING**

code	d	d1	
F04GC2632	32	26	50
F04GC4046	40	46	50
F04GC5058	50	58	50



Coestilen®

building the future **together**

