

# TERRAIN



## Terrain FUZE

High performance HDPE system for non-pressure drainage



# Terrain FUZE



A modern high density polyethylene system with many advantages over cast iron and other traditional systems. Terrain FUZE is a top-to-bottom solution for all above and below ground drainage and many chemical waste applications. It allows specifiers and installers to benefit, by providing them maximum flexibility in their design process. Utilising the intrinsic properties of high-density polyethylene,

Terrain FUZE offers greater benefits above and beyond more traditional materials and performs significantly better when tested for impact and abrasion resistance, chemical corrosion and extreme temperatures. The lightweight nature of Terrain FUZE allows the product to be installed quickly and efficiently, giving direct, resource-saving benefits to specifiers and installers.

For further information see contact details on the back cover of this brochure.

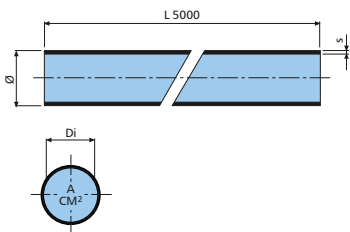
# Contents

## Terrain FUZE

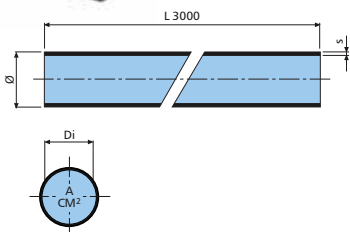
Soil Pipes and Fittings	04 - 28
Soil Spare Parts	29 - 34
Waste Pipes and Fittings	35 - 47
Waste Spare Parts	48 - 50
Accessories	51
Properties and Characteristics	52 - 55
Installation	56 - 59
Jointing Methods	60 - 67
Preparation	68 - 75
Features and benefits	76 - 77
Notes	78 - 79

# Terrain FUZE Soil Pipes

## HDPE soil pipes

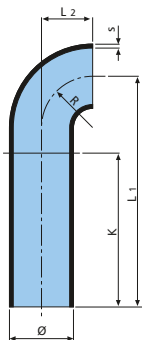


Ø	Di	S	A cm <sup>2</sup>	PN	Kg/m	Code
<b>HDPE PIPE (5 METRE LENGTH)</b>						
110	101.4	4.3	80.7	4	1.450	900.110.50
160	147.6	6.2	171.1	4	3.080	900.160.50
63	57	3	25.4	5	0.595	900.63.50
75	69	3	37.3	4.1	0.740	900.75.50
90	83	3.5	54.1	4	0.980	900.90.50
125	115.2	4.9	104.5	4	1.860	900.125.50
200	187.6	6.2	276.4	3.2	4.100	900.200.50
250	234.4	7.8	431.5	3.2	6.100	900.250.50
315	295.4	9.8	685.3	3.2	9.510	900.315.50

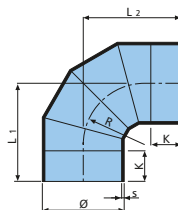


Ø	Di	S	A cm <sup>2</sup>	PN	Kg/m	Code
<b>HDPE PIPE (3 METRE LENGTH)</b>						
110	101.4	4.3	80.7	4	1.450	900.110.30
160	147.6	6.2	171.1	4	3.080	900.160.30
63	57	3	25.4	5	0.595	900.63.30
75	69	3	37.3	4.1	0.740	900.75.30
90	83	3.5	54.1	4	0.980	900.90.30
125	115.2	4.9	104.5	4	1.860	900.125.30

## HDPE soil pipe fittings



Ø	S	L <sub>1</sub>	L <sub>2</sub>	R	K	Kg	Code
<b>HDPE 90° BEND</b>							
110	4.3	270	100	100	170	0.490	907.110.90
160	6.2	140	140	140	-	0.690	907.160.90
63	3	210	50	50	160	0.145	907.63.90
75	3	210	70	70	140	0.180	907.75.90
90	3.5	240	90	90	150	0.280	907.90.90
125	4.9	200	110	110	90	0.490	907.125.90



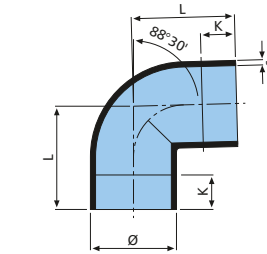
Ø	S	L <sub>1</sub>	L <sub>2</sub>	R	K	Kg	Code
<b>HDPE 90° WIDE RADIUS BEND</b>							
* 200	6.2	300	300	240	75	1.745	907.200.90
* 250	7.8	335	335	320	30	3.400	907.250.90
* 315	9.8	370	370	350	30	5.890	907.315.90

\* Segmented

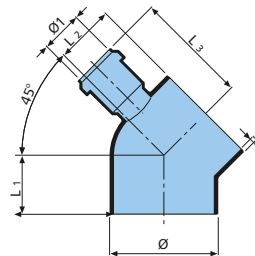
# Terrain FUZE Soil Fittings

## HDPE soil pipe fittings

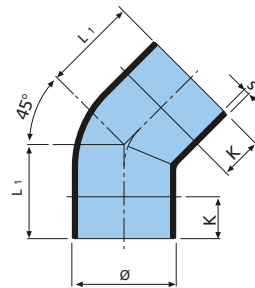
Ø	S	L	K	Kg	Code
<b>HDPE 91° 30' (88° 30') BEND</b>					
110	4.3	95	25	0.230	901.110.92
160	6.2	123	35	0.700	901.160.92
63	3	70	20	0.075	901.63.92
75	3	75	20	0.095	901.75.92
90	3.5	80	20	0.135	901.90.92
125	4.9	103	35	0.330	901.125.92



Ø/Ø <sub>1</sub>	S	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	Kg	Code
<b>HDPE 45° BEND WITH SOCKET BRANCH</b>						
110/40	4.3	60	55	110	0.210	901.11040.135
110/50	4.3	60	55	110	0.210	901.11050.135
90/40	3.5	55	45	100	0.150	901.9040.135



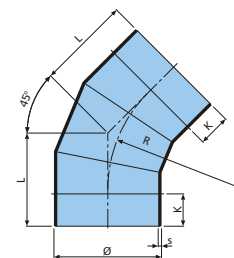
Ø	S	L <sub>1</sub>	K	Kg	Code
<b>HDPE 45° BEND</b>					
110	4.3	60	25	0.170	901.110.135
160	6.2	69	20	0.430	901.160.135
63	3	50	20	0.060	901.63.135
75	3	50	20	0.070	901.75.135
90	3.5	55	20	0.110	901.90.135
125	4.9	65	25	0.245	901.125.135



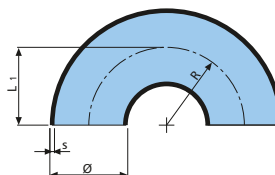
Ø	S	L	R	K	Kg	Code
<b>HDPE 45° WIDE RADIUS BEND</b>						
* 200	6.2	180	420	75	1.330	901.200.135
* 250	7.8	185	430	30	2.150	901.250.135
* 315	9.8	185	440	30	3.400	901.315.135

\* Segmented

\* Segmented

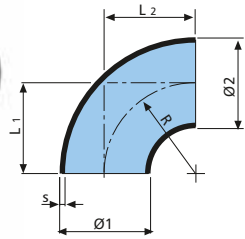


Ø	S	L <sub>1</sub>	R	Kg	Code
<b>HDPE 180° BEND</b>					
110	4.3	103	99	0.450	901.110.180
63	3.0	63	64	0.115	901.63.180
75	3.0	75	74	0.210	901.75.180
90	3.5	90	88	0.330	901.90.180

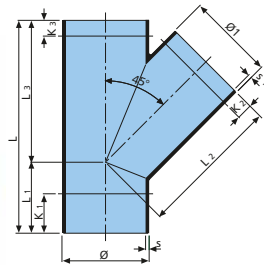


# Terrain FUZE Soil Fittings

## HDPE soil pipe fittings

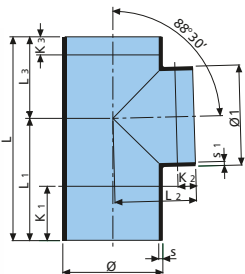


$\varnothing_1/\varnothing_2$	S	L <sub>1</sub>	L <sub>2</sub>	R	Kg	Code
<b>HDPE 90° REDUCING BEND</b>						
63/50	3	50	50	50	0.045	901.6350.90



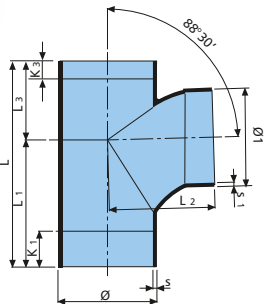
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<b>HDPE 45° EQUAL BRANCH</b>									
110/110	4.3	270	90	180	55	20	20	0.530	904.110.135
160/160	6.2	375	125	250	75	25	25	1.475	904.160.135
63/63	3	195	65	130	40	25	25	0.155	904.63.135
75/75	3	210	70	140	40	25	25	0.205	904.75.135
90/90	3.5	240	80	160	50	20	20	0.320	904.90.135
125/125	4.9	300	100	200	60	20	20	0.765	904.125.135
* 200/200	6.2	540	180	360	85	10	10	2.990	904.200.135
* 250/250	7.8	660	220	440	115	55	55	5.800	904.250.135
* 315/315	9.8	840	280	560	160	95	95	11.10	904.315.135

\* Segmented



$\varnothing/\varnothing_1$	S/S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub> /L <sub>3</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	Kg	Code
<b>HDPE 88° 30' EQUAL BRANCH</b>									
110/110	4.3	225	135	90	65	20	20	0.365	904.110.90
160/160	6.2	350	210	140	105	30	30	1.190	904.160.90
63/63	3	175	105	70	60	25	25	0.120	904.63.90
75/75	3	175	105	70	55	25	25	0.145	904.75.90
90/90	3.5	200	120	80	65	25	25	0.220	904.90.90
125/125	4.9	250	150	100	70	20	20	0.510	904.125.90
* 200/200	6.2	360	180	180	25	30	25	1.705	904.200.90
* 250/250	7.8	440	220	220	40	40	40	3.100	904.250.90
* 315/315	9.8	560	280	280	70	65	70	6.150	904.315.90

\* Welded

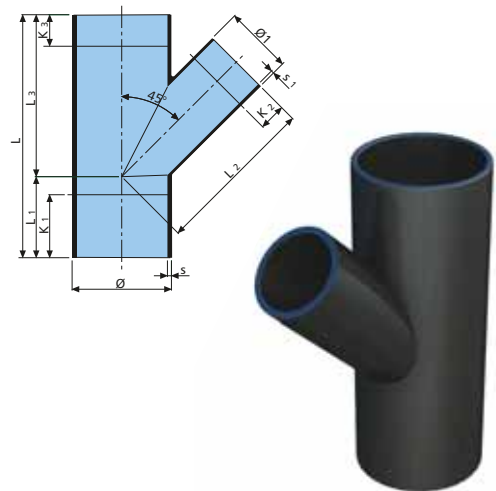


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<b>HDPE 88° 30' SWEPT BRANCH</b>										
110/110	4.3	230	140	120	90	90	40	20	0.415	904.110.92

## HDPE soil pipe fittings

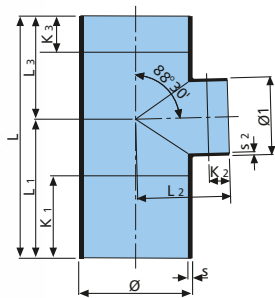
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<b>HDPE 45° REDUCING BRANCH</b>										
110/40	4.3	3	270	90	180	95	50	55	0.450	904.11040.135
110/50	4.3	3	270	90	180	95	50	55	0.440	904.11050.135
110/56	4.3	3	270	90	180	90	40	45	0.455	904.11056.135
110/63	4.3	3	270	90	180	80	35	40	0.455	904.11063.135
110/75	4.3	3	270	90	180	75	30	35	0.470	904.11075.135
110/90	4.3	3.5	270	90	180	65	25	30	0.485	904.11090.135
160/110	6.2	4.3	375	125	250	110	45	55	1.250	904.160110.135
160/125	6.2	4.9	375	125	250	100	40	50	1.300	904.160125.135
63/40	3	3	195	65	130	40	30	30	0.105	904.6340.135
63/50	3	3	195	65	130	40	30	30	0.150	904.6350.135
63/56	3	3	195	65	130	40	25	25	0.180	904.6356.135
75/40	3	3	210	70	140	60	30	40	0.150	904.7540.135
75/50	3	3	210	70	140	60	30	40	0.190	904.7550.135
75/56	3	3	210	70	140	55	25	35	0.190	904.7556.135
75/63	3	3	210	70	140	55	25	35	0.190	904.7563.135
90/40	3.5	3	240	80	160	80	40	50	0.270	904.9040.135
90/50	3.5	3	240	80	160	80	40	50	0.275	904.9050.135
90/56	3.5	3	240	80	160	75	35	45	0.275	904.9056.135
90/63	3.5	3	240	80	160	65	30	25	0.275	904.9063.135
90/75	3.5	3	240	80	160	65	30	25	0.300	904.9075.135
125/40	4.9	3	300	100	200	95	45	50	0.610	904.12540.135
125/50	4.9	3	300	100	200	95	45	50	0.630	904.12550.135
125/56	4.9	3	300	100	200	95	45	50	0.630	904.12556.135
125/63	4.9	3	300	100	200	95	40	50	0.585	904.12563.135
125/75	4.9	3	300	100	200	95	40	50	0.630	904.12575.135
125/90	4.9	3.5	300	100	200	80	35	30	0.650	904.12590.135
125/110	4.9	4.3	300	100	200	70	25	25	0.700	904.125110.135
* 200/110	6.2	4.3	540	180	360	150	140	65	2.400	904.200110.135
* 200/125	6.2	4.9	540	180	360	140	130	55	2.500	904.200125.135
* 200/160	6.2	6.2	540	180	360	115	85	35	2.700	904.200160.135
* 250/110	7.8	4.3	660	220	440	215	185	150	4.400	904.250110.135
* 250/125	7.8	4.9	660	220	440	205	175	140	4.750	904.250125.135
* 250/160	7.8	6.2	660	220	440	180	130	50	4.850	904.250160.135
* 250/200	7.8	6.2	660	220	440	150	50	90	5.000	904.250200.135
* 315/110	9.8	4.3	840	280	560	305	260	235	8.600	904.315110.135
* 315/125	9.8	4.9	840	280	560	290	250	220	9.150	904.315125.135
* 315/160	9.8	6.2	840	280	560	270	205	200	9.150	904.315160.135
* 315/200	9.8	6.2	840	280	560	240	125	175	9.450	904.315200.135
* 315/250	9.8	7.8	840	280	560	205	130	140	9.250	904.315250.135

\* Welded



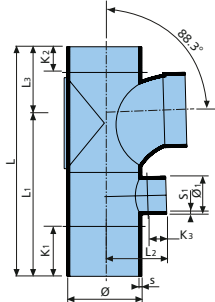
# Terrain FUZE Soil Fittings

## HDPE soil pipe fittings

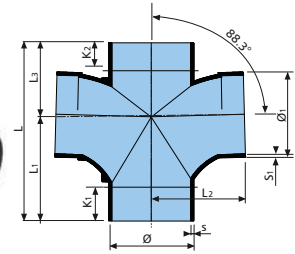


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<b>HDPE 88° 30' REDUCING BRANCH</b>										
110/40	4.3	3	225	135	90	100	25	60	0.345	904.11040.90
110/50	4.3	3	225	135	90	95	25	50	0.345	904.11050.90
110/56	4.3	3	225	135	90	90	25	45	0.345	904.11056.90
110/63	4.3	3	225	135	90	95	25	35	0.340	904.11063.90
110/75	4.3	3	225	135	90	85	25	35	0.345	904.11075.90
110/90	4.3	3.5	225	135	90	75	25	30	0.360	904.11090.90
160/110	6.2	4.3	350	210	140	135	45	60	1.120	904.160110.90
160/125	6.2	4.9	350	210	140	125	45	50	1.145	904.160125.90
<b>HDPE 88° 30' REDUCING BRANCH (continued)</b>										
63/40	3	3	175	105	70	70	30	35	0.115	904.6340.90
63/50	3	3	175	105	70	70	30	35	0.125	904.6350.90
63/56	3	3	175	105	70	60	30	30	0.125	904.6356.90
75/40	3	3	175	105	70	75	25	35	0.140	904.7540.90
75/50	3	3	175	105	70	70	25	35	0.140	904.7550.90
75/56	3	3	175	105	70	65	25	30	0.140	904.7556.90
75/63	3	3	175	105	70	60	25	25	0.145	904.7563.90
90/40	3.5	3	200	120	80	85	25	45	0.205	904.9040.90
90/50	3.5	3	200	120	80	85	25	45	0.410	904.9050.90
90/56	3.5	3	200	120	80	85	25	35	0.410	904.9056.90
90/63	3.5	3	200	120	80	75	25	35	0.410	904.9063.90
90/75	3.5	3	200	120	80	70	25	30	0.430	904.9075.90
125/110	4.9	4.3	250	150	100	80	20	30	0.490	904.125110.90
* 200/110	6.2	4.3	360	180	180	70	60	70	1.510	904.200110.90
* 200/125	6.2	4.9	360	180	180	65	60	65	1.460	904.200125.90
* 200/160	6.2	6.2	360	180	180	45	50	45	1.600	904.200160.90
* 250/110	7.8	4.3	440	220	220	110	75	110	2.715	904.250110.90
* 250/125	7.8	4.9	440	220	220	105	75	105	2.420	904.250125.90
* 250/160	7.8	6.2	440	220	220	85	65	85	2.800	904.250160.90
* 250/200	7.8	6.2	440	220	220	65	60	65	2.820	904.250200.90
* 315/110	9.8	4.3	560	280	280	170	100	170	5.315	904.315110.90
* 315/125	9.8	4.9	560	280	280	165	100	165	5.420	904.315125.90
* 315/160	9.8	6.2	560	280	280	145	90	145	5.370	904.315160.90
* 315/200	9.8	6.2	560	280	280	120	65	120	5.570	904.315200.90
* 315/250	9.8	7.8	560	280	280	95	65	95	5.620	904.315250.90

\* Welded



$\varnothing/\varnothing_1$	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	Kg	Code
<b>HDPE 110x56 SINGLE BOSS PIPE SWEEP BRANCH</b>											
110/56	4.3	3.0	338	240	90	97	73	37	27	0.575	904.11090.12



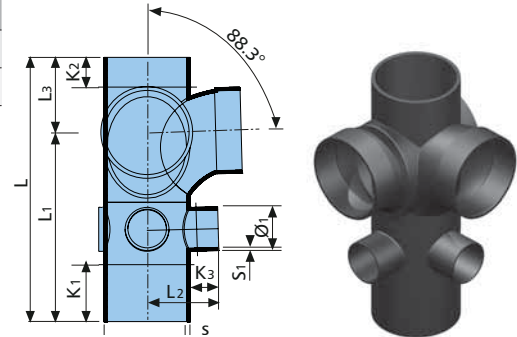
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<b>HDPE 110 BACK TO BACK SWEEP BRANCH</b>									
110/110	4.3	231	134	120	97	43	37	0.553	906.110.92

All dimensions in mm unless otherwise stated

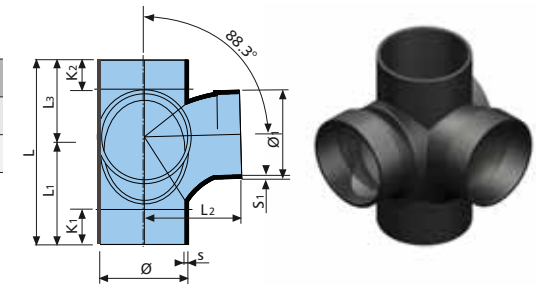


## HDPE soil pipe fittings

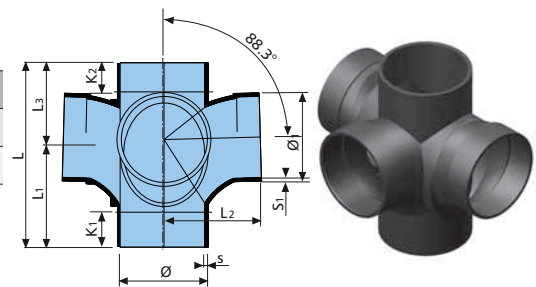
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<b>HDPE 110x56 CORNER BOSS PIPE SWEPT BRANCH</b>											
110/56	4.3	3.0	338	240	90	97	73	37	27	0.710	906.11090.12



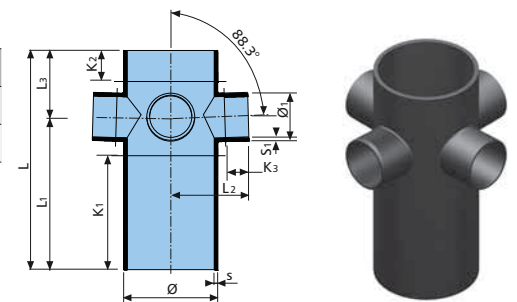
$\emptyset$	S	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	K <sub>1</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE 110 SWEPT CORNER BRANCH</b>									
110	4.4	231	134	120	97	43	37	0.479	906.11090.92



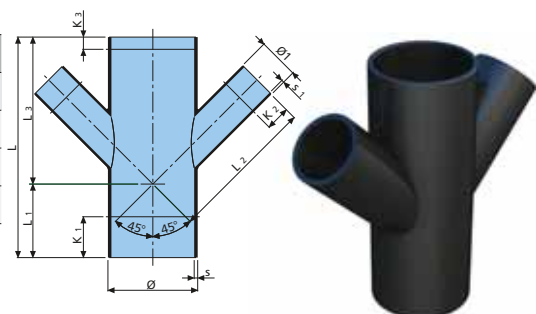
$\emptyset$	S	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	K <sub>1</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE 110 3 WAY SWEPT BRANCH</b>									
110	4.4	231	134	120	97	43	37	0.579	906.11093.92



$\emptyset/\emptyset_1$	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	Kg	Code
<b>HDPE 110x56 4 WAY BRANCH</b>											
110/56	4.3	3.0	257	177	90	79	133	37	37	0.483	920.110.56

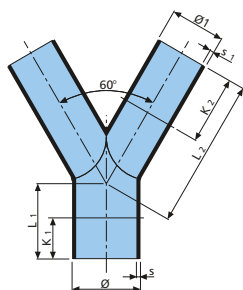


$\emptyset/\emptyset_1$	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2/L3</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	Kg	Code
<b>HDPE 45° DOUBLE REDUCING Y BRANCH</b>										
110/110	4.3	4.3	270	90	180	50	15	15	0.630	906.110.135
110/40	4.3	3	270	90	180	95	30	15	0.435	906.11040.135
110/50	4.3	3	270	90	180	95	30	15	0.455	906.11050.135

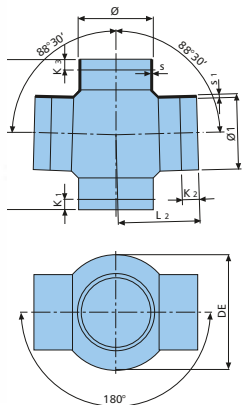


# Terrain FUZE Soil Fittings

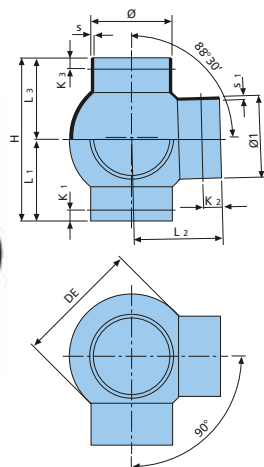
## HDPE soil pipe fittings



$\text{Ø}/\text{Ø}_1$	S	S <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	K <sub>1</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE 60° DOUBLE Y BRANCH</b>								
110/110	4.3	4.3	90	120	50	-	0.393	906.110.60
63/50	3	3	65	130	50	40	0.141	906.6350.60



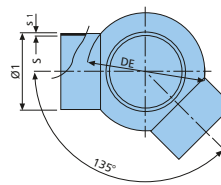
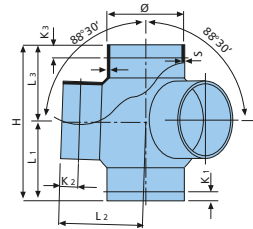
$\text{Ø}/\text{Ø}_1$	S	S <sub>1</sub>	H	DE	L <sub>1</sub> /L <sub>3</sub>	L <sub>2</sub>	K <sub>1</sub> /K <sub>3</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE 180° DOUBLE BRANCH BALL FITTING</b>										
110/50	4.3	3	220	170	105	120	15	15	0.440	916.11050.180
110/56	4.3	3	220	170	105	120	15	15	0.450	916.11056.180
110/75	4.3	3	220	170	105	120	15	15	0.430	916.11075.180
110/90	4.3	3.5	220	170	105	120	15	15	0.470	916.11090.180
110/110	4.3	4.3	220	170	105	120	15	15	0.480	916.110.180
125/50	4.9	3	220	190	110	125	15	15	0.495	916.12550.180
125/56	4.9	3	220	190	110	125	15	15	0.500	916.12556.180
125/75	4.9	3	220	190	110	125	15	15	0.555	916.12575.180
125/90	4.9	3.5	220	190	110	125	15	15	0.555	916.12590.180
125/110	4.9	4.3	220	190	110	125	15	25	0.565	916.125110.180
125/125	4.9	4.9	220	190	110	125	15	25	0.625	916.125.180



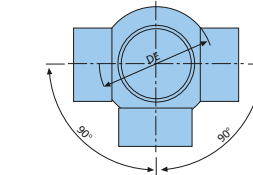
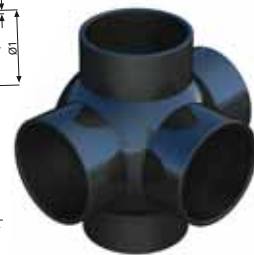
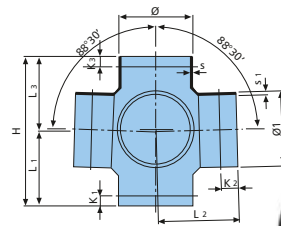
$\text{Ø}/\text{Ø}_1$	S	S <sub>1</sub>	H	L <sub>1</sub> /L <sub>3</sub>	L <sub>2</sub>	K <sub>1</sub> /K <sub>3</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE 90° DOUBLE BRANCH BALL FITTING</b>									
110/50	4.3	3	220	105	120	15	15	0.450	916.11050.90
110/56	4.3	3	220	105	120	15	15	0.425	916.11056.90
110/75	4.3	3	220	105	120	15	15	0.500	916.11075.90
110/90	4.3	3.5	220	105	120	15	15	0.465	916.11090.90
110/110	4.3	4.3	220	105	120	15	15	0.505	916.110.90
125/50	4.9	3	220	110	125	15	15	0.500	916.12550.90
125/56	4.9	3	220	110	125	15	15	0.500	916.12556.90
125/75	4.9	3	220	110	125	15	15	0.530	916.12575.90
125/90	4.9	3.5	220	110	125	15	15	0.540	916.12590.90
125/110	4.9	4.3	220	110	125	15	25	0.605	916.125110.90
125/125	4.9	4.9	220	110	125	15	25	0.620	916.125.90

## HDPE soil pipe fittings

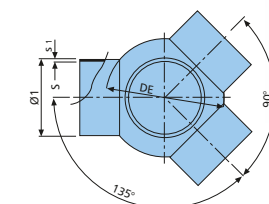
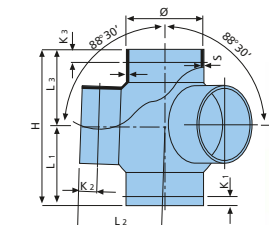
$\emptyset/\emptyset_1$	S	S <sub>1</sub>	H	L <sub>1</sub> /L <sub>3</sub>	L <sub>2</sub>	K <sub>1</sub> /K <sub>3</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE 135° DOUBLE BRANCH BALL FITTING</b>									
110/50	4.3	3	220	105	120	15	15	0.440	916.11050.135
110/56	4.3	3	220	105	120	15	15	0.445	916.11056.135
110/75	4.3	3	220	105	120	15	15	0.455	916.11075.135
110/90	4.3	3.5	220	105	120	15	15	0.470	916.11090.135
110/110	4.3	4.3	220	105	120	15	25	0.500	916.110.135
125/50	4.9	3	220	110	125	15	15	0.490	916.12550.135
125/56	4.9	3	220	110	125	15	15	0.555	916.12556.135
125/75	4.9	3	220	110	125	15	15	0.565	916.12575.135
125/90	4.9	3.5	220	110	125	15	15	0.575	916.12590.135
125/110	4.9	4.3	220	110	125	15	25	0.600	916.125110.135
125/125	4.9	4.9	220	110	125	15	25	0.740	916.125.135



$\emptyset/\emptyset_1$	S	S <sub>1</sub>	H	L <sub>1</sub> /L <sub>3</sub>	L <sub>2</sub>	K <sub>1</sub> /K <sub>3</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE 90° MULTI BRANCH BALL FITTING</b>									
110/50	4.3	3	220	105	120	15	15	0.320	916.11050.903
110/56	4.3	3	220	105	120	15	15	0.470	916.11056.903
110/75	4.3	3	220	105	120	15	15	0.460	916.11075.903
110/90	4.3	3.5	220	105	120	15	15	0.510	916.11090.903
110/110	4.3	4.3	220	105	120	15	15	0.545	916.110.903
125/50	4.9	3	220	110	125	15	15	0.570	916.12550.903
125/56	4.9	3	220	110	125	15	15	0.515	916.12556.903
125/75	4.9	3	220	110	125	15	15	0.515	916.12575.903
125/90	4.9	3.5	220	110	125	15	15	0.525	916.12590.903
125/110	4.9	4.3	220	110	125	15	25	0.595	916.125110.903
125/125	4.9	4.9	220	110	125	15	25	0.670	916.125.903

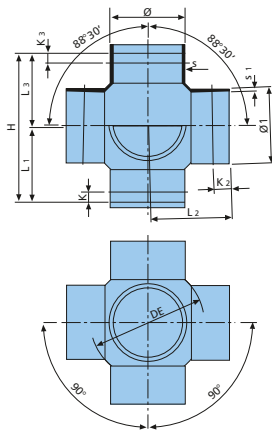


$\emptyset/\emptyset_1$	S	S <sub>1</sub>	H	L <sub>1</sub> /L <sub>3</sub>	L <sub>2</sub>	K <sub>1</sub> /K <sub>3</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE 135° MULTI BRANCH BALL FITTING</b>									
110/50	4.3	3	220	105	120	15	15	0.465	916.11050.1353
110/56	4.3	3	220	105	120	15	15	0.455	916.11056.1353
110/75	4.3	3	220	105	120	15	15	0.440	916.11075.1353
110/90	4.3	3.5	220	105	120	15	15	0.450	916.11090.1353
110/110	4.3	4.3	220	105	120	15	15	0.540	916.110.1353
125/50	4.9	3	220	110	125	15	15	0.630	916.12550.1353
125/56	4.9	3	220	110	125	15	15	0.515	916.12556.1353
125/75	4.9	3	220	110	125	15	15	0.620	916.12575.1353
125/90	4.9	3.5	220	110	125	15	15	0.630	916.12590.1353
125/110	4.9	4.3	220	110	125	15	25	0.620	916.125110.1353
125/125	4.9	4.9	220	110	125	15	25	0.670	916.125.1353

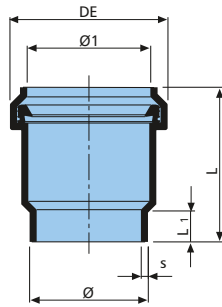


# Terrain FUZE Soil Fittings

## HDPE soil pipe fittings

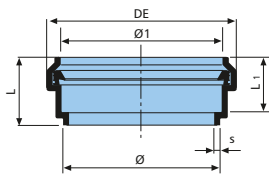


$\varnothing/\varnothing_1$	S	S <sub>1</sub>	H	L <sub>1</sub> /L <sub>3</sub>	L <sub>2</sub>	K <sub>1</sub> /K <sub>3</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE MULTI BRANCH BALL FITTING</b>									
110/50	4.3	3	220	105	120	15	15	0.480	916.11050.904
110/56	4.3	3	220	105	120	15	15	0.480	916.11056.904
110/75	4.3	3	220	105	120	15	15	0.475	916.11075.904
110/90	4.3	3.5	220	105	120	15	15	0.535	916.11090.904
110/110	4.3	4.3	220	105	120	15	15	0.575	916.110.904
125/50	4.9	3	220	105	125	15	15	0.530	916.12550.904
125/56	4.9	3	220	105	125	15	15	0.485	916.12556.904
125/75	4.9	3	220	105	125	15	15	0.425	916.12575.904
125/90	4.9	3.5	220	105	125	15	15	0.680	916.12590.904
125/110	4.9	4.3	220	105	125	15	25	0.690	916.125110.904
125/125	4.9	4.3	220	105	125	15	25	0.740	916.125.904



$\varnothing/\varnothing_1$	S	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE RING SEAL ADAPTOR WITH CAP</b>						
110	4.3	130	95	17	0.220	927.110
160	6.2	188	130	30	0.530	927.160
63	3	79	65	11	0.065	927.63
75	3	92	90	17	0.110	927.75
90	3.5	108	90	17	0.150	927.90
125	4.9	149	95	15	0.230	927.125
200	6.2	225	170	18	1.075	927.200
250	7.8	278	170	22	1.370	927.250
315	9.8	350	180	22	1.970	927.315

○ Without plug

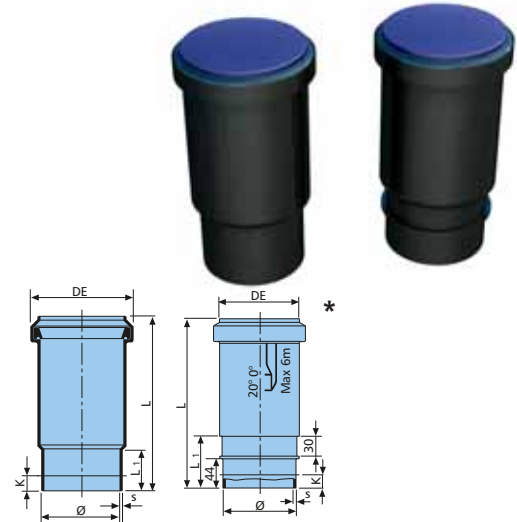


$\varnothing/\varnothing_1$	S	DE	L	L <sub>1</sub>	Kg/m	Code
<b>HDPE SHORT RING SEAL ADAPTOR WITH CAP</b>						
110	4.3	130	42	31.5	0.115	909.110
90	3.5	108	42	31.5	0.070	909.90

## HDPE soil pipe fittings

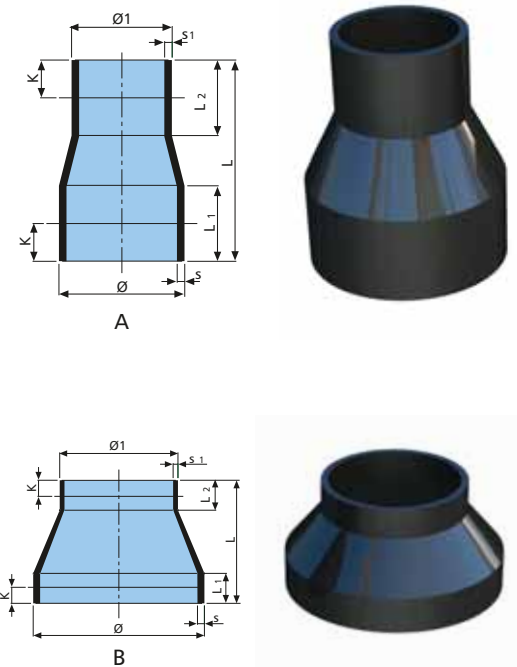
∅	S	DE	L	L <sub>1</sub>	K	Kg	Code
<b>HDPE EXPANSION JOINT WITH CAP</b>							
* 110	4.3	140	255	46	20	0.500	911.110
160	6.2	192	260	72	40	1.010	911.160
63	3	96	235	56	40	0.250	911.63
75	3	109	235	56	40	0.300	911.75
90	3.5	117	235	54	40	0.335	911.90
125	4.9	154	235	53	40	0.625	911.125
200	6.2	228	350	80	40	1.850	911.200
○ 250	7.8	280	440	183	100	3.380	911.250
○ 315	9.8	350	480	183	100	6.100	911.315

○ Without plug \* ∅ 110 only



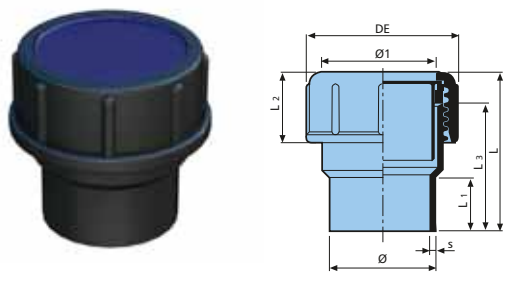
∅1/∅1	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	K	Kg	Code
<b>HDPE CONCENTRIC REDUCERS</b>								
▼ 110/40	4.3	3	80	30	30	15	0.090	924.11040
▼ 110/50	4.3	3	80	30	30	15	0.115	924.11050
▼ 110/56	4.3	3	80	30	30	15	0.095	924.11056
▼ 110/63	4.3	3	80	30	30	15	0.105	924.11063
▼ 110/75	4.3	3	80	30	30	15	0.125	924.11075
▼ 110/90	4.3	3.5	80	30	30	15	0.125	924.11090
● 160/110	6.2	4.3	115	30	30	15	0.255	924.160110
▼ 63/40	3	3	80	30	30	15	0.040	924.6340
▼ 63/50	3	3	80	30	30	15	0.050	924.6350
▼ 63/56	3	3	80	30	30	15	0.045	924.6356
▼ 75/40	3	3	80	30	30	15	0.045	924.7540
▼ 75/50	3	3	80	30	30	15	0.050	924.7550
▼ 75/56	3	3	80	30	30	15	0.060	924.7556
▼ 75/63	3	3	80	30	30	15	0.060	924.7563
▼ 90/40	3.5	3	80	30	30	15	0.085	924.9040
▼ 90/50	3.5	3	80	30	30	15	0.065	924.9050
▼ 90/56	3.5	3	80	30	30	15	0.070	924.9056
▼ 90/63	3.5	3	80	30	30	15	0.090	924.9063
▼ 90/75	3.5	3	80	30	30	15	0.095	924.9075
▼ 125/50	4.9	3	80	30	30	15	0.125	924.12550
▼ 125/56	4.9	3	80	30	30	15	0.125	924.12556
▼ 125/63	4.9	3	80	30	30	15	0.125	924.12563
▼ 125/75	4.9	3	80	30	30	15	0.135	924.12575
▼ 125/90	4.9	3.5	80	30	30	15	0.255	924.12590
▼ 125/110	4.9	4.3	80	30	40	20	0.325	924.125110
▼ 200/160	9.2	6.2	180	60	60	20	0.325	924.200160

● ▼ A      B ●

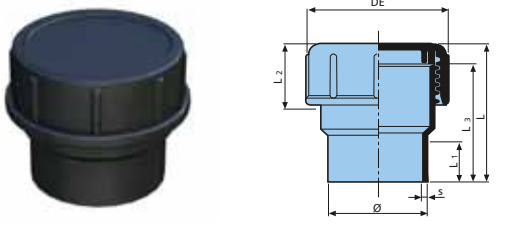


# Terrain FUZE Soil Fittings

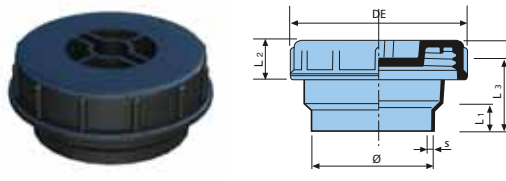
## HDPE soil pipe fittings



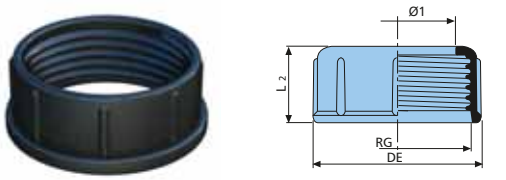
Ø1	Ø1	S	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	DE	Kg	Code
<b>HDPE THREADED COUPLING</b>									
110	4.3	113	30	65	89	144	0.470	912.110	
63	3	79	30	43	66	85	0.130	912.63	
75	3	106	30	45	87	109	0.250	912.75	
90	3.5	86	30	46	88	128	0.340	912.90	



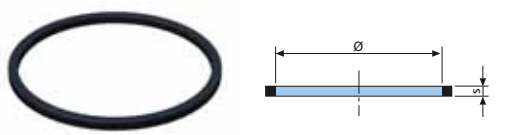
Ø	S	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	DE	Kg	Code
<b>HDPE SCREWED END CAP</b>								
110	4.3	106	30	65	89	144	0.500	936.110
63	3	76	30	43	66	85	0.135	936.63
75	3	103	30	45	87	109	0.280	936.75
90	3.5	103	30	46	88	128	0.355	936.90



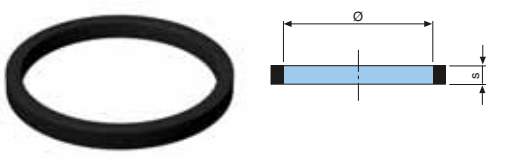
Ø	S	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	DE	Kg	Code
<b>HDPE SHORT SCREWED END CAP</b>								
110	4.3	63	12	33	50	149	0.315	935.110



Ø <sub>1</sub>	RG	DE	L <sub>2</sub>	Kg	Code
<b>HDPE NUT</b>					
110	132	144	65	0.210	9120.110
63	76	85	43	0.060	9120.63
75	96	109	45	0.100	9120.75
90	112	128	46	0.145	9120.90



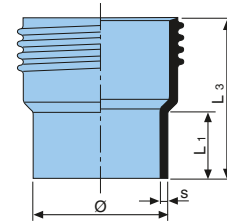
Ø	S	Kg	Code
<b>HDPE RING</b>			
110	4	0.006	9118.110
63	4	0.002	9118.63
75	4	0.004	9118.75
90	3	0.002	9118.90



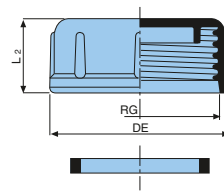
Ø	S	Kg	Code
<b>RUBBER SEAL</b>			
110/A	10	0.025	9119.110
110/B	5	0.015	9119.110B
63	7	0.006	9119.63
75	10	0.020	9119.75
90	7	0.010	9119.90

## HDPE soil pipe fittings

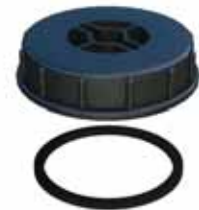
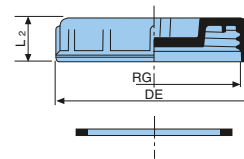
Ø	S	L <sub>1</sub>	L <sub>3</sub>	Kg	Code
<b>HDPE THREADED UNION</b>					
110	4.3	30	89	0.170	9122.110
63	3	30	66	0.040	9122.63
75	3	30	87	0.095	9122.75
90	3.5	30	88	0.085	9122.90



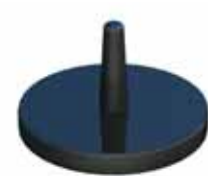
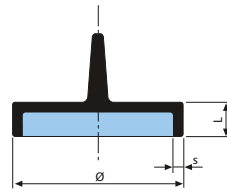
Ø	RG	DE	L <sub>2</sub>	Kg	Code
<b>HDPE END CAP WITH SEAL</b>					
110	132	144	65	0.300	9121.110
63	77	85	43	0.085	9121.63
75	97	109	45	0.160	9121.75
90	113	128	46	0.215	9121.90



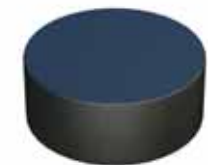
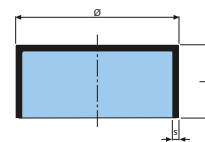
Ø	RG	DE	L <sub>2</sub>	Kg	Code
<b>HDPE SHORT END CAP WITH SEAL</b>					
110	132	149	33	0.215	9938.110



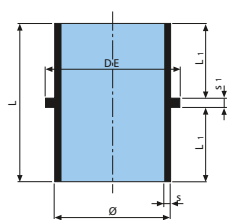
Ø	S	L	Kg	Code
<b>HDPE WELD ON END CAP</b>				
110	4.3	10	0.050	930.110
63	3	10	0.015	930.63
75	3	10	0.020	930.75
90	3.5	10	0.030	930.90
125	4.9	10	0.070	930.125



Ø	S	L	Kg	Code
<b>HDPE END CAP</b>				
160	6.2	72	0.310	930.160
200	6.2	110	0.560	930.200
250	7.8	93	0.750	930.250
315	9.2	117	1.420	930.315

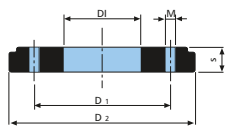


Ø	S	S <sub>1</sub>	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE ANCHOR PIPE</b>							
110	4.3	6	120	112	53.5	0.165	970.110
63	3	4	71	72	34	0.045	970.63
75	3	5	84	83	39.5	0.060	970.75
90	3.5	5	100	100	47.5	0.100	970.90

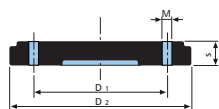


# Terrain FUZE Soil Fittings

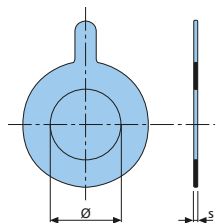
## HDPE soil pipe fittings



Ø	S	DI	D <sub>1</sub>	D <sub>2</sub>	M	Hole No	Kg	Code
<b>PAINTED ALUMINIUM BACKING FLANGE</b>								
110	22	128	182	220	19	8	1.050	981.110
160	25	179	240	285	22	8	1.840	981.160
63	17	78	128	165	18	4	0.650	981.63
75	21	93	148	185	18	4	0.885	981.75
90	22	108	160	200	17	8	1.005	981.90
125	22	136	176	220	18	8	1.150	981.125
200	26	235	295	337	22	8	2.325	981.200
250	30	285	350	396	22	12	3.780	981.250
315	30	340	400	444	22	12	3.945	981.315



Ø	S	D <sub>1</sub>	D <sub>2</sub>	M	Hole No	Kg	Code
<b>PAINTED ALUMINIUM BLANK FLANGE</b>							
110	22	176	220	18	8	1.700	983.110
160	25	240	285	22	8	2.945	983.160
63	17	128	165	18	4	1.020	983.63
75	21	148	185	18	4	1.305	983.75
90	22	162	200	17	8	1.525	983.90
125	22	182	280	19	8	1.800	983.125
200	26	295	337	22	8	4.485	983.200
250	30	350	396	22	12	7.495	983.250
315	30	400	444	22	12	9.345	983.315

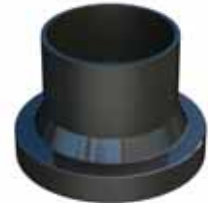
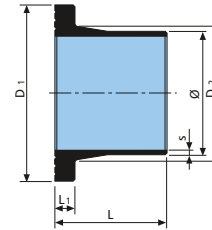


Ø	S	Kg	Code
<b>FLAT RUBBER SEAL FOR FLANGE</b>			
110	3	0.045	982.110
160	3	0.070	982.160
63	3	0.020	982.63
75	3	0.030	982.75
90	3	0.040	982.90
125	3	0.035	982.125
200	3	0.110	982.200
250	3	0.140	982.250
315	3	0.140	982.315

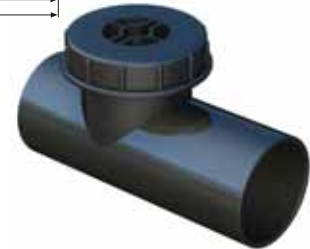
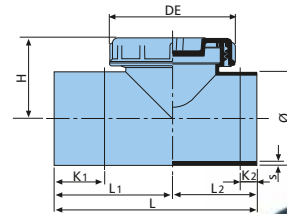


## HDPE soil pipe fittings

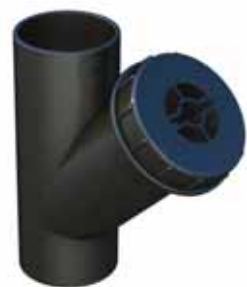
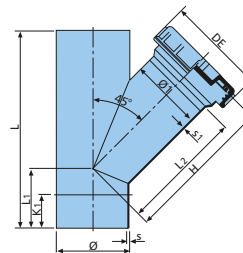
Ø	S	D <sub>1</sub>	D <sub>2</sub>	L	L <sub>1</sub>	Kg	Code
<b>HDPE STUB END</b>							
110	4.3	158	120	100	18	0.335	980.110
160	6.2	212	175	100	18	0.585	980.160
63	3	102	75	90	15	0.125	980.63
75	3	122	89	90	15	0.185	980.75
90	3.5	138	106	90	15	0.215	980.90
125	4.9	158	128	100	18	0.340	980.125
200	6.2	268	232	100	20	0.920	980.200
250	7.8	320	285	100	20	1.480	980.250
315	9.8	370	236	100	20	1.720	980.315



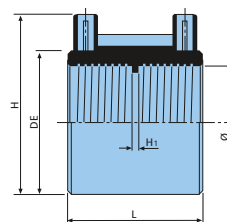
Ø	S	L	L <sub>1</sub>	L <sub>2</sub>	H	DE	K <sub>1</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE ACCESS PIPE WITH SCREW CAP</b>										
110	4.3	240	140	100	94	146	65	20	0.620	938.110.90
160	6.2	350	210	140	145	146	105	30	1.355	938.160.90
63	3	175	100	75	80	82	60	25	0.175	938.63.90
75	3	175	105	70	117	117	55	25	0.365	938.75.90
90	3.5	200	120	80	125	123	65	25	0.520	938.90.90
125	4.9	250	150	100	124	146	70	20	0.770	938.125.90
200	6.2	360	180	180	165	146	180	25	1.710	938.200.90
250	7.8	440	220	220	190	146	220	40	3.075	938.250.90
315	9.8	560	280	280	225	146	280	70	5.500	938.315.90



Ø / Ø <sub>1</sub>	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	H	DE	K <sub>1</sub>	Kg	Code
<b>HDPE 45° ACCESS PIPE WITH SCREW CAP</b>										
110/110	4.3	4.3	270	90	180	220	150	55	0.840	938.110.135
160/110	6.2	4.3	375	125	275	280	150	110	1.760	938.160.135
125/110	4.9	4.3	300	100	200	230	150	70	1.240	938.125.135

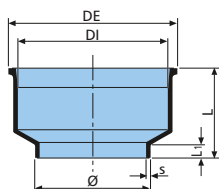
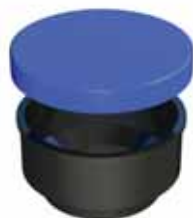


Ø	L	DE	H	H <sub>1</sub>	Kg	Code
<b>HDPE ELECTROFUSION COUPLINGS</b>						
110	60	126	143	3	0.165	910.110
160	60	178	194	3	0.260	910.160
63	60	77	92	3	0.080	910.63
75	60	90	105	3	0.105	910.75
90	60	106	121	3	0.135	910.90
125	60	142	158	3	0.210	910.125
200	153	233	248	3	1.705	910.200
250	153	285	300	3	2.135	910.250
315	153	350	365	3	2.610	910.315

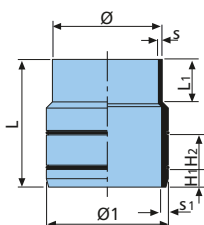


# Terrain FUZE Soil Fittings

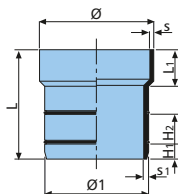
## HDPE soil pipe fittings



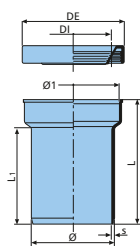
Ø	S	DI	DE	L <sub>1</sub>	L <sub>1</sub>	Kg	Code
<b>HDPE WC PAN CONNECTOR WITH CAP</b>							
110	4.3	120	131	68	15	0.130	925.110
90	3.5	120	131	67	12	0.120	925.90



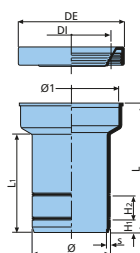
Ø / Ø <sub>1</sub>	S	S <sub>1</sub>	L	L <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>	Kg	Code
<b>HDPE MALE PVC ADAPTOR WITH RING SEAL</b>								
80/100	3.5	6	115	30	15	24	0.140	9113.80100



Ø / Ø <sub>1</sub>	S	S <sub>1</sub>	L	L <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>	Kg	Code
<b>HDPE MALE PVC ADAPTOR WITH RING SEAL</b>								
110/100	4.3	6	105	30	25	25	0.162	9113.110100



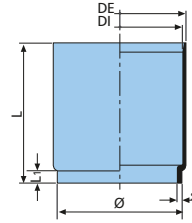
Ø / Ø <sub>1</sub>	S	DI	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE FEMALE PVC ADAPTOR</b>							
110/100	4.3	102±5	140	166	130	0.390	925.110100
90/100	3.5	102±5	140	166	130	0.280	925.90100



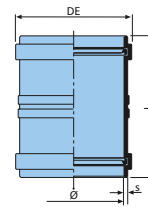
Ø	S	DI	DE	L	L <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>	Kg	Code
<b>HDPE WC CONNECTOR FOR PVC WITH RING SEAL</b>									
100	4.3	102±5	140	166	125	17	30	0.350	925.100

## HDPE soil pipe fittings

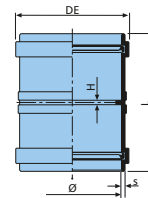
Ø	S	DI	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE EXTENDED WC PAN CONNECTOR WITH CAP</b>							
110	4.3	110	117	125	11	0.170	993.110
90	3.5	110	117	125	9	0.175	993.90



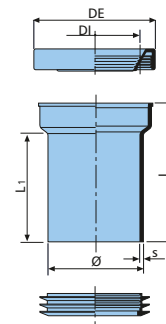
Ø	S	L	DE	Kg	Code
<b>HDPE SLIDING CONNECTOR</b>					
160	6.7	230	185	1.225	911S.160
200	6.7	270	226	1.445	911S.200
250	8.3	300	284	2.910	911S.250
315	10.4	320	354	5.100	911S.315



Ø	S	L	H	DE	Kg	Code
<b>HDPE RING SEAL SOCKET</b>						
160	6.7	230	6	185	1.240	910P.160
200	6.7	270	6	226	1.815	910P.200
250	8.3	300	7	284	5.140	910P.250
315	10.4	320	9	354	7.330	910P.315

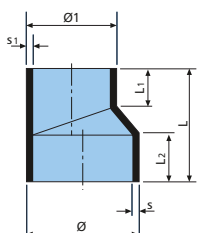


Ø	S	DI	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE EXTENDED FLOOR PAN CONNECTOR WITH 2 SEALS</b>							
110	4.3	102±5	140	166	125	0.420	993.110D

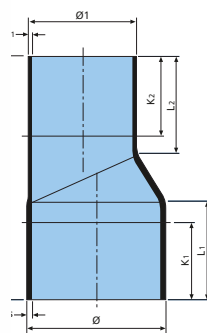


# Terrain FUZE Soil Fittings

## HDPE soil pipe fittings



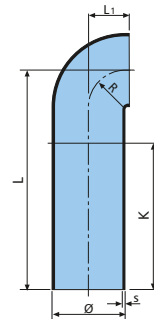
$\varnothing/\varnothing_1$	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>HDPE ECCENTRIC REDUCER</b>							
110/40	4.3	3	80	37	35	0.095	923.11040
110/50	4.3	3	80	37	35	0.100	923.11050
110/56	4.3	3	80	37	35	0.100	923.11056
110/63	4.3	3	80	37	35	0.105	923.110.63
110/75	4.3	3	80	37	35	0.105	923.11075
110/90	4.3	3.5	80	37	35	0.140	923.11090
160/110	6.2	4.3	80	37	35	0.230	923.160110
160/125	6.2	4.9	80	37	35	0.220	923.160125
63/40	3	3	80	37	35	0.040	923.6340
63/50	3	3	80	37	35	0.040	923.6350
63/56	3	3	80	40	35	0.045	923.6356
75/40	3	3	80	37	35	0.055	923.7540
75/50	3	3	80	37	35	0.050	923.7550
75/56	3	3	80	37	35	0.050	923.7556
75/63	3	3	80	35	35	0.055	923.7563
90/40	3.5	3	80	37	35	0.065	923.9040
90/50	3.5	3	80	37	35	0.065	923.9050
90/56	3.5	3	80	37	35	0.075	923.9056
90/63	3.5	3	80	37	35	0.070	923.9063
90/75	3.5	3	80	37	35	0.095	923.9075
125/50	4.9	3	80	37	35	0.130	923.12550
125/56	4.9	3	80	37	35	0.125	923.12556
125/63	4.9	3	80	37	35	0.125	923.12563
125/75	4.9	3	80	37	35	0.130	923.12575
125/90	4.9	3.5	80	37	35	0.130	923.12590
125/110	4.9	4.3	80	37	35	0.135	923.125110



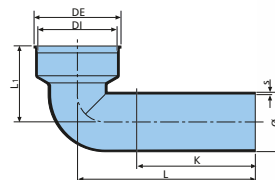
$\varnothing/\varnothing_1$	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	K <sub>1</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE LONG ECCENTRIC REDUCER</b>									
160/110	6.2	4.3	215	35	37	20	20	0.430	923.160110L
160/125	6.2	4.9	140	45	40	20	20	0.330	923.160125L
200/110	6.2	4.3	285	80	40	50	10	0.940	923.200110L
200/125	6.2	4.9	285	80	40	50	10	0.910	923.200125L
200/160	6.2	6.2	210	80	37	50	10	0.720	923.200160L
250/200	7.8	6.2	405	160	140	100	100	1.965	923.250200L
315/200	9.8	6.2	540	160	140	100	100	3.490	923.315200L
315/250	9.8	7.8	450	160	150	100	100	3.295	923.315250L

## HDPE soil pipe fittings

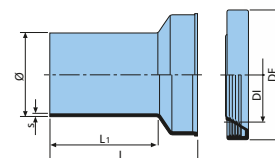
Ø	S	L	L <sub>1</sub>	R	K	Kg	Code
<b>HDPE SHORT RADIUS BEND</b>							
110	4.3	300	60	60	220	0.500	902.110.90
90	3.5	270	50	50	200	0.300	902.90.90



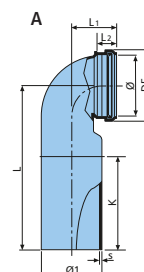
Ø	S	DI	DE	L	L <sub>1</sub>	K	Kg	Code
<b>HDPE WC BEND WITH CAP</b>								
110	4.3	120	132	300	125	220	0.600	929.110.90
90	3.5	120	132	270	115	200	0.420	929.90.90



Ø	S	L	L <sub>1</sub>	R	K	Kg	Code
<b>HDPE WC PAN CONNECTOR, WHITE PE</b>							
110	4.3	102±5	140	166	130	0.355	925.110W
90	3.5	102±5	140	166	130	0.285	H925.90W

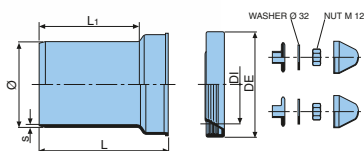
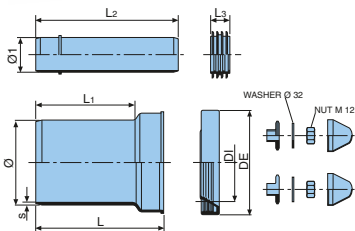
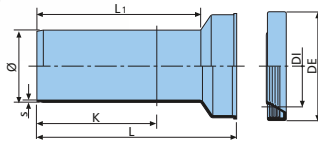
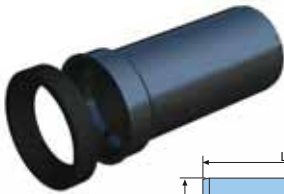
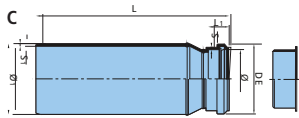
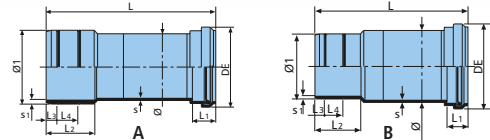


Ø/Ø <sub>1</sub>	Mod	S	L	L <sub>1</sub>	L <sub>2</sub>	DE	H	H <sub>1</sub>	H <sub>2</sub>	K	Kg	Code
<b>HDPE WC BEND HANGING PAN WITH SEAL AND CAP</b>												
110/110	A	4.3	300	87	40	130	-	-	-	180	0.596	999.110.90
90/90	A	3.5	270	90	40	108	-	-	-	150	0.398	999.90.90
90/110	A	4.3	300	90	40	108	-	-	-	180	0.530	999.90.110



# Terrain FUZE Soil Fittings

## HDPE soil pipe fittings



Ø/Ø <sub>1</sub>	Mod	S	S <sub>1</sub>	DE	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	Kg	Code
<b>HDPE STRAIGHT WC PAN CONNECTOR WITH SEAL AND CAP, CONNECTION TO PVC</b>											
110/100	B	4.3	6.6	131	236	32	70	15	28	0.390	999.110100.00
90/100	A	3.5	5.5	109	232	31	70	15	28	0.332	999.90100.00
90/100	C	4.3	4.3	109	300	31	180	-	-	0.480	998.90100.00

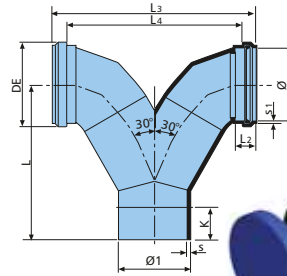
Ø	S	DE	DI	L	L <sub>1</sub>	K	Kg	Code
<b>HDPE LONG WC PAN CONNECTOR WITH SEAL</b>								
90	3.5	140	102±5	250	200	150	0.360	925L.90
90	3.5	140	102±5	300	260	200	0.420	925XL.90

Ø/Ø <sub>1</sub>	S	DI	DE	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	Kg	Code
<b>HDPE WC CONNECTOR FOR HANGING PAN WITH SEAL AND WHITE COVERINGS</b>									
110/45	4.3	102±5	132	166	129	199	24	0.530	925.11044
90/45	3.5	102±5	132	166	122	195	24	0.450	925.9044

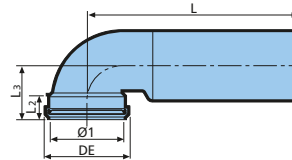
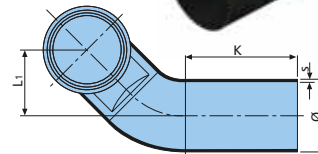
Ø <sub>1</sub>	S	DI	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE WC CONNECTOR FOR HANGING PAN WITH SEAL AND WHITE COVERINGS</b>							
110	4.3	102±5	131	166	128	0.440	925.110.WC
90	3.5	102±5	133	166	128	0.380	925.90.WC

## HDPE soil pipe fittings

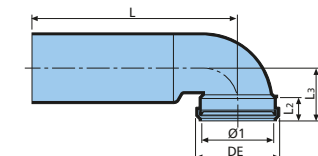
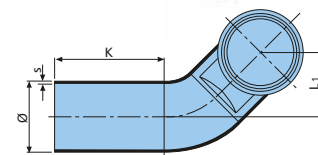
$\emptyset/\emptyset_1$	S	S <sub>1</sub>	DE	L	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	K	Kg	Code
<b>HDPE DOUBLE WC PAN CONNECTOR WITH 1-LIP SEAL AND NUTS</b>										
110/110	4.3	4.3	130	205	37	285	240	50	0.816	929.110.90D
110/90	4.3	3.5	108	210	-	270	-	50	0.764	929.90110.90D



$\emptyset/\emptyset_1$	S	DE	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	K	Kg	Code
<b>HDPE WC BEND FOR HANGING PAN WITH 1-LIP SEAL AND CAP, LEFT</b>									
110/90	4.3	108	315	100	35	85	170	0.616	949.11090L
110/110	4.3	130	320	100	35	85	170	0.720	949.110L
90/90	3.5	108	290	100	35	85	150	0.442	949.90L

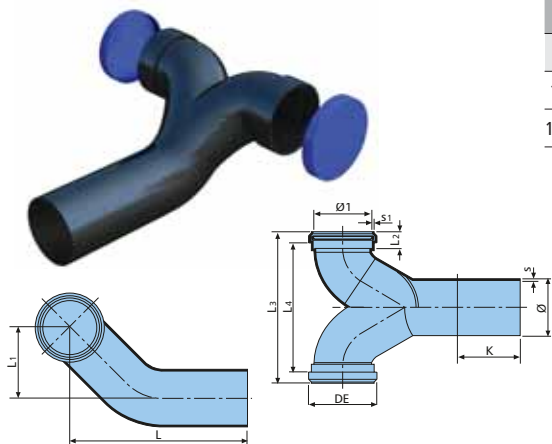


$\emptyset/\emptyset_1$	S	DE	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	K	Kg	Code
<b>HDPE WC BEND FOR HANGING PAN WITH 1-LIP SEAL AND CAP, RIGHT</b>									
110/90	4.3	108	315	100	35	85	170	0.616	949.11090R
110/110	3.5	130	340	100	35	85	170	0.720	949.110R
90/90	3.5	110	290	100	35	85	150	0.442	949.90R

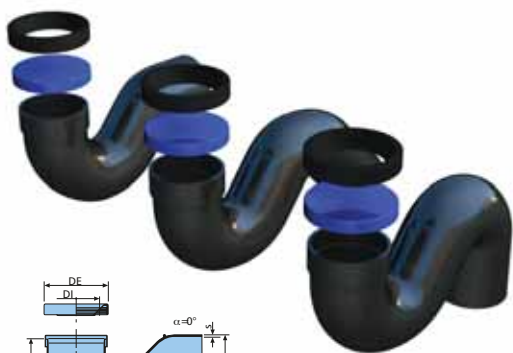


# Terrain FUZE Soil Fittings

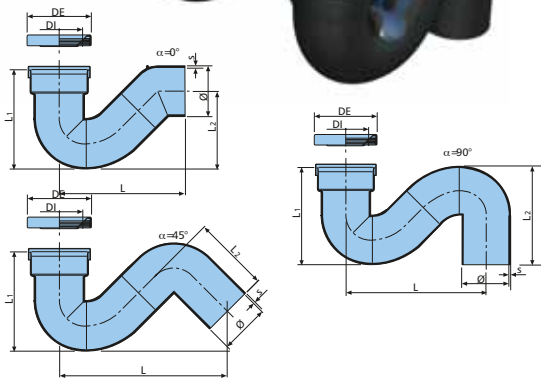
## HDPE soil pipe fittings



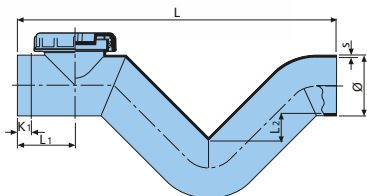
$\varnothing/\varnothing_1$	S	S <sub>1</sub>	DE	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	K	Kg	Code
<b>HDPE WC DOUBLE BEND FOR HANGING PAN WITH 2-LIP SEALS AND CAPS</b>											
110/90	4.3	3.5	108	335	100	-	285	-	120	1.020	949.11090D
110/110	4.3	4.3	130	340	95	37	285	240	120	1.090	949.110D



$\varnothing$	$\alpha$	S	DI	DE	L	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>HDPE TRAP WITH SEAL AND CAP</b>									
110	0°	4.3	102±5	140	270	215	170	0.720	9631.110.0
110	45°	4.3	102±5	140	240	225	160	1.002	9631.110.45
110	90°	4.3	102±5	140	340	225	220	0.990	9631.110.90



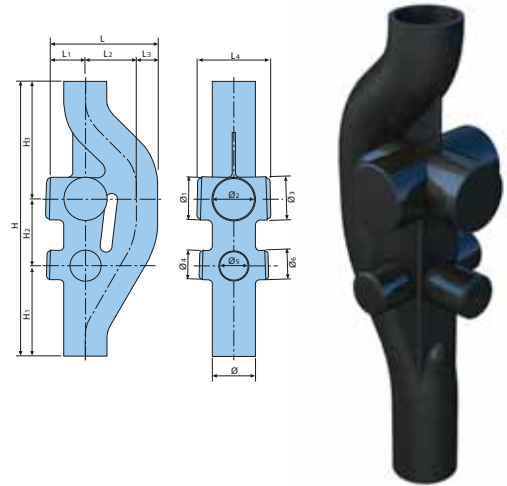
$\varnothing$	S	L	L <sub>1</sub>	L <sub>2</sub>	K <sub>1</sub>	Kg	Code
<b>HDPE TRAP WITH ACCESS Ø 110</b>							
110	4.3	580	105	50	20	1.320	946.110
160	6.2	870	140	50	30	3.560	946.160
125	4.9	650	100	50	20	1.810	946.125





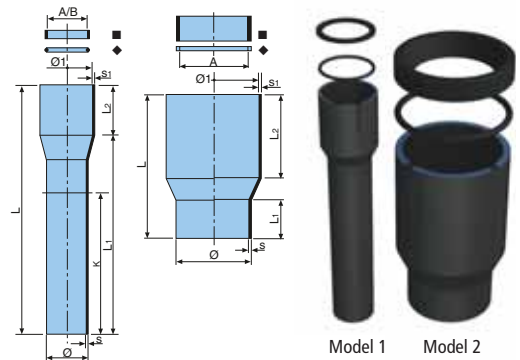
## HDPE soil pipe fittings

$\emptyset$	$\emptyset_1/\emptyset_2/\emptyset_3$	$\emptyset_4/\emptyset_5/\emptyset_6$	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	Kg	Code
<b>HDPE VENTILATION BRANCH</b>													
110	110 max	75 max	275	90	130	55	188	700	230	170	300	2.570	908.110
160	110 max	75 max	310	90	160	60	190	1010	460	170	380	5.000	908.160

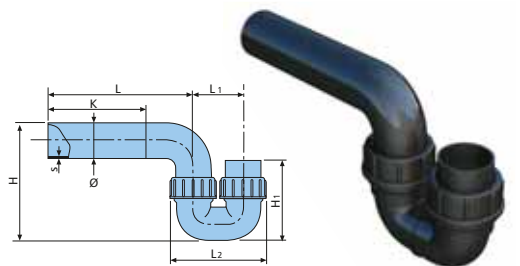


$\emptyset$	$\emptyset_1$	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	K	A	B	Kg	Code	
<b>HDPE ADAPTOR (CAST IRON, STEEL, ASBESTOS CEMENT PIPES)</b>												
•	110	125	4.3	4.3	165	43.5	100	-	102-111	100-109	0.250	926.110125
•	110	140	4.3	4.3	180	80	100	-	102-126	100-124	0.310	926.110140
▼	63	73	3	3	265	205	65	140	60-67	-	0.180	926.6373
▼	63	80	3	3	245	195	55	140	67-74	-	0.165	926.6380
▼	63	90	3	3	265	195	70	140	80-84	-	0.175	926.6390
▼	63	100	3	3	265	205	70	140	90-94	-	0.170	926.63100
▼	75	80	3	3	250	190	65	-	67-74	-	0.190	926.7580
▼	75	90	3	3	245	175	70	120	80-84	73-77	0.215	926.7590
▼	75	100	3	3	150	80	70	120	90-94	83-87	0.215	926.75100
▼	90	110	3.5	3.5	160	60	100	-	84-98	-	0.190	926.90110
•	125	150	4.9	4.9	180	80	100	-	116-136	115-134	0.425	926.125150

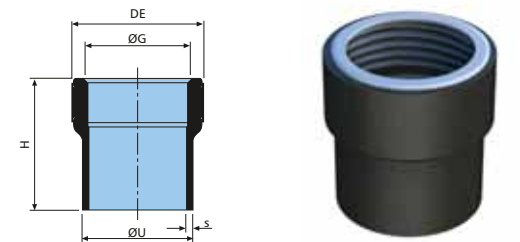
▼ Model 1 • Model 2 ■ Flat Seal ♦ O Ring



$\emptyset$	S	L	L <sub>1</sub>	L <sub>2</sub>	H	H <sub>1</sub>	K	Kg	Code
<b>HDPE universal trap, vertical inlet and horizontal outlet</b>									
110	4.3	270	160	310	370	260	220	1.920	931.110
63	3	210	95	185	235	160	160	0.520	931.63
75	3	210	135	245	335	245	140	0.920	931.75
90	3.5	240	140	270	320	225	200	1.190	931.90

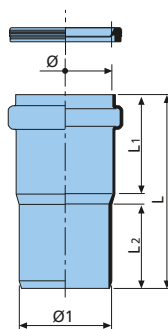
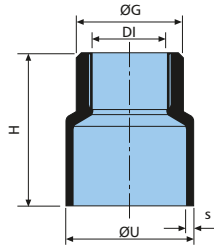


$\emptyset$ U	$\emptyset$ G	S	DE	H	Kg	Code
<b>HDPE end with internal threading, reinforced with steel ring</b>						
63	2"	3	70	65	0.105	916.63.2
75	2 1/2"	3	89	70	0.135	916.75.25



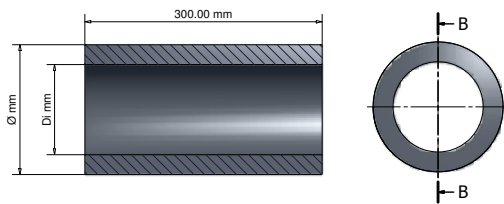
# Terrain FUZE Soil Fittings

## HDPE soil pipe fittings

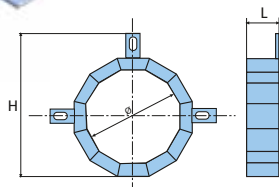


ØU	ØG	S	DI	H	Kg	Code
<b>HDPE END WITH EXTERNAL THREADING, REINFORCED WITH STEEL RING</b>						
63	2"	3	47	65	0.095	917.63.2
75	2"½	3	57	70	0.125	917.75.25

Ø/Ø <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>PVC ADAPTOR (SOLVENT WELD)</b>					
110/100	143	52	80.5	0.255	995.110100
110/125	145	83	60	0.255	995.110125
75/75	144	87	58	0.190	995.7575
75/80	154	78	75	0.145	995.7580
75/82	159	78	80	0.130	995.7582
75/100	156	77	77	0.185	995.75100
90/100	143	76	65	0.250	995.90100



L	H	Code
<b>FIRETRAP SLEEVE</b>		
17	300	1925.17
21	300	1925.21
27	300	1925.27
34	300	1925.34
42	300	1925.42
48	300	1925.48
54	300	1925.54
60	300	1925.60
67	300	1925.67
76	300	1925.76
80	300	1925.80
89	300	1925.89
102	300	1925.102
108	300	1925.108
114	300	1925.114
127	300	1925.127
134	300	1925.134
140	300	1925.140
159	300	1925.159
169	300	1925.169



Ø	L	H	Code
<b>FIRE STOP</b>			
110	47.4	151	9725.110
160	112.5	209	9725.160
63	32.4	85	9725.63
75	42.4	121	9725.75
90	47.4	151	9725.90
125	92.5	162	9725.125
200	175	255	9725.200
250	230	315	9725.250
315	330	395	9725.315

## HDPE soil pipe fittings

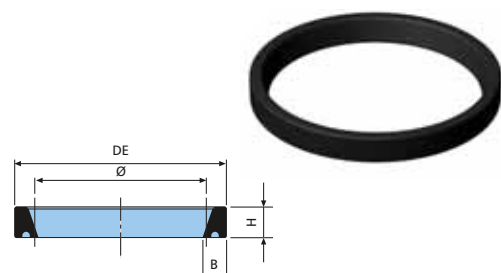
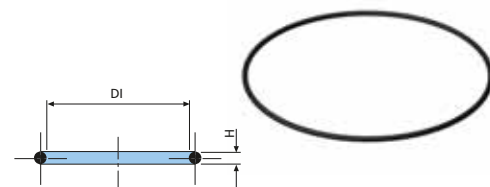
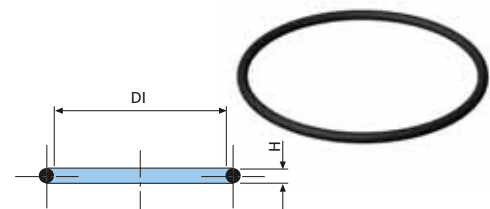
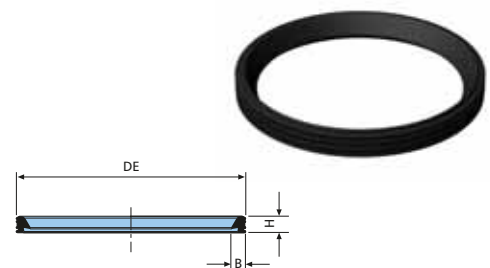
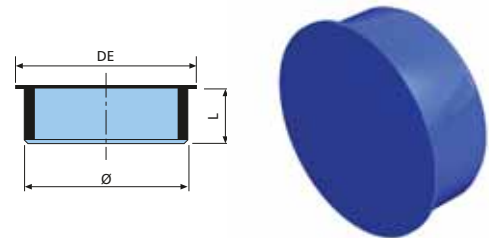
Ø	DE	L	Kg	Code
<b>HDPE PROTECTIVE CAP FOR SOCKETS, EXPANSION JOINTS AND SPIGOT BENDS</b>				
110	123	39	0.040	9130.110
160	167	36	0.055	9130.160
63	71	38	0.015	9130.63
75	85	38	0.020	9130.75
90	102	38	0.030	9130.90
125	135	38	0.055	9130.125
200	220	50	0.130	9130.200

Ø	DE	H	B	Kg	Code
<b>HDPE LIP SEAL FOR SOCKETS</b>					
110	123.9	8.9	7.9	0.020	927.110.908
160	179.8	11.5	10.2	0.045	927.160.908
63	74	7.8	6	0.010	927.63.908
75	86.6	7.8	6.5	0.010	927.75.908
90	103	8.9	7.5	0.015	927.90.908
100	114	9.3	8.2	0.020	927.100.908
125	142.2	10.2	8.9	0.025	927.125.908
200	223.7	12.8	11.2	0.045	927.200.908
250	282	19.5	1.6	0.500	927.250.908
315	350	20.5	17.15	0.055	927.315.908

Ø	DI	H	Kg	Code
<b>O-RING FOR SOCKETS</b>				
110	109 <sup>+1.5</sup>	7	0.015	9116.110
160	159 <sup>+1.5</sup>	9	0.035	9116.160
63	62 <sup>+1</sup>	6	0.010	9116.63
75	79 <sup>+1</sup>	6	0.010	9116.75
90	89 <sup>+1</sup>	6	0.010	9116.90
125	124 <sup>+1.5</sup>	8	0.025	9116.125

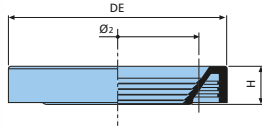
Ø	H	For Codes	Kg	Code
<b>O-RING FOR ADAPTORS (PVC)</b>				
100	2.62	353-354	0.002	9113.908

Ø	H	B	DE	Kg	Code
<b>HDPE SEAL FOR EXPANSION SOCKETS</b>					
110	16	12.5	130.5	0.070	911.110.908
160	16	12.5	180.5	0.115	911.160.908
63	16	12.5	83	0.045	911.63.908
75	16	12.5	95.5	0.050	911.75.908
90	16	12.5	111	0.055	911.90.908
125	16	12	143.5	0.070	911.125.908
200	21.8	11.2	223.7	0.045	911.200.908
250	19.5	16	282	0.050	911.250.908
315	20.5	17.15	350	0.055	911.315.908

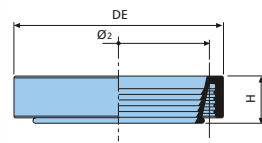


# Terrain FUZE Soil Fittings

## HDPE soil pipe fittings

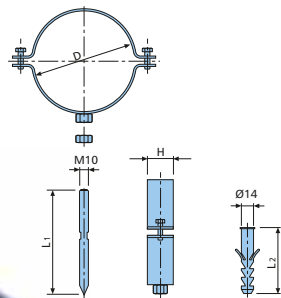


Ø	Ø <sub>2</sub>	DE	H	Colour	For product codes	Kg	Code
<b>HDPE SEAL FOR SLEEVES, TRAPS AND WC BENDS</b>							
125	102±5	134	23.5	Black	365	0.125	9131.125A
125	102±5	134	23.5	White	352-354-362-125 356-366 367-375-378 380-353	0.100	9131.125B

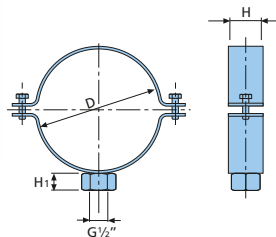


Ø	Ø <sub>2</sub>	DE	H	For product codes	Kg	Code
<b>HDPE SEAL FOR WC SLEEVES AND EXTENDED BENDS</b>						
115	102±5	120	23.5	353-362-363	0.082	9129.125

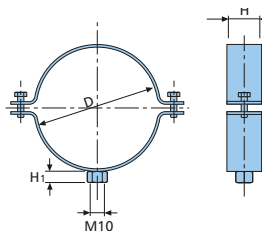
## Soil pipe brackets



Ø ext. pipe	D	H	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>GALVANISED IRON PIPE CLIP WITH ANCHOR FOR ATTACHMENT TO WALLS M10</b>						
110	113	30	120	75	0.345	9142.110
160	163	30	120	75	0.435	9142.160
63	66	30	120	75	0.270	9142.63
75	78	30	120	75	0.280	9142.75
90	93	30	120	75	0.330	9142.90
125	128	30	120	75	0.320	9142.125



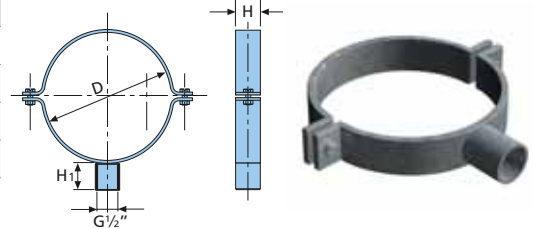
Ø ext. pipe	D	H	H <sub>1</sub>	Kg	Code
<b>GALVANISED STEEL PIPE CLIP FOR RIGID SUPPORT G 1/2"</b>					
110	113	30	15	0.350	9143.110
160	163	30	15	0.400	9143.160
63	66	30	15	0.225	9143.63
75	78	30	15	0.340	9143.75
90	93	30	15	0.310	9143.90
125	128	30	15	0.350	9143.125



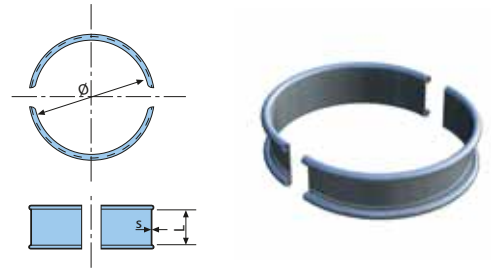
Ø ext. pipe	D	H	H <sub>1</sub>	Kg	Code
<b>GALVANISED STEEL PIPE BRACKET M10</b>					
110	113	30	9	0.280	9144.110
160	163	30	9	0.365	9144.160
63	66	30	9	0.190	9144.63
75	78	30	9	0.250	9144.75
90	93	30	9	0.295	9144.90
125	128	30	9	0.305	9144.125

## Soil pipe brackets

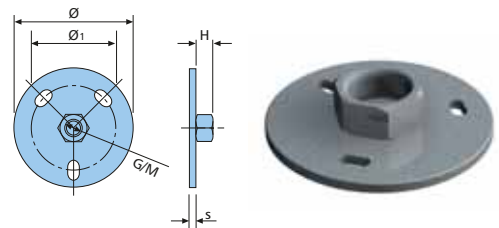
∅ ext. pipe	D	H	H <sub>1</sub>	Kg	Code
<b>GALVANISED STEEL PIPE CLIP FOR RIGID SUPPORT G 1/2"</b>					
200	203	40	43	1.050	9144.200
250	253	40	43	1.250	9144.250
315	318	40	43	1.550	9144.315



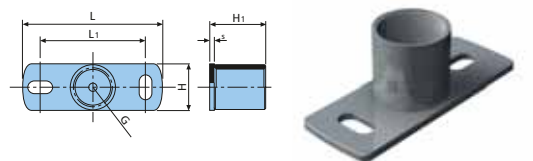
∅	L	S	Kg	Code
<b>STAINLESS STEEL PIPE INSERT FOR RIGID SUPPORT</b>				
110	30	1	0.095	9145.110
160	30	1	0.130	9145.160
63	30	1	0.055	9145.63
75	30	1	0.065	9145.75
90	30	1	0.075	9145.90
125	30	1	0.105	9145.125



∅	G/M	∅ <sub>1</sub>	H	S	Kg	Code
<b>MOUNTING PLATE</b>						
70	G 1/2"	50	15	4	0.120	9148.19
70	M10	50	9	4	0.150	9148.10

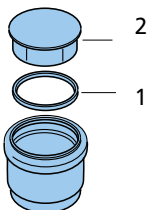


L	G	L <sub>1</sub>	H	H <sub>1</sub>	S	Kg	Code
<b>GALVANISED STEEL FLANGE 1"</b>							
120	1"	90	40	48	4	0.250	9148.25

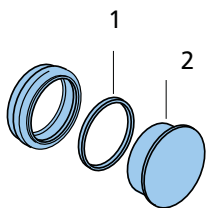


# Terrain FUZE Soil Spare Parts

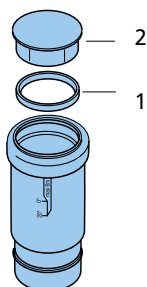
## Spare parts



∅	For product code	1 Lip seal	2 Protective cap
<b>HDPE RING SEAL ADAPTOR</b>			
110	927.110	927.110.908	9130.110
160	927.160	927.160.908	9130.160
63	927.63	927.63.908	9130.63
56/63	927.56.63	927.56.908	9130.56
75	927.75	927.90.908	9130.75
90	927.90	927.110.908	9130.90
125	927.125	927.125.908	9130.125
200	927.160	927.200.908	9130.200
250	927.200	927.250.908	-
315	927.250	927.315.908	-



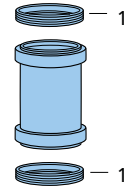
∅	For product code	1 Lip seal	2 Protective cap
<b>HDPE SHORT RING SEAL ADAPTOR</b>			
110	909.110	927.110.908	9130.110
90	909.90	927.90.908	9130.90



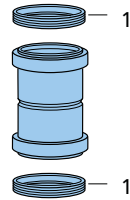
∅	For product code	1 Lip seal	2 Protective cap
<b>HDPE EXPANSION JOINT</b>			
110	911.110	911.125.908	9130.110
160	911.160	911.200.908	9130.160
63	911.63	911.75.908	9130.63
75	911.75	911.90.908	9130.75
90	911.90	911.110.908	9130.90
125	911.125	911.160.908	9130.125
200	911.200	927.200.908	9130.200
250	911.250	927.250.908	-
315	911.315	927.315.908	-

## Spare parts

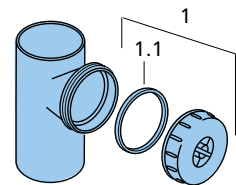
∅	For product code	1 Lip seal
<b>HDPE SLIDING CONNECTOR</b>		
160	911S.160	927.160.908
200	911S.200	927.200.908
250	911S.250	927.250.908
315	911S.315	927.315.908



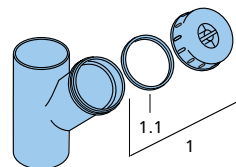
∅	For product code	1 Lip seal
<b>HDPE RING SEAL SOCKET</b>		
160	910P.160	927.160.908
200	910P.200	927.200.908
250	910P.250	927.250.908
315	910P.315	927.315.908



∅	For product code	1 Cap and seal	1.1 Seal
<b>HDPE 90° ACCESS PIPE WITH SCREW CAP</b>			
110	938.110.90	9938.110	9119.110
160	938.160.90	9938.110	9119.110
63	938.63.90	9121.63	9119.63
75	938.75.90	9121.75	9119.75
90	938.90.90	9121.90	9119.90
125	938.125.90	9938.110	9119.110
200	938.200.90	9938.110	9119.110
250	938.250.90	9938.110	9119.110
315	938.315.90	9938.110	9119.110

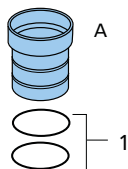


∅	For product code	1 Cap and seal	1.1 Seal
<b>HDPE 45° ACCESS PIPE WITH SCREW CAP</b>			
110/110	938.110.135	9938.110	9119.110
125/110	938.125.135	9938.110	9119.110
160/110	938.160.135	9938.110	9119.110

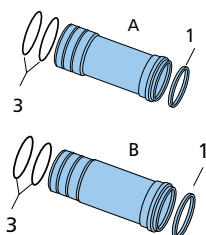


# Terrain FUZE Soil Spare Parts

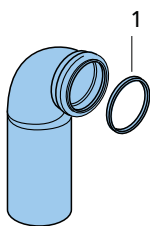
## Spare parts



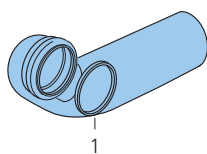
	∅	For product code	1 O-ring
<b>HDPE PVC ADAPTOR</b>			
A	110/100	9113.110100	9113.908
A	90/100	9113.80100	9113.908



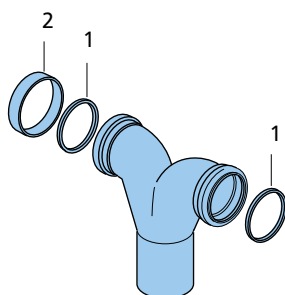
	∅	For product code	1 Lip seal	3 O-ring
<b>HDPE STRAIGHT WC PAN CONNECTOR WITH SEAL AND CAP, CONNECTION TO PVC</b>				
B	110/100	999.110100.00	927.110.908	9113.908
A	90/100	999.90100.00	927.90.908	9113.908



	∅	For product code	1 Lip seal
<b>HDPE WC BEND FOR HANGING PAN WITH SEAL AND CAP</b>			
	110/110	999.110.90	927.110.908
	90	999.90.90	927.110.908
	90/110	996.110.90	927.110.908



	∅	For product code	1 Lip seal
<b>HDPE WC BEND FOR HANGING PAN WITH 1-LIP SEAL AND CAP. LEFT/RIGHT</b>			
	110	949.110L/949.110R	927.110.908
	90	949.90L/949.90R	927.110.908
	90/110	949.11090L/949.11090R	927.110.908

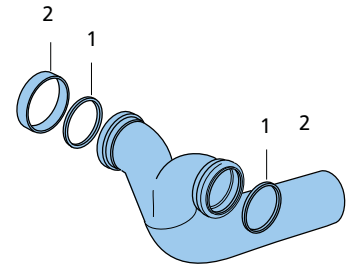


	∅	For product code	2 Lip seals
<b>HDPE DOUBLE WC PAN CONNECTOR WITH 1-LIP SEALS AND CAPS</b>			
	110/110	929.90110.90D	927.110.908
	90/110	929.110.90D	927.110.908

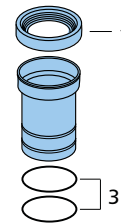


## Spare parts

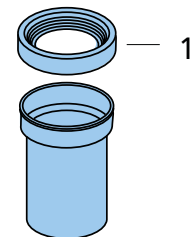
∅	For product code	2 Lip seals
<b>HDPE WC DOUBLE BEND FOR HANGING PAN WITH 2-LIP SEALS AND CAPS</b>		
110/110	949.110D	927.110.908
90/110	949.11090D	927.110.908



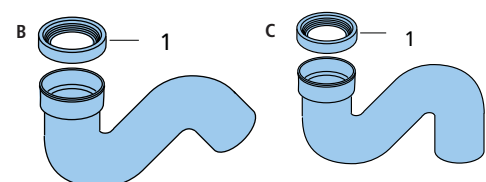
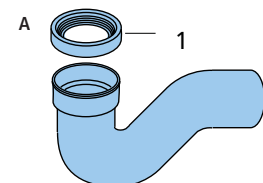
∅	For product code	3 O-ring	
<b>HDPE WC CONNECTOR - VERSIONS A, B AND C</b>			
A	110	993.110D	-
B	110	925.100	9113.908
C	110	925.110w	-
C	90	925.90w	-



∅	For product code	1 WC seal
<b>HDPE WC CONNECTOR - VERSION C</b>		
110	925.11044	9131.125A
110	925.110	9131.125A
90	925.9044	9131.125A
90	925.90	9131.125A
90	925L.90	9131.125A
90	925XL.90	9131.125A

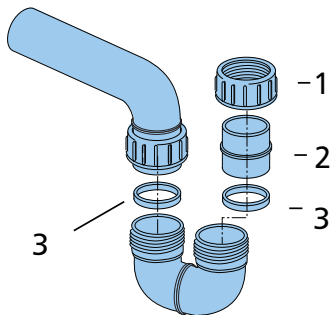


∅	For product code	1 WC seal
<b>HDPE TRAP WITH SEAL AND CAP - VERSIONS A, B AND C</b>		
110/0°	9631.110.0	9131.125A
110/45°	9631.110.45	9131.125A
110/90°	9631.110.90	9131.125A

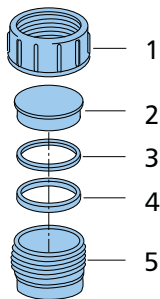


# Terrain FUZE Soil Spare Parts

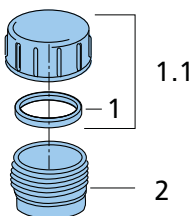
## Spare parts



Ø	For product code	1 Nut	2 Connecting union	3 Seal
<b>HDPE UNIVERSAL TRAP, VERTICAL INLET AND HORIZONTAL OUTLET</b>				
110	931.110	9120.110	970.110	9119.110
63	931.63	9120.63	970.63	9119.63
75	931.75	9120.75	970.75	9119.75
90	931.90	9120.90	970.90	9119.90



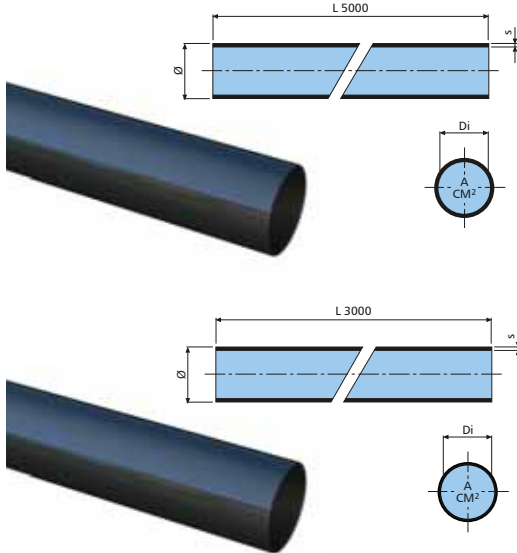
Ø	For product code	1 Nut	2 Cap	3 Ring	4 Seal	5 Threaded union
<b>HDPE THREADED COUPLING</b>						
110	912.110	9118.110	9130.110	9118.110	9119.110	9122.110
63	912.63	9120.63	9130.63	9118.63	9119.63	9122.63
56/63	912.5663	9120.56	9130.56	9118.56	9119.56	9122.5663
75	912.75	9120.75	9130.63	9118.75	9119.75	9122.75
90	912.90	9120.90	9130.90	9118.90	9119.90	9122.90



Ø	For product code	1 Seal	1.1 Cap with seal	2 Threaded union
<b>HDPE COMPLETE CAP</b>				
110	936.110	9118.110	9121.110	9122.110
63	936.63	9118.63	9121.63	9122.63
75	936.75	9118.75	9121.75	9122.75
90	936.90	9118.90	9121.90	9122.90

# Terrain FUZE Waste Pipes

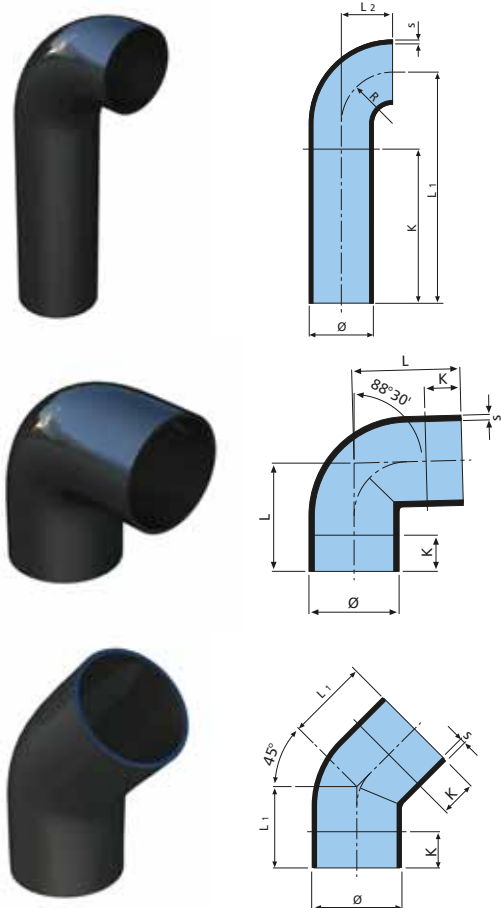
## HDPE waste pipes



Ø	Di	S	A cm <sup>2</sup>	PN	Kg/m	Code
<b>HDPE PIPE (5 METRE LENGTH)</b>						
40	34	3	9	8	0.370	900.40.50
50	44	3	15.2	6.4	0.460	900.50.50
56	50	3	19.6	5.7	0.530	900.56.50

Ø	Di	S	A cm <sup>2</sup>	PN	Kg/m	Code
<b>HDPE PIPE (3 METRE LENGTH)</b>						
40	34	3	9	8	0.370	900.40.30
50	44	3	15.2	6.4	0.460	900.50.30
56	50	3	19.6	5.7	0.530	900.56.30

## HDPE waste pipe fittings



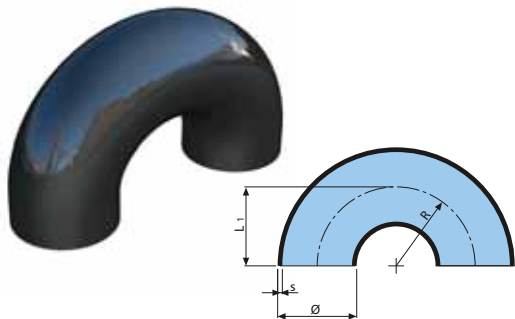
Ø	S	L <sub>1</sub>	L <sub>2</sub>	R	K	Kg	Code
<b>HDPE 90° BEND</b>							
40	3	150	30	30	120	0.070	907.40.90
50	3	180	40	40	140	0.095	907.50.90
56	3	210	40	40	170	0.120	907.56.90

Ø	S	L	K	Kg	Code
<b>HDPE 88° 30' BEND</b>					
40	3	50	20	0.035	901.40.92
50	3	60	20	0.050	901.50.92
56	3	65	20	0.060	901.56.92

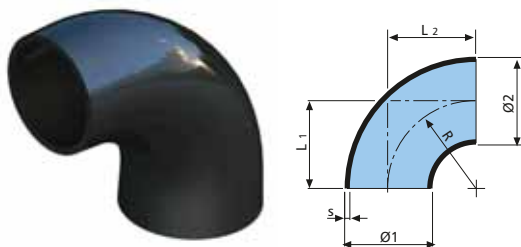
Ø	S	L <sub>1</sub>	K	Kg	Code
<b>HDPE 45° BEND</b>					
40	3	45	20	0.030	901.40.135
50	3	45	20	0.040	901.50.135
56	3	45	20	0.045	901.56.135

# Terrain FUZE Waste Fittings

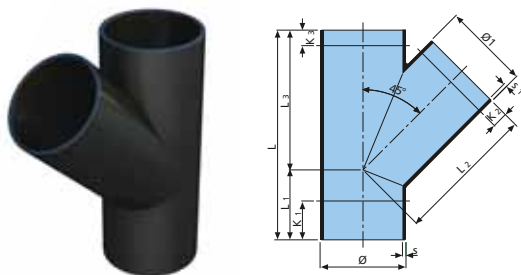
## HDPE waste pipes



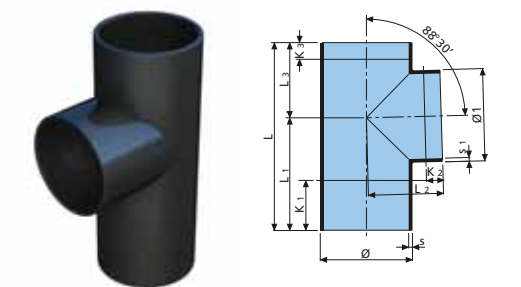
Ø	S	L	R	Kg	Code
<b>HDPE 180° BEND</b>					
40	3	40	40	0.045	901.40.180
50	3	49	50	0.070	901.50.180
56	3	49	49	0.085	901.56.180



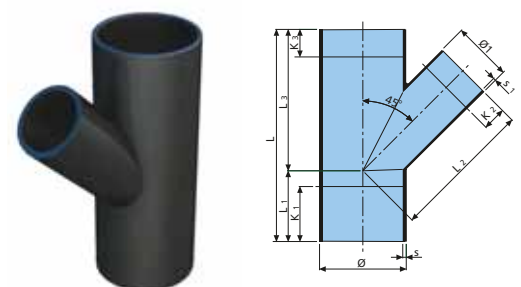
Ø <sub>1</sub> /Ø <sub>2</sub>	S	L <sub>1</sub>	L <sub>2</sub>	R	Kg	Code
<b>HDPE 90° REDUCING BEND</b>						
50/40	3	40	40	40	0.025	901.5040.90



Ø/Ø <sub>1</sub>	S/S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub> /L <sub>3</sub>	K <sub>1</sub>	K <sub>2</sub>	K <sub>3</sub>	Kg	Code
<b>HDPE 45° EQUAL BRANCH</b>									
40/40	3	135	45	90	25	30	30	0.070	904.40.135
50/50	3	165	55	110	35	20	20	0.105	904.50.135
56/56	3	180	60	120	40	25	25	0.130	904.56.135



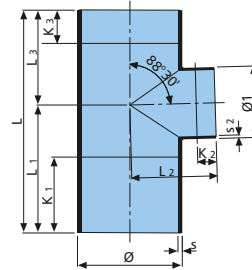
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<b>HDPE 88° 30' EQUAL BRANCH</b>									
40/40	3	130	75	55	45	20	20	0.060	904.40.90
50/50	3	150	90	60	55	25	25	0.085	904.50.90
56/56	3	175	105	70	65	30	30	0.105	904.56.90



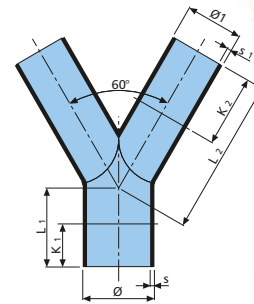
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<b>HDPE 45° REDUCING Y BRANCH</b>									
50/40	3	165	55	110	40	45	45	0.100	904.5040.135
56/50	3	180	60	120	40	30	30	0.125	904.5650.135

## HDPE waste pipe fittings

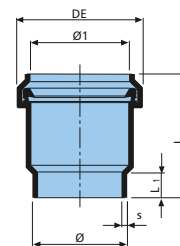
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<b>HDPE 88° 30' REDUCING BRANCH</b>									
50/40	3	150	90	60	60	25	30	0.080	904.5040.90
56/50	3	175	105	70	70	30	35	0.105	904.5650.90



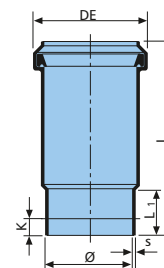
$\varnothing/\varnothing_1$	S	S <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	K <sub>1</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE DOUBLE Y BRANCH 60°</b>								
50/40	3	3	55	110	40	50	0.093	906.5040.60



$\varnothing/\varnothing_1$	S	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE RING SEAL ADAPTOR WITH CAP</b>						
40	3	56.5	65	13	0.040	927.40
50	3	66.5	65	13	0.050	927.50
56	3	72.5	65	13	0.050	927.56
56-63	3	72.5	50	-	0.050	927.5663

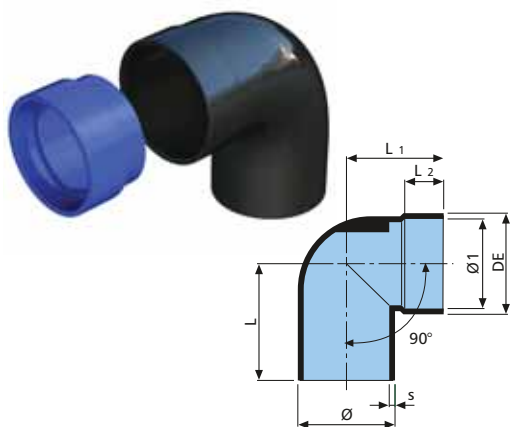


$\varnothing$	S	DE	L	L <sub>1</sub>	K	Kg	Code
<b>HDPE EXPANSION JOINT WITH CAP</b>							
40	3	73	235	60	40	0.160	911.40
50	3	81	235	56	40	0.200	911.50
56	3	90	235	50	40	0.220	911.56



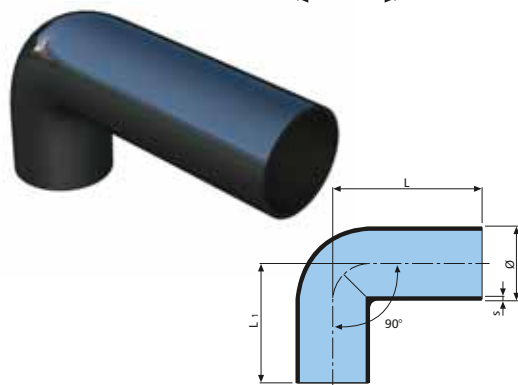
# Terrain FUZE Waste Fittings

## HDPE waste pipe fittings

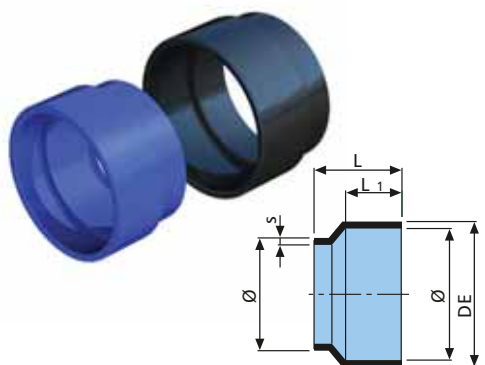


$\varnothing / \varnothing_1$	S	DE	L	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>HDPE SPIGOT BEND WITH CAP</b>							
40/46	3	52	60	51	22	0.055	917.4046.90
*50/46	3	52	62	51	22	0.060	917.5046.90
50/58	3	64	68	55	24	0.070	917.5058.90
*56/46	3	52	64	60	22	0.070	917.5646.90
56/58	3	64	65	60	22	0.075	917.5658.90

\* with protective plug for socket

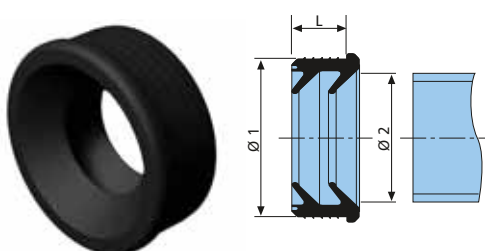


$\varnothing$	S	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE EXTENDED SPIGOT BEND</b>						
50	3	44	100	80	0.075	902.50.90
56	3	50	100	80	0.085	902.56.90



$\varnothing$	S	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE SLEEVE</b>						
40/46	3	52	30	20	0.015	917.4046
50/46	3	52	30	20	0.015	917.5046
*50/58	3	64	38	20	0.020	917.5058
56/46	3	52	38	20	0.020	917.5646
*56/58	3	64	38	20	0.025	917.5658

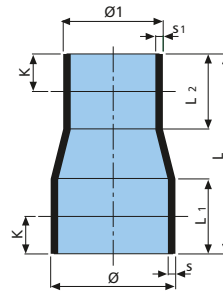
\* with protective plug for socket



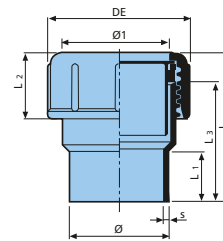
$\varnothing 1$	$\varnothing 2$	L	For product codes	Kg	Code
<b>GASKET</b>					
46	24-32	22	330-331-332-335003	0.020	917.4624.908
46	36-40	22	330-331-332-335003	0.010	917.4636.908
58	36-40	22	330-331-332-335003	0.200	917.5836.908
58	47-50	22	330-331-332-335003	0.300	917.5847.908
40	24-32	22	333-335001	0.020	917.4024.908

## HDPE waste pipe fittings

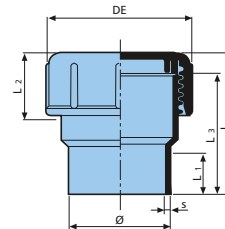
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<b>HDPE CONCENTRIC REDUCER</b>								
50/40	3	3	80	30	30	15	0.040	924.5040
56/50	3	3	80	30	30	15	0.040	924.5650
58/56	3	3	95	60	30	15	0.046	924.5856



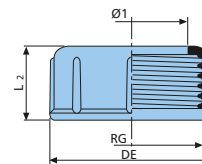
$\emptyset/\emptyset_1$	S	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	DE	Kg	Code
<b>HDPE THREADED COUPLING</b>								
40	3	74	30	34	66	60	0.075	912.40
50	3	76	30	33	66	70	0.080	912.50
56	3	46	30	34	66	80	0.120	912.56
56/63	3	48	-	34	66	80	0.100	912.5663



$\emptyset$	S	L	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	DE	Kg	Code
<b>HDPE SCREWED END CAP</b>								
40	3	75	30	34	66	60	0.075	936.40
50	3	75	30	33	66	70	0.080	936.50
56	3	77	30	34	66	80	0.120	936.56

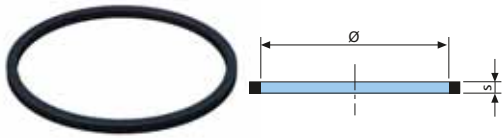


$\emptyset_1$	RG	DE	L <sub>2</sub>	Kg	Code
<b>HDPE NUT</b>					
40	52	60	34	0.025	9120.40
50	62	70	33	0.030	9120.50
56	71	80	34	0.050	9120.56

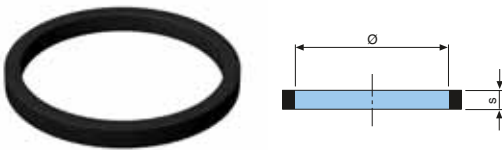


# Terrain FUZE Waste Fittings

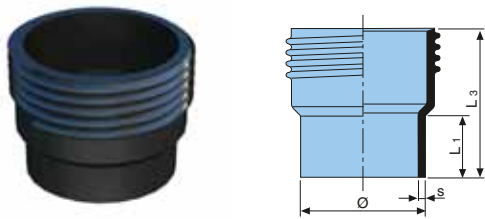
## HDPE waste pipe fittings



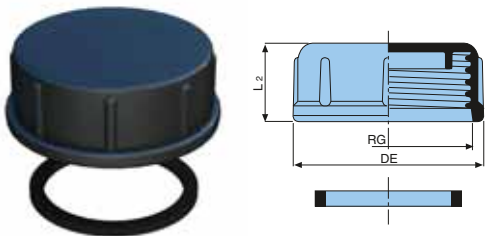
Ø	S	Kg	Code
<b>RING</b>			
40	4	0.001	9118.40
50	3	0.0015	9118.50
56	4	0.002	9118.56



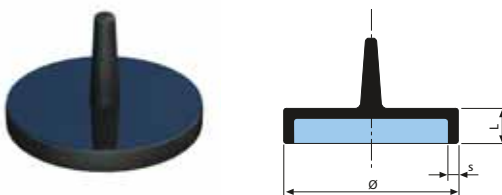
Ø	S	Kg	Code
<b>RUBBER SEAL</b>			
40	6	0.0040	9119.40
50	6	0.0040	9119.50
56	6	0.0050	9119.56



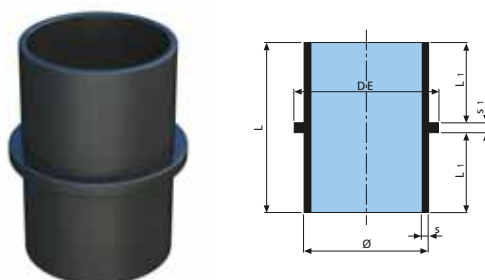
Ø	S	L <sub>1</sub>	L <sub>3</sub>	Kg	Code
<b>HDPE THREADED UNION</b>					
40	3	30	66	0.025	9122.40
50	3	30	66	0.030	9122.50
56	3	30	66	0.025	9122.56



Ø	RG	DE	L <sub>2</sub>	Kg	Code
<b>HDPE END CAP WITH SEAL</b>					
40	57	60	34	0.030	9121.40
50	63	70	33	0.035	9121.50
56	71	80	34	0.075	9121.56



Ø	S	L	Kg	Code
<b>HDPE WELD ON END CAP</b>				
40	3	10	0.010	930.40
50	3	10	0.010	930.50
56	3	10	0.010	930.56

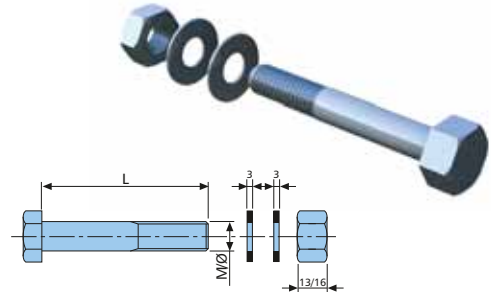


Ø	S	S <sub>1</sub>	DE	L	L <sub>1</sub>	Kg	Code
<b>HDPE ANCHOR PIPE</b>							
40	3	4	46	64	30	0.025	970.40
50	3	4	57	68	32	0.030	970.50
56	3	4	64	68	32	0.035	970.56

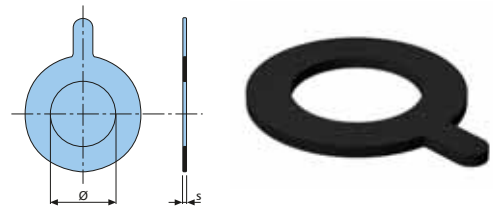


## HDPE waste pipe fittings

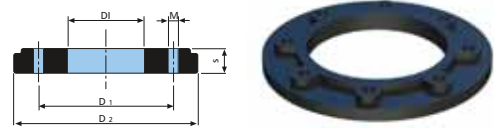
M/Ø	L	For Flange	Kg	Code
<b>HDPE GALVANISED BOLT SET WITH WASHER FOR FLANGE</b>				
16	90	50-56	0.215	984.1650
16	100	63-75	0.230	984.1663
16	100	90	0.230	984.1690
16	100	110-125-140	0.250	984.16110
20	110	160	0.410	984.20160
20	130	200-250-315	0.450	984.20250



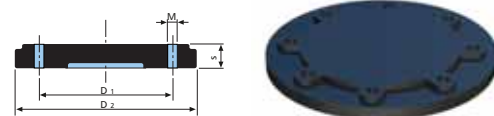
Ø	S	Kg	Code
<b>FLAT RUBBER SEAL FOR FLANGE</b>			
50	3	0.020	982.50
56	3	0.020	982.56



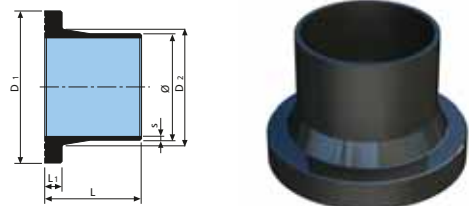
Ø	S	DI	D <sub>1</sub>	D <sub>2</sub>	M	No. of Holes	Kg	Code
<b>PAINTED ALUMINIUM BACKING FLANGE</b>								
50	20	62	120	150	18	4	0.625	981.50
56	20	64	123	159	18	4	0.710	981.56



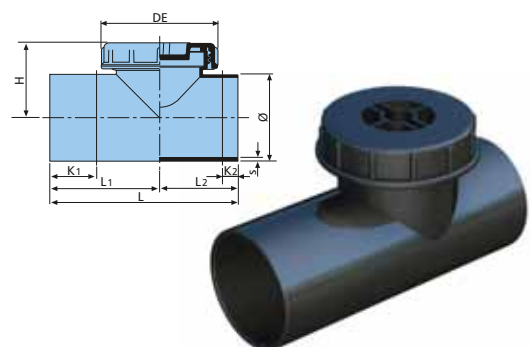
Ø	S	D <sub>1</sub>	D <sub>2</sub>	M	No. of Holes	Kg	Code
<b>PAINTED ALUMINIUM BLANK FLANGE</b>							
50	20	120	150	18	4	0.760	983.50
56	20	123	159	18	4	0.865	983.56



Ø	S	D <sub>1</sub>	D <sub>2</sub>	L	L <sub>1</sub>	Kg	Code
<b>HDPE STUB END</b>							
50	3	88	61	52	12	0.075	980.50
56	3	94	72	90	12	0.115	980.56

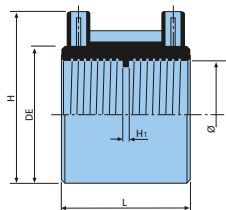


Ø	S	L	L <sub>1</sub>	L <sub>2</sub>	H	DE	K <sub>1</sub>	K <sub>2</sub>	Kg	Code
<b>HDPE ACCESS PIPE WITH SCREW CAP</b>										
40	3	130	75	55	69	54	45	20	0.085	938.40.90
50	3	150	90	60	75	70	55	25	0.130	938.50.90
56	3	175	105	70	84	85	65	30	0.195	938.56.90

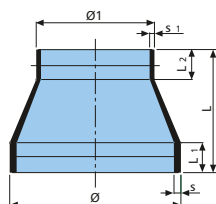
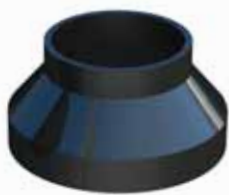


# Terrain FUZE Waste Fittings

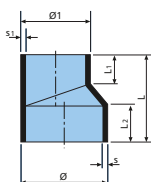
## HDPE waste pipe fittings



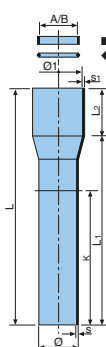
Ø	L	DE	H	H <sub>1</sub>	Kg	Code
<b>HDPE ELECTROFUSION COUPLER</b>						
40	64	52	68	3	0.055	910.40
50	60	63	80	3	0.070	910.50
56	60	70	86	3	0.085	910.56



Ø/Ø <sub>1</sub>	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>HDPE SHORT REDUCER</b>							
50/40	3	3	20	9	7	0.010	924.50405

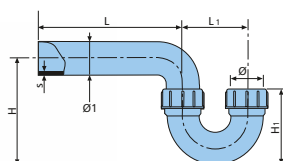


Ø/Ø <sub>1</sub>	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>HDPE ECCENTRIC REDUCER</b>							
50/40	3	3	80	35	35	0.035	923.5040
56/50	3	3	80	37	35	0.040	923.5650



Ø	Ø <sub>1</sub>	S	S <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	K	A	B	Kg	Code
<b>HDPE ADAPTOR (CAST IRON, STEEL, ASBESTOS CEMENT PIPES)</b>											
50	60	3	3	300	240	60	170	53-54	48-49	0.165	926.5060
50	73	3	3	275	220	55	170	60-67	53-60	0.145	926.5073
50	80	3	3	285	230	55	170	67-74	60-67	0.170	926.5080
50	90	3	3	305	235	70	170	80-84	73-77	0.205	926.5090
50	100	3	3	310	240	70	170	90-94	83-87	0.215	926.50100
56	60	3	3	265	205	65	140	53-54	-	0.130	926.5660
56	73	3	3	245	190	55	140	60-67	-	0.130	926.5673
56	80	3	3	245	190	55	140	67-74	53-60	0.150	926.5680
56	90	3	3	265	195	70	140	80-84	60-67	0.180	926.5690
56	100	3	3	270	200	70	140	90-94	-	0.200	926.56100

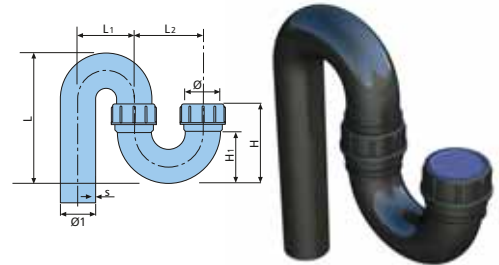
■ Flat Seal   ♦ O Ring



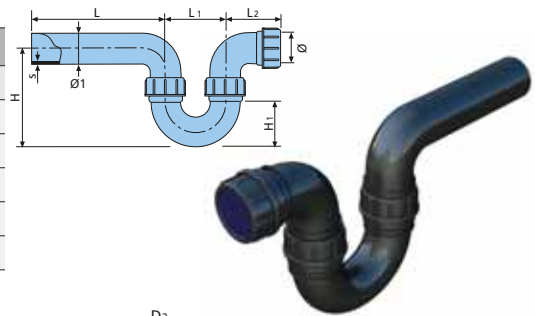
Ø/Ø <sub>1</sub>	S	L	L <sub>1</sub>	H	H <sub>1</sub>	Kg	Code
<b>HDPE TRAP, VERTICAL INLET AND HORIZONTAL OUTLET</b>							
40/40	3	150	80	140	110	0.220	931.4040
40/50	3	180	80	160	110	0.310	931.4050
40/56	3	210	80	155	110	0.310	931.4056
50/50	3	180	100	170	110	0.310	931.5050
50/56	3	210	100	165	110	0.310	931.5056

## HDPE waste pipe fittings

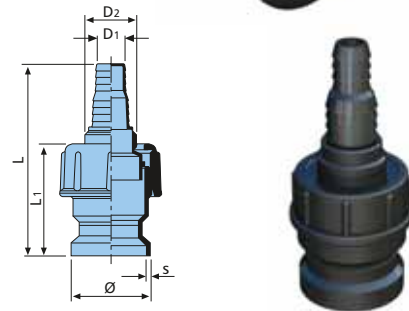
$\varnothing/\varnothing_1$	S	L	L <sub>1</sub>	L <sub>2</sub>	H	H <sub>1</sub>	Kg	Code
<b>HDPE TRAP, VERTICAL INLET AND OUTLET</b>								
40/40	3	160	60	80	110	60	0.235	932.4040
40/50	3	180	80	80	110	65	0.340	932.4050
40/56	3	238	80	80	110	65	0.340	932.4056
50/50	3	180	80	100	110	70	0.340	932.5050
50/56	3	190	80	100	120	70	0.370	932.5056



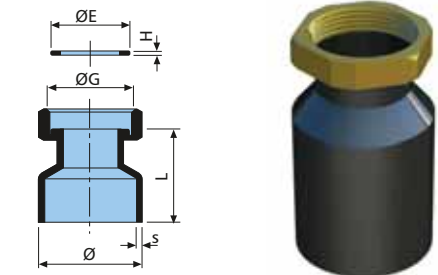
$\varnothing/\varnothing_1$	S	L	L <sub>1</sub>	L <sub>2</sub>	H	H <sub>1</sub>	Kg	Code
<b>HDPE TRAP, HORIZONTAL INLET AND OUTLET</b>								
40/40	3	150	80	90	140	40	0.310	945.4040
40/50	3	180	80	90	160	65	0.370	945.4050
40/56	3	210	80	90	160	40	0.400	945.4056
50/50	3	180	100	90	170	70	0.420	945.5050
50/56	3	210	100	90	165	80	0.440	945.5056



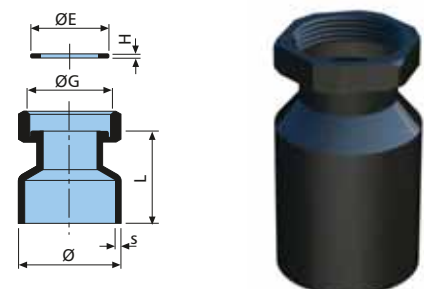
$\varnothing$	S	D <sub>1</sub>	D <sub>2</sub>	L	L <sub>1</sub>	Kg	Code
<b>HDPE WASHING MACHINE CONNECTOR</b>							
50	3	15/20	1" G	120	65	0.065	933.50



$\varnothing$	$\varnothing_G$	S	L	$\varnothing_E$	H	Nut	Kg	Code
<b>HDPE FITTING WITH NUT - BRASS</b>								
32	1 1/4"	3	45	40	2	Brass	0.075	918.32.125B
40	1 1/4"	3	45	40	2	Brass	0.080	918.40.125B
40	1 1/2"	3	45	45	2	Brass	0.090	918.40.15B
50	1 1/4"	3	45	40	2	Brass	0.080	918.50.125B
50	1 1/2"	3	45	45	2	Brass	0.090	918.50.15B

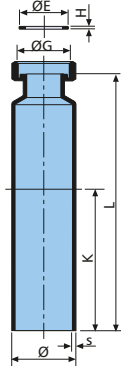


$\varnothing$	$\varnothing_G$	S	L	$\varnothing_E$	H	Nut	Kg	Code
<b>HDPE FITTING WITH NUT - PLASTIC</b>								
32	1 1/4"	3	45	40	2	Plastic	0.025	918.32.125
40	1 1/4"	3	45	40	2	Plastic	0.030	918.40.125
40	1 1/2"	3	45	45	2	Plastic	0.030	918.40.15
50	1 1/4"	3	45	40	2	Plastic	0.030	918.50.125
50	1 1/2"	3	45	45	2	Plastic	0.030	918.50.15

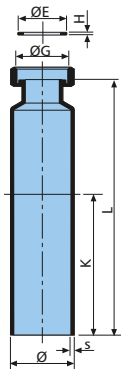


# Terrain FUZE Waste Fittings

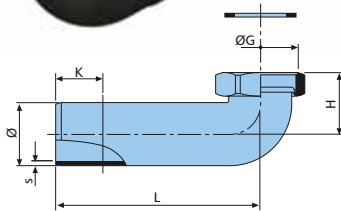
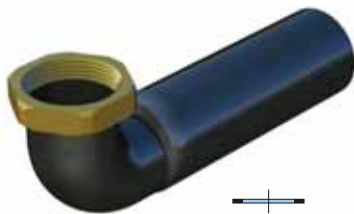
## HDPE waste pipe fittings



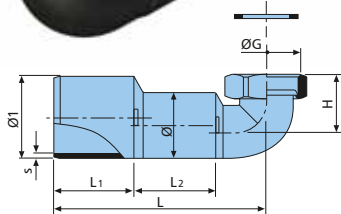
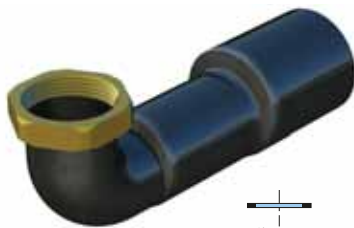
Ø	ØG	S	L	ØE	H	K	Nut	Kg	Code
<b>HDPE EXTENDED FITTING WITH NUT - BRASS</b>									
40	1¼"	3	195	40	2	110	Brass	0.130	918.40.125EB
40	1½"	3	195	45	2	110	Brass	0.145	918.40.15EB
50	1¼"	3	195	40	2	110	Brass	0.150	918.50.125EB
50	1½"	3	195	45	2	110	Brass	0.155	918.50.15EB



Ø	ØG	S	L	ØE	H	K	Nut	Kg	Code
<b>HDPE EXTENDED FITTING WITH NUT - PLASTIC</b>									
40	1¼"	3	195	40	2	110	Plastic	0.080	918.40.125E
40	1½"	3	195	45	2	110	Plastic	0.085	918.40.15E
50	1¼"	3	195	40	2	110	Plastic	0.100	918.50.125E
50	1½"	3	195	45	2	110	Plastic	0.095	918.50.15E



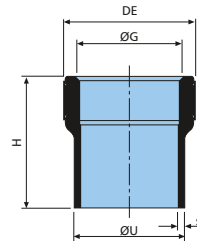
Ø	ØG	S	L	H	K	Nut	Kg	Code
<b>HDPE BEND WITH NUT</b>								
40	1¼"	3	130	25	100	Brass	0.100	918.40.125.90B
40	1½"	3	130	30	100	Brass	0.105	918.40.15.90B
40	1¼"	3	130	25	100	Plastic	0.035	918.40.125.90
40	1½"	3	130	30	100	Plastic	0.040	918.40.15.90



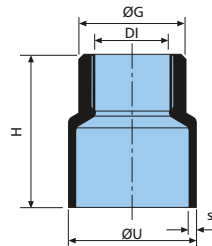
Ø	ØG	S	L	L <sub>1</sub>	L <sub>2</sub>	H	Nut	Kg	Code
<b>HDPE REDUCING BEND WITH NUT</b>									
40/50	1¼"	3	130	50	54	25	Brass	0.110	918.4050.125.90B
40/50	1½"	3	120	50	N.C.	30	Brass	0.120	918.4050.15.90B
40/50	1¼"	3	130	50	54	25	Plastic	0.060	918.4050.125.90
40/50	1½"	3	120	50	N.C.	30	Plastic	0.055	918.4050.15.90

## HDPE waste pipe fittings

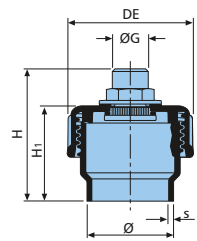
ØU	ØG	S	DE	H	Kg	Code
<b>HDPE END WITH INTERNAL THREADING, REINFORCED WITH STEEL RING</b>						
40	1/2"	3	40.5	55	0.065	916.40.05
40	3/4"	3	40.5	55	0.060	916.40.075
40	1"	3	40.5	55	0.060	916.40.1
50	1/2"	3	50	60	0.075	916.50.05
50	3/4"	3	50	60	0.075	916.50.075
50	1"	3	50	60	0.075	916.50.1
50	1 1/4"	3	50	60	0.070	916.50.125
50	1 1/2"	3	58.5	60	0.070	916.50.15
56	2"	3	70	65	0.100	916.56.2



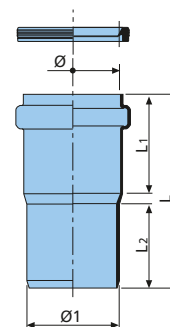
ØU	ØG	S	DI	H	Kg	Code
<b>HDPE END WITH EXTERNAL THREADING, REINFORCED WITH STEEL RING</b>						
50	1 1/4"	3	29	60	0.055	917.50.125
50	1 1/2"	3	29	60	0.065	917.50.15
56	2"	3	47	65	0.090	917.56.2



Ø	ØG	S	DE	H	H <sub>1</sub>	Kg	Code
<b>HDPE THREADED FITTING WITH BRASS NIPPLE</b>							
40	1/2" x 15mm	3	60	81	74	0.180	936.40.05N
40	3/4" x 18mm	3	60	84	74	0.240	936.40.075N
50	1/2" x 15mm	3	71	92	76	0.150	936.50.05N
50	3/4" x 18mm	3	71	95	76	0.185	936.50.075N
50	1" x 22mm	3	71	95	76	0.245	936.50.1N

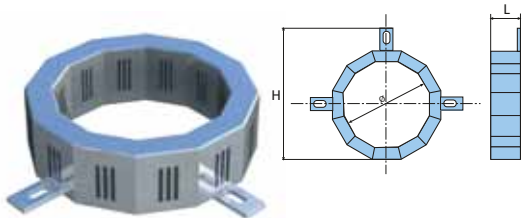


Ø/Ø <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>PVC ADAPTOR (SOLVENT WELD)</b>					
40/40	105	50	55	0.045	995.4040
50/50	105	50	55	0.055	995.5050
50/100	130	91	40	0.140	995.50100

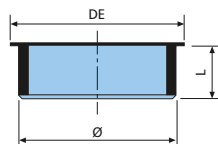


# Terrain FUZE Waste Fittings

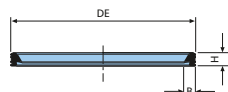
## HDPE waste pipe fittings



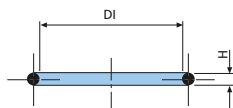
Ø	L	H	Code
<b>FIRE STOP</b>			
40	22.4	69	9725.40
50	22.4	69	9725.50
56	32.4	85	9725.56



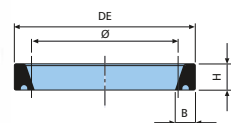
Ø	DE	L	Kg	Code
<b>HDPE PROTECTIVE CAP FOR SOCKETS, EXPANSION JOINTS AND SPIGOT BENDS</b>				
40	46	38	0.005	9130.40
50	56	38	0.010	9130.50
56	62	25	0.010	9130.56



Ø	DE	H	B	Kg	Code
<b>HDPE LIP SEAL FOR SOCKETS</b>					
40	51.4	7.8	6.5	0.005	927.40.908
50	61.4	7.8	6.5	0.005	927.50.908
56	67.5	7.8	6.5	0.010	927.56.908



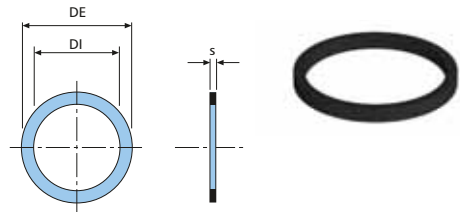
Ø	DI	H	Kg	Code
<b>O-RING FOR SOCKETS</b>				
40	39 <sup>+1</sup>	6	0.005	9116.40
50	49 <sup>+1</sup>	6	0.005	9116.50
56	54 <sup>+1</sup>	6	0.005	9116.56



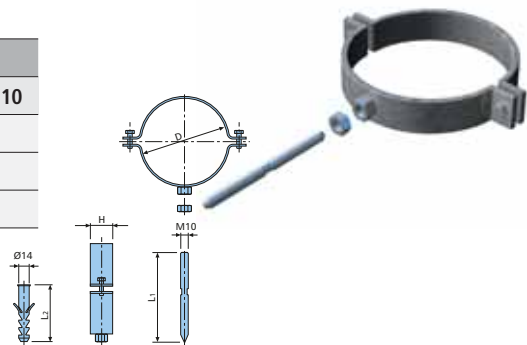
Ø	H	B	DE	Kg	Code
<b>HDPE SEAL FOR EXPANSION SOCKETS</b>					
40	16	12	60	0.025	911.40.908
50	16	12	70	0.035	911.50.908
56	16	12	76	0.040	911.56.908

## HDPE waste pipe fittings

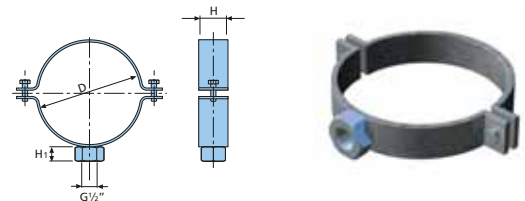
∅	S	DE	DI	Kg	Code
<b>RUBBER FLAT SLEEVE</b>					
40 x 1¼"	2.4	38	30	0.015	918.40.908
40 x 1½"	2.4	45	36	0.020	918.40.918



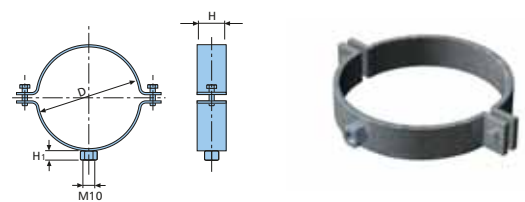
∅ ext. pipe	D	H	L <sub>1</sub>	L <sub>2</sub>	Kg	Code
<b>GALVANISED IRON WASTE PIPE CLIP WITH ANCHOR FOR ATTACHMENT TO WALLS M10</b>						
40	43	30	120	75	0.230	9142.40
50	53	30	120	75	0.240	9142.50
56	59	30	120	75	0.255	9142.56



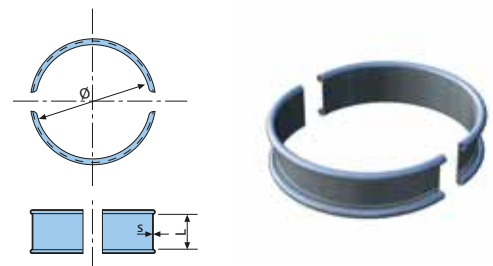
∅ ext. pipe	D	H	H <sub>1</sub>	Kg	Code
<b>GALVANISED STEEL WASTE PIPE CLIP FOR RIGID SUPPORT G 1/2"</b>					
40	43	30	15	0.200	9143.40
50	53	30	15	0.195	9143.50
56	59	30	15	0.210	9143.56



∅ ext. pipe	D	H	H <sub>1</sub>	Kg	Code
<b>GALVANISED STEEL WASTE PIPE CLIP FOR RIGID SUPPORT M10</b>					
40	43	30	9	0.160	9144.40
50	53	30	9	0.165	9144.50
56	59	30	9	0.190	9144.56

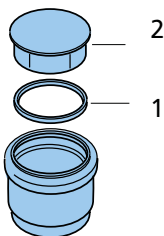


∅ ext. pipe	L	S	Kg	Code
<b>STAINLESS STEEL WASTE PIPE INSERT FOR RIGID SUPPORT</b>				
40	30	1	0.035	9145.40
50	30	1	0.045	9145.50
56	30	1	0.050	9145.56

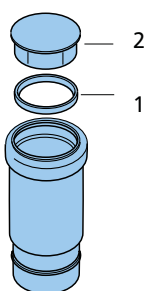


# Terrain FUZE Waste Spare Parts

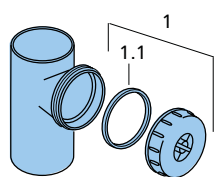
## Spare parts



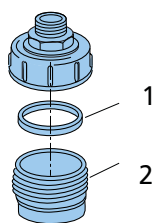
∅	For product code	1 Lip seal	2 Protective cap
<b>HDPE RING SEAL ADAPTOR</b>			
40	927.40	927.40.908	9130.40
50	927.50	927.50.908	9130.50
56	927.56	927.56.908	9130.56



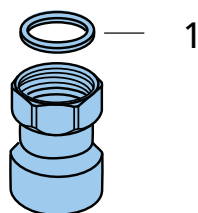
∅	For product code	1 Lip seal	2 Protective cap
<b>HDPE EXPANSION JOINT</b>			
40	911.40	911.40.908	9130.40
50	911.50	911.50.908	9130.50
56	911.56	911.56.908	9130.56



∅	For product code	1 Cap and seal	1.1 Seal
<b>HDPE 90° ACCESS PIPE WITH SCREW CAP</b>			
40	938.40.90	9121.40	9119.40
50	938.50.90	9121.50	9119.50
56	938.56.90	9121.56	9119.56



∅	For product code	1 Seal	2 Threaded union
<b>HDPE SCREW FITTING WITH BRASS NIPPLE</b>			
40 x 1/2"	936.40.05N	9119.40	9122.40
40 x 3/4"	936.40.075N	9119.40	9122.40
50 x 1/2"	936.50.05N	9119.50	9122.50
50 x 3/4"	936.50.075N	9119.50	9122.50
50 x 1"	936.50.1N	9119.50	9122.50

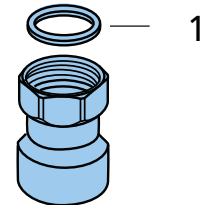


∅	For product code	1 Flat seal
<b>HDPE FITTING WITH NUT - PLASTIC</b>		
40 x 1 1/4"	918.40.125	918.40.908
40 x 1 1/2"	918.40.15	918.40.918
50 x 1 1/4"	918.50.125	918.40.908
50 x 1 1/2"	918.50.15	918.40.918

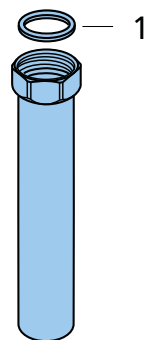


## Spare parts

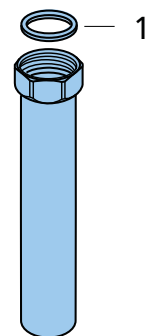
∅	For product code	1 Flat seal
<b>HDPE FITTING WITH NUT - BRASS</b>		
40 x 1¼"	918.40.125B	918.40.908
40 x 1½"	918.40.15B	918.40.918
50 x 1¼"	918.50.125B	918.40.908
50 x 1½"	918.50.15B	918.40.918



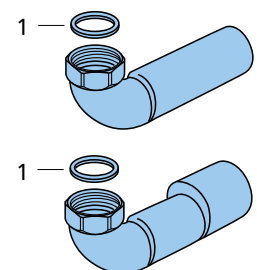
∅	For product code	1 Flat seal
<b>HDPE EXTENDED FITTING WITH NUT - PLASTIC</b>		
40 x 1¼"	918.40.125E	918.40.908
40 x 1½"	918.40.15E	918.40.918
50 x 1¼"	918.50.125E	918.40.908
50 x 1½"	918.50.15E	918.40.918



∅	For product code	1 Flat seal
<b>HDPE EXTENDED FITTING WITH NUT - BRASS</b>		
40 x 1¼"	918.40.125EB	918.40.908
40 x 1½"	918.40.15EB	918.40.918
50 x 1¼"	918.50.125EB8	918.40.908
50 x 1½"	918.50.15EB	918.40.918

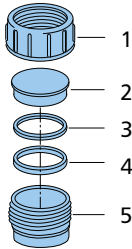


∅	For product code	1 Flat seal
<b>HDPE BEND WITH NUT</b>		
40 x 1¼"	918.40.125.90B	918.40.908
40 x 1½"	918.40.15.90B	918.40.918
40/50 x 1¼"	918.4050.125.90B	918.40.908
40/50 x 1½"	918.4050.15.90B	918.40.918

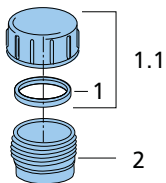


# Terrain FUZE Waste Spare Parts

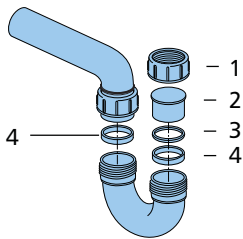
## Spare parts



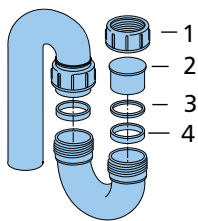
Ø	For product code	1 Nut	2 Cap	3 Ring	4 Seal	5 Threaded union
<b>HDPE THREADED COUPLING</b>						
40	912.40	9120.40	9130.40	9118.40	9119.40	9122.40
50	912.50	9120.50	9130.50	9118.50	9119.50	9122.50
56	912.56	9120.56	9130.56	9118.56	9119.56	9122.56



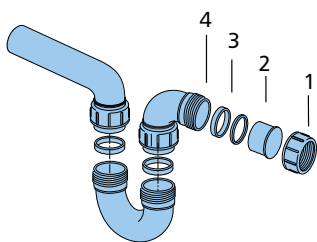
Ø	For product code	1 Seal	1.1 Cap with Seal	2 Threaded union
<b>HDPE COMPLETE CAP</b>				
40	936.40	9119.40	9121.40	9122.40
50	936.50	9119.50	9121.50	9122.50
56	936.56	9119.56	9121.56	9122.56



Ø	For product code	1 Nut	2 Cap	3 Ring	4 Seal
<b>HDPE TRAP, VERTICAL INLET AND HORIZONTAL OUTLET</b>					
40/40	931.4040	9120.40	9130.40	9118.40	9119.40
40/50	931.4050	9120.40/9119.50	9130.40	9118.40	9119.40
40/56	931.4056	9120.40/9120.56	9130.40	9118.40	9119.40
50/50	931.5050	9120.50	9130.50	9118.50	9119.50
50/56	931.5056	9120.50/9120.56	9130.50	9118.50	9119.50



Ø	For product code	1 Nut	2 Cap	3 Ring	4 Seal
<b>HDPE TRAP, VERTICAL INLET AND OUTLET</b>					
40/40	932.4040	9120.40	9130.40	9118.40	9119.40
40/50	932.4050	9120.40/9120.50	9130.40	9118.40	9119.40/ 9119.50
40/56	932.4056	H9120.40/9120.56	9130.40	9118.40	9119.40/ 9119.56
50/50	932.5050	9120.50	9130.50	9118.50	9119.50
50/56	932.5056	9120.50/9120.56	9130.50	9118.50	9119.50/ 9119.56

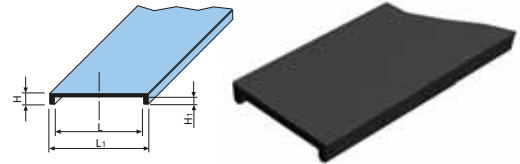


Ø	For product code	1 Nut	2 Cap	3 Ring	4 Seal
<b>HDPE TRAP, HORIZONTAL INLET AND OUTLET</b>					
40/40	945.4040	9120.40	9130.40	9118.40	9119.40
40/50	945.4050	9120.40/9120.50	9130.40	9118.40	9119.40/ 9119.50
40/56	945.4056	H9120.40/9120.56	9130.40	9118.40	9119.40/ 9119.56
50/50	945.5050	9120.50	9130.50	9118.50	9119.50
50/56	945.5056	9120.50/9120.56	9130.50	9118.50	9118.50/ 9118.56

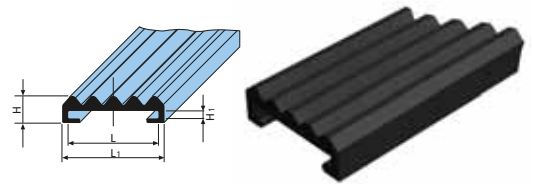
# Terrain FUZE Accessories

## HDPE Accessories

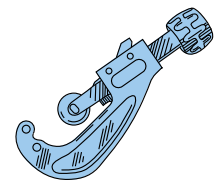
L	L <sub>1</sub>	H	H <sub>1</sub>	Kg	Code
<b>RUBBER INSERT FOR CLIPS (50 METRE LENGTH)</b>					
30	34	4	2	5.015	HDN399001
40	45	6	4	1.580	HDN399003



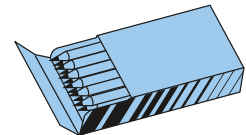
L	L <sub>1</sub>	H	H <sub>1</sub>	Kg	Code
<b>ANTI VIBRATION RUBBER INSERT FOR CLIPS (30 METRE LENGTH)</b>					
30	36	9	3	6.110	9105.30



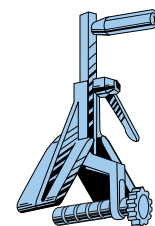
∅	Model	Code
<b>PIPE CUTTER</b>		
6 - 63	T1	HDN450001
50 - 140	T2	HDN450003
100 - 168	T3	HDC458001



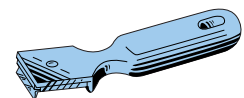
Code
<b>MARKER PENCILS</b>
Quantity 12
HDC474001



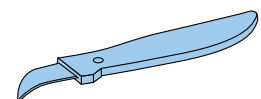
∅	Code
<b>BEVELLING MACHINE</b>	
32 - 160	HDC460001
40 - 250	HDC460003



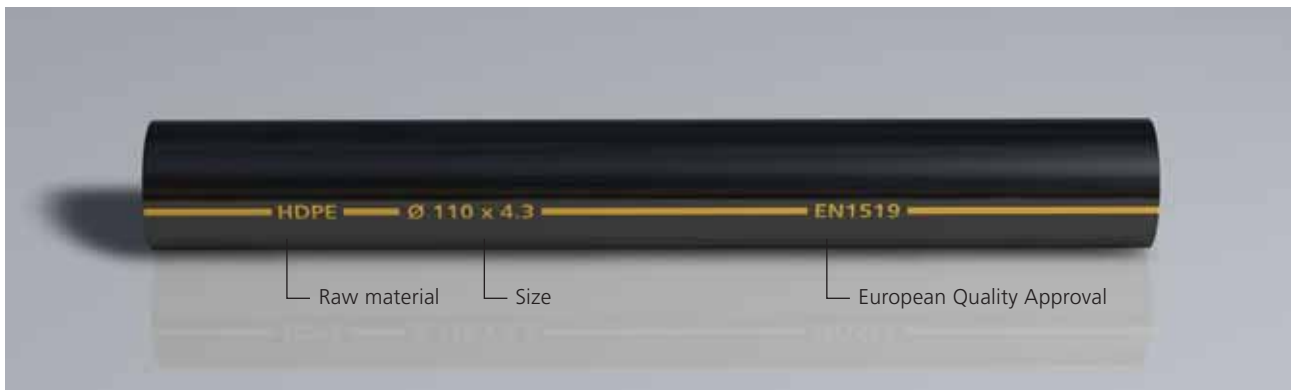
Code
<b>PIPE SCRAPER</b>
Quantity 1
HDC465332



Code
<b>KNIFE</b>
Quantity 12
HDC473001



# Terrain FUZE Product Properties



## Material

Pipes and fittings in the Terrain FUZE range are manufactured in high density polyethylene and are in full compliance with existing European Standard EN1519.

## Colour

The HDPE pipes and fittings are black in colour in accordance with the Standards.

## Marking

Following the Italian Standard currently in force, Terrain FUZE pipes carry the following indications:

- Material (HDPE)
- Application
- Series
- Trade-mark
- Pipe series
- Outside diameter and wall thickness
- BBA Certificate No. 07/4479
- Lloyds register type approved certificate 03/00043

## Packaging

To safeguard products during transportation and storage, pipes and fittings are packaged as follows:

Pipes – in lightweight, reinforced brackets

Fittings – in cardboard boxes.

## Properties

Building Regulations now allow for the use of high-density polyethylene (945 – 965 kg/m<sup>3</sup>) which is characterised by a very crystalline structure, in waste pipes and fittings for non-pressure waste in private and industrial buildings.

Within the guidelines, HDPE can be utilised for the conveyance of waste, up to temperatures of 80°C constant, or 95°C intermittently for up to 2 minutes.

- Sanitary ware
- Dishwashers and washing machines
- Large kitchens and industrial plants
- Waste run-off and chemical laboratories

HDPE offers exceptional performance above and beyond traditional pipe materials including:

- Versatile application
- Highly resistant to impact even at low temperatures
- Highly resistant to chemical agents
- Corrosion resistant
- Abrasion resistant
- Lightweight and easy to install

Although HDPE has a low rate of thermal conductivity [40 – 60 W/m K (0.35 – 0.50 Kcal/h m °C)] and a linear expansion coefficient of  $1=2 \times 10^{-4} \text{ m } ^\circ\text{C}$ , the material itself is not fire extinguishing and fire stop sleeves must be installed at each subdivision.

The following tables provide a list of inorganic compounds, which may be conveyed through HDPE systems with no internal pressure or mechanical stress, at temperatures up to 20°C and 60°C and those fluids which are unsuitable.

### Fluid concentration classifications used in table

Sat. Sol.	= Saturated water solution prepared to 20°C
Sol.	= Diluted water solution, concentration over 10% unsaturated
Dil. Sol.	= Diluted water solution, concentration less than 10% unsaturated
W. Conc.	= Working concentration, i.e. normal concentration for industrial use

# and Characteristics

Tables of fluids\* which can be conveyed through HDPE pipes and fittings with no internal pressure, mechanical stress and temperatures up to 60°C

Inorganic compounds	Concentration
Acetic Acid	10%
Adipic Acid	Sat. Sol.
Allyl alcohol	96%
Alum	Sol.
Aluminium Chloride	Sol.
Aluminium Fluoride	Sat. Sol.
Aluminium Sulphate	Sat. Sol.
Ammonia (gas)	100%
Ammonia (liquid)	100%
Ammonia (solution)	Dil. Sol.
Ammonium Chloride	Dil. Sol.
Ammonium Fluoride	Sol.
Ammonium Nitrate	Sat. Sol.
Ammonium Sulphate	Sat. Sol.
Ammonium Sulphide	Sol.
Antimonious (III) Chloride	90%
Arsenic Acid	Sat. Sol.
Barium Carbonate	Sat. Sol.
Barium Chloride	Sat. Sol.
Barium Hydroxide	Sat. Sol.
Barium Sulphate	Sat. Sol.
Benzoic Acid	Sat. Sol.
Beer	
Borax	Sat. Sol.
Boric Acid	Sat. Sol.
Butane (gas)	100%
Butanol	100%
Calcium Carbonate	Sat. Sol.
Calcium Chlorate	Sat. Sol.
Calcium Chloride	Sat. Sol.
Calcium Hydroxide	Sat. Sol.
Calcium Hypochlorite	Sol.
Calcium Nitrate	Sat. Sol.
Calcium Sulphate	Sat. Sol.
Carbon Dioxide (dry)	100%
Carbon Monoxide	100%
Chloroacetic Acid (mono)	Sol.
Citric Acid	Sat. Sol.
Copper (II) Chloride	Sat. Sol.
Copper (II) Nitrate	Sat. Sol.
Copper (II) Sulphate	Sat. Sol.
Cyclohexanol	100%
Dextrin	Sol.
Dioxane	100%
Fluosilicic Acid	40%
Formaldehyde	40%
Formic Acid	50%
Formic Acid	98 to 100%
Glucose	Sat. Sol.
Glycerine	100%
Glycol	100%
Glycolic Acid	Sol.

Inorganic compounds	Concentration
Hydrobromic Acid	50%
Hydrobromic Acid	100%
Hydrochloric Acid	10%
Hydrochloric Acid	Conc.
Hydrocyanic Acid	10%
Hydrofluoric Acid	4%
Hydroquinone	Sat. Sol.
Hydrogen	100%
Hydrogen Peroxide	30%
Hydrogen Sulphide	100%
Iron (II) Chloride	Sat. Sol.
Iron (III) Chloride	Sat. Sol.
Iron (III) Nitrate	Sol.
Iron (II) Sulphate	Sat. Sol.
Lactic Acid	100%
Magnesium Carbonate	Sat. Sol.
Magnesium Chloride	Sat. Sol.
Magnesium Hydroxide	Sat. Sol.
Magnesium Nitrate	Sat. Sol.
Maleic Acid	Sat. Sol.
Milk	
Molasses	W. Conc.
Mercury	100%
Mercury (II) Cyanide	Sat. Sol.
Mercury (II) Chloride	Sat. Sol.
Mercury (I) Nitrate	Sol.
Methanol (see Methyl Alcohol)	
Methyl Alcohol	100%
Nickel Chloride	Sat. Sol.
Nickel Nitrate	Sat. Sol.
Nickel Sulphate	Sat. Sol.
Nitric Acid	25%
Oxalic Acid	Sat. Sol.
Phenol	Sol.
Phosphoric Acid (ortho)	50%
Photographic Developers	W. Conc.
Potassium Bicarbonate	Sat. Sol.
Potassium Bichromate	Sat. Sol.
Potassium Bisulphate	Sat. Sol.
Potassium Bisulphite	Sol.
Potassium Bromate	Sat. Sol.
Potassium Bromide	Sat. Sol.
Potassium Carbonate	Sat. Sol.
Potassium Cyanide	Sol.
Potassium Chlorate	Sat. Sol.
Potassium Chromate	Sat. Sol.
Potassium Ferricyanide	Sat. Sol.
Potassium Ferrocyanide	Sat. Sol.
Potassium Flouride	Sat. Sol.
Potassium Phosphate (ortho)	Sat. Sol.
Potassium Hydroxide	10%
Potassium Hydroxide	Sol.

\* Plastic pipe and fittings combined chemical resistance clarification table ISO/TR10358 - 1993

# Terrain FUZE Product Properties

Tables of fluids\* which can be conveyed through HDPE pipes and fittings with no internal pressure, mechanical stress and temperatures up to 60°C

Inorganic compounds	Concentration
Potassium Nitrate	Sat. Sol.
Potassium Perchlorate	Sat. Sol.
Potassium Permanganate	20%
Potassium Persulphate	Sat. Sol.
Potassium Sulphate	Sat. Sol.
Potassium Sulphide	Sol.
Propionic Acid	50%
Salicylic Acid	Sat. Sol.
Silver Acetate	Sat. Sol.
Silver Cyanide	Sat. Sol.
Silver Nitrite	Sat. Sol.
Sodium Benzoate	Sat. Sol.
Sodium Bicarbonate	Sat. Sol.
Sodium Bisulphate	Sol.
Sodium Bromide	Sat. Sol.
Sodium Carbonate	Sat. Sol.
Sodium Chlorate	Sat. Sol.
Sodium Cyanide	Sat. Sol.
Sodium Ferricyanide	Sat. Sol.
Sodium Ferrocyanide	Sat. Sol.
Sodium Fluoride	Sat. Sol.
Sodium Phosphate (ortho)	Sat. Sol.
Sodium Hydroxide	40%
Sodium Hydroxide	Sol.

Inorganic compounds	Concentration
Sodium Hypochlorite	15% chlorine
Sodium Nitrate	Sat. Sol.
Sodium Nitrite	Sat. Sol.
Sodium Sulphate	Sat. Sol.
Sodium Sulphide	Sat. Sol.
Sulphur Dioxide (dry)	100%
Sulphuric Acid	10%
Sulphuric Acid	50%
Sulphurous Acid	30%
Tannic Acid	Sol.
Tartaric Acid	Sol.
Tin Chloride (II)	Sat. Sol.
Tin Chloride (III)	Sat. Sol.
Urea	Sol.
Urine	
Vinegar	
Water	
Wine & Spirits	
Yeast	Sol.
Zinc Carbonate	Sat. Sol.
Zinc Chloride	Sat. Sol.
Zinc Oxide	Sat. Sol.
Zinc Sulphate	Sat. Sol.

Tables of fluids\* which can be conveyed through HDPE pipes and fittings with no internal pressure, mechanical stress and temperatures up to 20°C

Inorganic compounds	Concentration
Acetaldehyde	100%
Acetic Dioxide	100%
Amylacetate (1-pentanol acetate)	100%
Amyl Alcohol (1- pentanol)	100%
Aniline	100%
Benzaldehyde	100%
Benzine (Aliphatic Hydrocarbons)	
Butyric Acid	100%
Cyclohexane	100%
Chromic Acid	20%
Chromic Acid	50%
Decaline	100%
Diocetyl-phthalate	100%
Ethanol (see ethylic alcohol)	
Ethylic Alcohol (ethanol)	40%
Ethyl Acetate	100%
Furfuryl Alcohol	100%
Glacial Acetic Acid	>96%

Inorganic compounds	Concentration
Heptane	100%
Hydrogen Peroxide	90%
Hydrofluoric Acid	60%
Lead Acetate	Sat. Sol.
Mineral Oils	
Nicotinic Acid	Dil. Sol.
Oils and Fats	
Oleic Acid	100%
Oxygen	100%
Phosphoric Acid (ortho)	95%
Phosphorus Trichloride	100%
Picric Acid	Sat. Sol.
Potassium Hypochlorite	Sol.
Propionic Acid	100%
Pyridine	100%
Sulphuric Acid	98%
Triethanolamine	Sol.

\* Plastic pipe and fittings combined chemical resistance clarification table ISO/TR10358 - 1993

# and Characteristics

## Tables of fluids\* which are unsuitable for conveyance through HDPE pipes and fittings

Inorganic compounds	Concentration
Aqua Regina	HCl / HNO <sub>3</sub> = 3/1
Bromium (liquid)	100%
Bromium (dry steam)	100%
Carbon Sulphate	100%
Carbon Tetrachloride	100%
Chlorine (gas) Dry	100%
Chlorine Water	100%
Chloroform	100%
Cresylic Acid (methyl-benzoic)	100%
Flourine	100%
Fuming Sulphuric Acid (oleum)	

Inorganic compounds	Concentration
Methylene Chloride	100%
Nitric Acid	50%
Nitric Acid	75%
Nitric Acid	100%
Ozone	
Sulphur Dioxide	100%
Thionyl Chloride	100%
Toluene	100%
Trichlorineethylene	100%
Xylene	100%

\* Plastic pipe and fittings combined chemical resistance clarification table ISO/TR10358 - 1993

## Thermal movement

HDPE, like many other materials when subjected to temperature changes, undergoes expansion and contraction. A linear expansion coefficient of  $2 \times 10^{-4} \text{m}^\circ\text{C}$  ensures that every metre of pipeline will expand by 0.2mm per one degree rise in temperature. It is important that this expansion is accommodated for within the HDPE pipe by providing expansion sockets within the system. This is achieved by pushing the spigot into the centre of the body to a sufficient length as to allow for the most common expansion conditions. This variation in length and the relevant expansion rate can be calculated using the following formula:

$$\Delta l = L \times l \times \Delta t$$

$\Delta l$  is the variation in length (mm)

$L$  is the initial pipe length (m)

$l$  is the linear expansion coefficient

$$\left[ \frac{\text{mm}}{\text{m}^\circ\text{C}} \right] = 0.20\text{mm}$$

$\Delta t$  is the difference between the higher and lower working temperatures ( $^\circ\text{C}$ ).

There is considerable difference, with regards to drainage systems, and the temperature of fluid conveyed within the pipeline. For example, identical pipes can be used for the outflow of hot water from dishwashers or other appliances or an outdoor rain pipe.

In the first instance, temperature fluctuation along the pipeline may only occur between  $-10^\circ\text{C}$  in winter to  $35^\circ\text{C}$  in summer. However, in the second following example the case of the pipe may be subjected to increased temperatures of  $70^\circ\text{C}$  and over as it drains hot water away.

- The differences in working temperatures of a HDPE pipe highlight the importance of calculating the expansion rate of the pipeline to ensure the product performs at its optimum level
- Note: Where  $\Delta l$  is negative, contraction of the pipeline will occur

### Calculation examples

1. The summer installation of an outdoor drainage pipe.
  - Possible winter temperature:  $-10^\circ\text{C}$
  - Summer laying temperature:  $35^\circ\text{C}$
  - Pipe length: 6m

$$\begin{aligned} \text{Therefore: } \Delta t &= (+35) - (-10) = 45^\circ\text{C} \\ \Delta l &= 6 \times 0.2 \times (-45) = -54\text{mm} \end{aligned}$$

Which is a contraction of 54mm.

2. Dishwasher drainage pipe installation for water at  $70^\circ\text{C}$ .
  - Working temperature:  $70^\circ\text{C}$
  - Laying temperature:  $20^\circ\text{C}$
  - Pipe length: 3m

$$\begin{aligned} \text{Therefore: } \Delta t &= 70 - 20 = 50^\circ\text{C} \\ \Delta l &= 3 \times 0.2 \times 50 = 30\text{mm} \end{aligned}$$

Which is an expansion of 30mm.

Taking into consideration that vertical waste pipes are never completely full, the poor heat conductivity of HDPE, relatively short drainage times and the constant circulation of air within the pipeline, it can be assumed that the working temperature could be 10 to  $20^\circ\text{C}$  lower than the actual calculated value.

# Terrain FUZE Installation

## A waste system should be installed on a project to facilitate:

- Ease of access and maintenance to all parts of the system
- Flexible expansion of the system and integration with other pipe systems

Straight sections of horizontal pipe must be installed in perfect alignment with the pipe's axis and parallel to the wall. Vertical sections of the pipeline should be fixed in perfect alignment with the axis. Right angle bends must only be used to connect horizontal and vertical pipes and not within horizontal pipe networks.

Branches in the soil stack must be created using fittings with an angle less than 90°. Eccentric reductions must be used, when the pipe diameter varies in the horizontal branch pipes, to ensure a centred connection of the pipes at the axis line. To minimise reductions in speed and other negative effects variances in the direction of the horizontal and vertical pipe system must be kept to a minimum and use large radius bends. The stack vent should protrude by 2m above the roof structure where possible, and never less than 0.3m. Ventilating pipes to the outside air should finish at least 900mm above any opening into the building within 3m.

The access pipes must have the same opening as all pipes up to diameter 110mm, where the diameter is greater than 110mm the access pipe must be at least 110mm.

Access pipes should be installed in the following cases:

- At the beginning of the main manifolds in the waste system and at the base of every internal soil stack
- Access pipes should be installed every 15m for a linear stretch of pipe with a diameter equal to or less than 110mm and every 30m for larger diameter pipes
- Wherever two or more branches connect

Access pipes must be within easy reach throughout the system and must offer sufficient space for the use of utensils to clean the pipes.

## The use of HDPE soil & waste pipe and fittings

The elements of the HDPE total pipe system offer direct benefits to the specifier and installer over more traditional materials. These benefits cover:

- HDPE is easier than more traditional materials to transport and handle safely due to its light weight.
- HDPE is installed quicker and easier than more traditional materials, offering increased time and labour savings on-site
- HDPE is resistant to impact shock
- Due to its composition, HDPE is highly resistant to chemical attack and will not erode, ensuring a long life for the system
- Terrain FUZE offers system flexibility, where alterations can be made easily to a completed system
- A smooth inner surface of the pipe minimises the risk of build-up or scaling
- HDPE welded joints will not deteriorate over time as no other materials or solvents are used
- HDPE can be used in close proximity to electrical installations or systems as it is not subject to electrolytic action
- Terrain FUZE offers a broad range of bespoke and fabricated items to be used in conjunction with the product ranges

Terrain FUZE offers a wide range of additional drains, traps, hoses and adaptors to be used with the standard catalogue of pipes and fittings, enabling HDPE products to be connected to other materials such as PVC, cast iron and cement pipes. This enables Terrain FUZE products to be used in an extensive range of applications, for example, in below ground applications when waste pipes with butt welded or electrofusion welded joints are utilised.



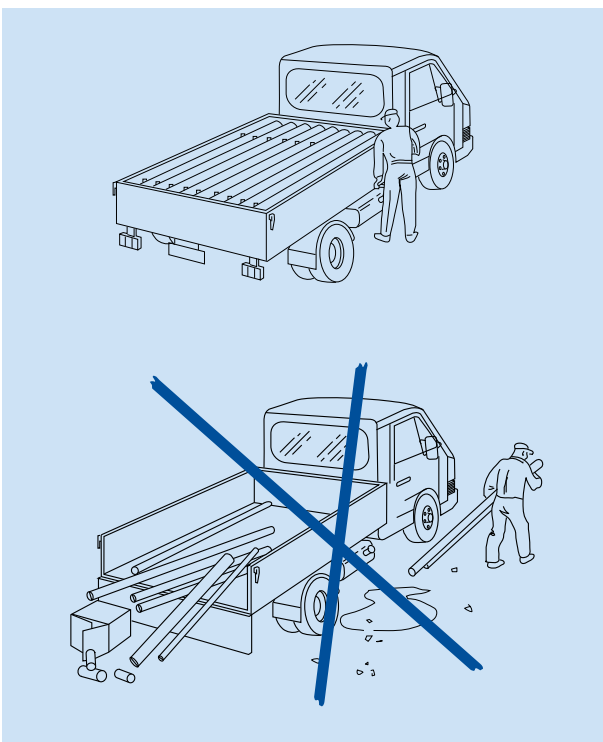
## Transport, storage and handling

Incorrect handling of any product during transportation and storage can have detrimental effects on its performance. HDPE is a very resilient material. However, as with most systems, care and attention is required at all stages of storage and handling to ensure optimum installation performance of the HDPE waste pipe and fitting.

In transportation, the pipes should be laid flat wherever possible to prevent alteration or stress along the pipeline. Suitable distance should be given when the pipes are stored to prevent any distortion. Dragging, throwing or scratching the pipes and fittings should be avoided and protection should be provided where tying down of the load will occur.

Once on-site, care must be taken to minimise any weight stresses that could be placed on the product by laying heavy objects on top of it. Ring seals within the sockets can be prone to damage from dirt, gravel or mud, so a clean storage area is advised.

To avoid deformation of the pipes and fittings over a long period of time, they must be placed on a flat surface and not leant against a solid structure (i.e. a wall). When stacking the pipes for an extended amount of time, a maximum height of 1.7m should not be exceeded, whatever the diameter of the pipe. Pipes should not be exposed to prolonged periods of sunshine (more than 18 months) during open storage.



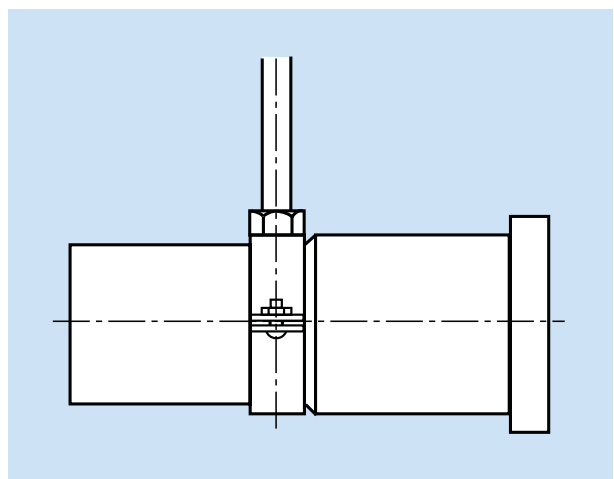
## HDPE support and movement

HDPE pipes are subject to expansion when placed under temperature stress. Where  $\Delta t$  values are high, very long sections of pipe (most commonly visible overhead pipe) cannot be used without preventative measures in place to alleviate stress and deformation of the pipeline. To reduce expansion, the values in the previous quotation should be reduced.

However, this may not be permissible due to:

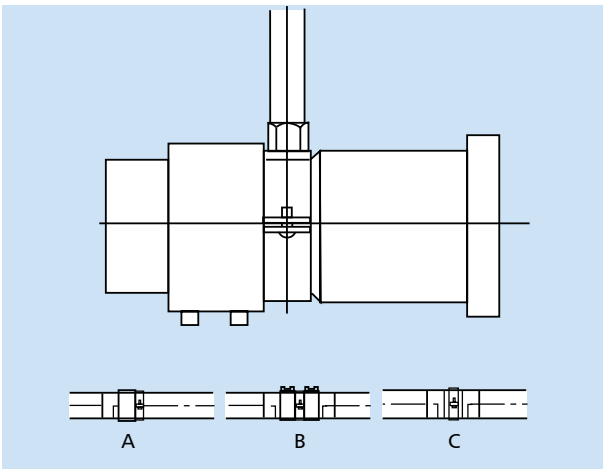
- **The expansion coefficient of a particular material cannot be reduced**
- **The  $\Delta t$  values are difficult to modify as it takes into account objective thermal conditions which are closely connected to use and laying conditions. For example, it can be reduced in the case of a rain pipe which is embedded within the wall, rather than fitted to the outside**

Therefore, the only value that can be changed is the length of the pipe. In order for this to be achieved, the pipe must be divided into sections of suitable length, each with its own expansion socket. The sleeve must be joined firmly to the bearing structure to obtain a 'fixed point' that can be reinforced with a supplementary anchor point (electro-weld sleeve coupling).



Rigid fastening with expansion socket and bracket.

# Terrain FUZE Installation



Rigid fastening of expansion socket with bracket and electro weld socket. Instead of an expansion socket, the following all act as anchor points:  
 A = Electrofusion coupling  
 B = 2 Electrofusion couplings  
 C = Collar bush

Terrain FUZE pipes must be fixed with anchor brackets and guide brackets to support the pipe and allow axial movement caused by expansion and contraction of the material.

As a general rule, each expansion socket should be fixed with one anchor bracket, with sections of the pipe between couplings joined to the structure by supports that allow some axial movement.

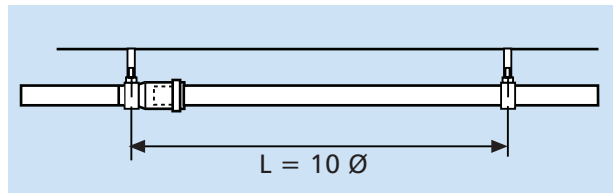
The distance between one support and the next is typically 10 times the diameter, with the most common type of fixing being two half collars, fixing plates and threaded connecting rod or pipe.

When an inclination is necessary, the distance between the pipe and the adjoining structure should be as small as possible to prevent flexing of the pipeline and bending movements on the connecting rod or pipe.

With regard to stacks with floor branches, one Terrain FUZE expansion socket is required at each floor level.

The pipe must be fastened between the expansion socket and the branch and it must act as a fixed point.

A sliding collar should be fitted between one slab and the next, acting as a pipe guide.

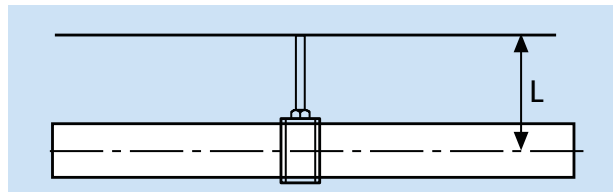


Spacing of guide brackets. Distance is equal to 10 times the pipe diameter.

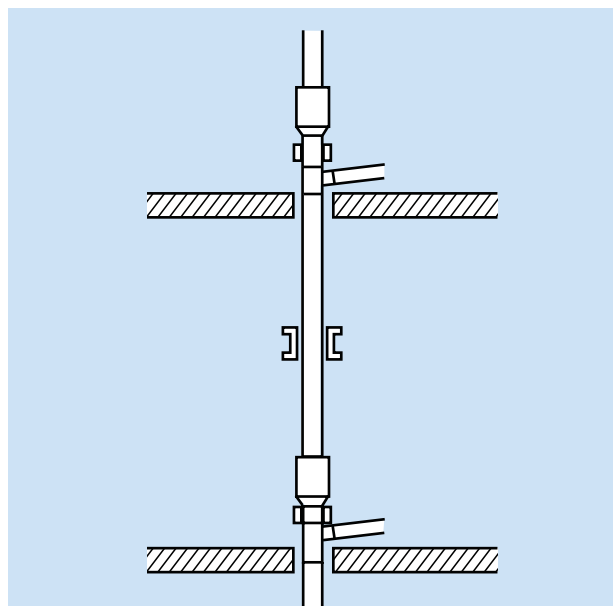
No further anchoring is required when a stack and branch of the same diameter are both embedded in cement as the branch itself acts as a fixed point.

Reduced small branches of large pipe diameters must be secured by an additional anchor point to prevent shearing off of the branch.

Where the pipes are embedded in concrete, the fixed point can also be created by the use of a collar bush. For further technical enquiries please contact the Polypipe Terrain Technical Department.



Distance "L" should be kept reduced



Free-standing stack with branch

## Non-pressure underground installation

HDPE pipes marked (BD) are also suitable for underground applications.

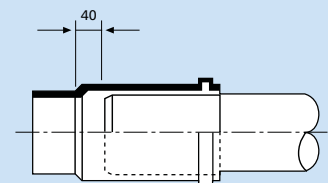
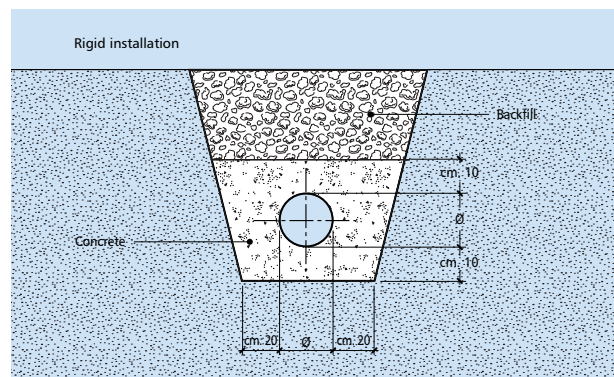
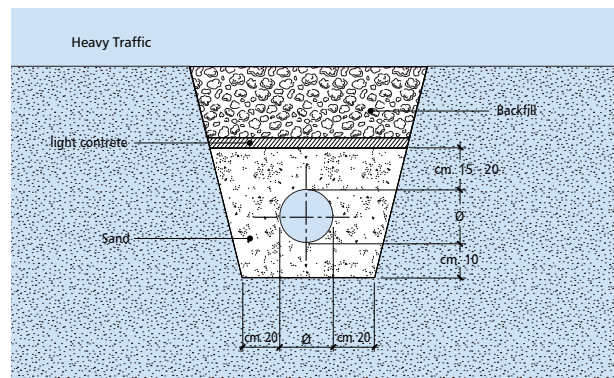
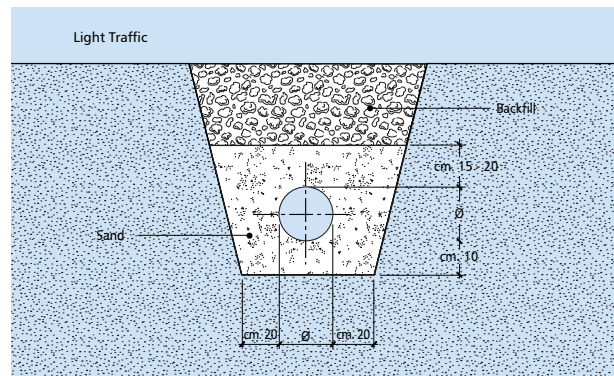
Strict attention must be given to the trench where the pipe is to be laid. This must be completely flat and should be void of any sharp objects or stones which could cause localised deformation of the pipeline. A minimum bedding of 10cm of sand should be used to provide continual support along the whole length of the pipe and minimise the risk of point-loading within the trench. Following this, the first 15-20cm of cover should be of sand again and this must be compressed to avoid pipe movement. Compacting of the cover material should take place immediately after the pipe has been covered to restrict the initial stages of movement. The depth of the trench is dependant upon whether the application is trafficked or non-trafficked and the possibility of freezing temperatures. Official guidelines, standards and regulations should be observed to calculate this requirement. (See illustrations)

A minimum depth of 80cm must cover the pipe. To evenly distribute ground pressure on trafficked applications it is recommended to cover the layer of sand with a light concrete casting.

Two or more pipes laid in the same trench should not come into contact. A recommended distance of 10-15cm should remain between each pipeline to facilitate future maintenance. As with a standard pipe installation, this void should be filled with sand and compacted.

Rigid installations, where the pipeline is covered with concrete, do not undergo the same stresses as normal laying conditions and therefore the pipe is at no risk of deformation.

In underground installations, the ambient temperature is fairly stable and the fluid temperatures from the varying inlets have mixed and stabilised within the above ground pipe system. Expansion sockets are not required every six metres.



N.B.: The spigot should be pushed fully into the expansion socket, marked at the socket edge and withdrawn by 40mm.

# Terrain FUZE Jointing Methods

Terrain FUZE offers workable and effective solutions to a wide range of project constraints through the availability of a number of jointing methods. Each connection is categorised according to its varying properties, with the different classifications assembled as follows:

**a) Removable**

Connections which can be disconnected after assembly.

**b) Non-removable**

Connections which cannot be disconnected after assembly.

**c) Tension-resistant**

Connections which cannot be disconnected by tensional forces.

**d) Non-tension-resistant**

Connections which can be disconnected by tensional forces.



Butt weld



Screw-threaded coupling



Electrofusion coupling



Expansion socket



Ring-seal socket



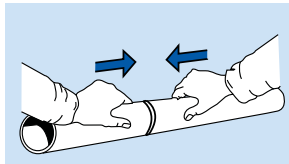
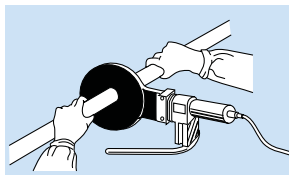
Flange joint

## Butt welding

Suitable for diameters from 40 – 315mm

Connection properties:

- b) Non-removable
- c) Tension-resistant

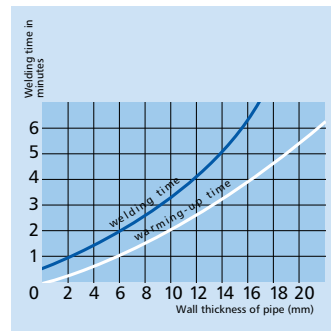


Welding up to Ø63mm

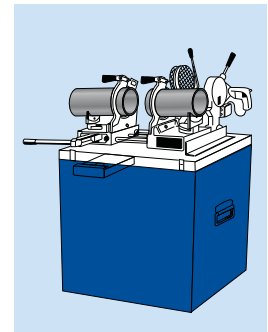
## Use

Butt welding can be used in all cases where workshop or onsite prefabrication is available.

Butt Welding requires minimal space. This form of jointing is safe, strong, economical and quick.



Warming-up and welding times



Machine welding for all diameters

## Electrofusion coupling

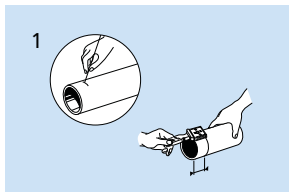
Available in sizes 40 - 315mm

Connection Properties:

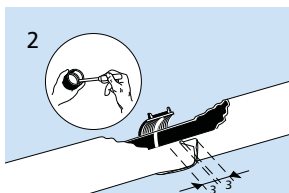
- b) Non-removable
- c) Tension-resistant

## Use

This form of jointing is suitable for on-site welding, additional installations, repair work and modifications.



1. Cut the pipe squarely, dry, clean and scrape the welding surfaces. The surface must remain clean and dry during the whole welding process, therefore do not touch with your hands.



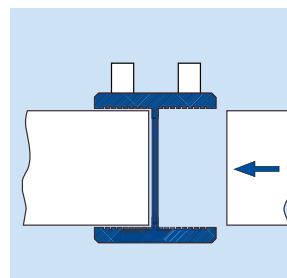
2. Insert pipe or fitting into sleeve coupling. If the stop ring in the sleeve needs to be removed, mark the depth at 30mm.

The heating and melting area are divided into two fields due to the absence of electrical resistance in the centre of the sleeve.

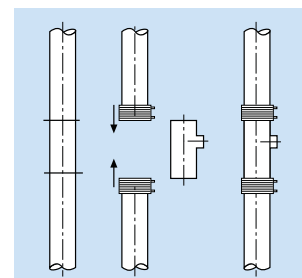
The pressure required for welding is obtained from the shrinking effect of the sleeve upon heating and is distributed equally over the entire weld.

This shrinkage has a compensating effect on pipe diameter measurement tolerances.

By removing the central stop ring, the electrical sleeves can be made to slide to enable system modifications and repairs. The electrical resistance wires will not corrode as they are protected by HDPE after welding.



Stop ring.



Use in repair work or modifications

# Terrain FUZE Jointing Methods

## Expansion socket

Available in sizes 40 - 315mm

Connection Properties:

- a) Removable
- d) Non-tension-resistant

### Use

Expansion sockets can be used in underground pipe systems as normal push-fit fittings but must be provided on vertical stacks running from floor to floor and for rainwater pipes both inside and outside the building.

### Installation

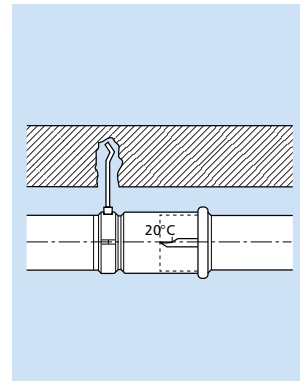
Expansion sockets are suitable for use in both vertical and horizontal applications with the depth of the sleeve enabling the assembly of stacks and collector pipelines. The design of the seal allows for pipe movement during expansion and contraction, ensuring that the connection remains water tight even under substantial hydraulic load.

To ensure easy assembly of the sleeve, the following conditions must be observed:

- Chamfer the inserted pipe end to approximately 15°.
- Lubricate the pipe end with a suitable Terrain product.

Note – do not use oil or grease which can compromise the rubber seal.

- Observe the indications on the outer surface of the expansion socket for insertion depth.



Horizontal assembly (e.g. at an ambient temperature of 20°C).

## Screw-threaded joint

Available in sizes 40 – 110mm

Connection Properties:

- a) Removable
- d) Non-tension-resistant

### Use

Screw-threaded joints are used for the assembly of pre-fabricated parts which need to be dismantled easily. See ring seal for assembly instructions.



Screw-threaded joint.



## Ring seal socket

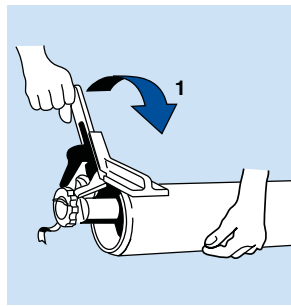
Available in sizes 40 – 315mm

Connection Properties:

- a) Removable
- d) Non-tension-resistant

### Use

Ring-seal sockets facilitate the assembly of pre-fabricated sections.

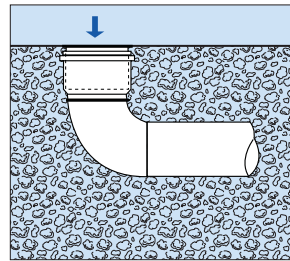


The pipe should be chamfered to approximately 15° and lubricated with suitable Polypipe product. Do not use oil or grease which can damage the rubber seal.

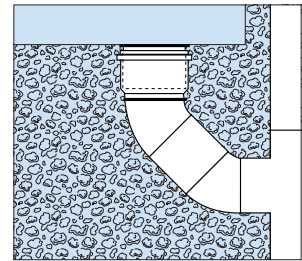
### Assembly

The ring-seal socket is suitable for use on both horizontal and vertical applications with the small dimensions providing a space-saving advantage. Assembly instructions are replicated for both ring-seal sockets and screw-threaded joints, with the insertion depth corresponding for the same diameters. Ring seal sockets are also provided with a cap to prevent dirt entering the pipe on-site. The pipe must be fully inserted into the socket as it is not intended to act as an expansion socket.

A flush fit is obtained by chamfering the pipe end to approximately 15° and lubricating it with silicone oil. To avoid damage to the rubber seal, do not use oil or grease.



Protection Cap.



## Screw-threaded joint with flange bushing

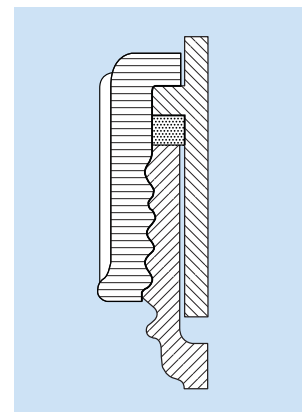
Available in sizes 40 – 110mm

Connection Properties:

- a) Removable
- c) Tension-resistant

### Use

The flange bushing allows the joint to resist axial tensile forces which may otherwise pull the pipe out of the screw-threaded joint. It is recommended that this form of joint also be utilised when installing into floors or slabs where the length of pipe between the two connections is longer than two metres.



Typical Section.

# Terrain FUZE Jointing Methods

## Flanged joint

Available in sizes 50 – 315mm

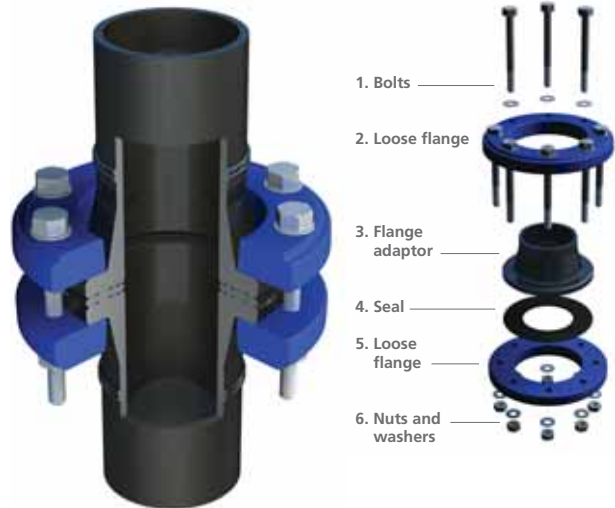
Connection Properties

- a) Removable
- c) Tension-resistant

### Use

The flanges are made of a special, painted aluminium alloy and have standard dimensions (PN 10 and 16). These are most commonly used to create a removable connection in industrial plants.

By using a blank flange, it is possible to create an inspection access opening for large diameter pipes (200, 250 and 315mm).



## Contraction sleeve

Available in sizes 50 – 125mm

Connection Properties

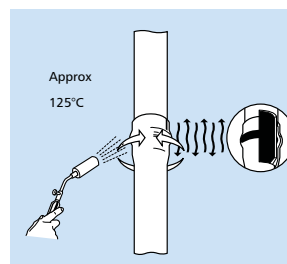
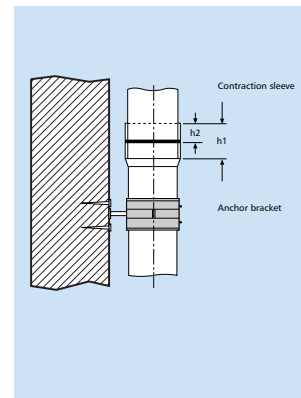
- b) Non-removable
- d) Non-tension-resistant

### Use

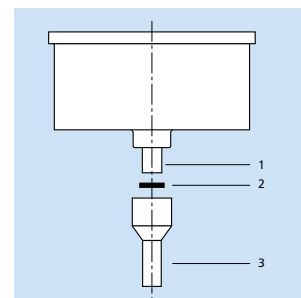
The contraction sleeve is a convenient connection joint for use with the vast majority of irregular or special materials, most commonly, the connection of HDPE to differing clay ware apparatus.

### Installation

The enclosed rubber seal must be placed over the pipe end, ensuring it is positioned exactly halfway along the length of the sleeve (h2). Push the connection sleeve over the pipe end. After applying a uniform low level heat (approximately 125°C) with a blow lamp, the sleeve will tighten, resulting in a watertight connection. The contraction sleeve and pipe should then be tightened with an anchor bracket.



For 125mm diameters use two low flames



Laboratory sink  
1. Pipe end  
2. Seal  
3. Contraction sleeve



## Fireproof systems fire collar

### 1. Description

Terrain FUZE fire collars are supplied ready to use with an expansion ratio exceeding 1:10. Manufactured in galvanised steel, each fire collar contains an internal lining of intumescent graphite wrapped in a polyethylene mesh. Anchoring hooks are also supplied.

### 2. Uses

Terrain FUZE fire collars are suitable for sealing inflammable pipes with a wall thickness ranging from 1.8 to 16.2mm and diameters between 40 and 315 mm for use in:

- **Wall insulation: two collars, one on each side**
- **Floor insulation: one collar at the floor surface**

Fire collars are designed for use within;

- **Fire-proof concrete**
- **Brickwork and cellular concrete floors and walls**
- **Plasterboard walls**
- **Discharge water outlet pipes**
- **Clean water pipes**
- **Inlet ducts (dust)**

### 3. Advantages

- **Seals against smoke, toxic gases, flames and heat**
- **Significant noise insulating properties**
- **Quick-fit system to ensure simple installation**
- **Compact**
- **Tabs can be positioned freely for convenient clamping**
- **Can be installed in a recessed area to minimise overall dimensions**

### 4. How to install the fire collar

Drill a hole through the wall/floor using a corer and crown bit in required size. Install the plastic pipe. Seal the gap between the hole and the pipe. If a wide gap exists, the space must be sealed using fire-proof mortar or alternatively, an intumescent sealing agent.

### 5. Pipe cleaning

A sealing effect is achieved with the expansion of the intumescent material during the fire which completely seals the plastic pipes. Mortar residue and dirt will impede this sealing effect, so cleaning of the pipes is essential at the point where the fire collar is fitted.

### 6. Closure and seal against smoke and gas

The intumescent material will seal the gap when activated by high temperature and fire. To protect against the spread of smoke and gas within the first few minutes the remaining gap between the plastic pipe and the opening must be sealed on one side of the wall using an appropriate sealing agent.

### 7. Fixing the anchoring hook

The anchoring hooks can be applied to various points of the collar's metal structure, enabling the anchoring points to be positioned in line with the space available. To ensure optimum performance, the hooks must be placed as symmetrically as possible.

### 8. Closing the fire collar

No tools, pins, or screws are required to lock the collar in place. Simply position the fire collar around the plastic pipe and press firmly to tighten the closing device until the mechanism snaps into place. Ensure the collar is positioned correctly to enable the anchoring hooks to be fixed.

### 9. Locking the fire collar

The fire collar can only protect against fire if it is adequately fixed in place. The use of anchoring devices is recommended to secure the collar in place.

### 10. Recessed installation

Ensuring that the hole is sufficiently wide enough to accommodate the external diameter of the fire collar, insert the fire collar into the opening.

The fire collar must be installed flush with the lower surface when installed at ceiling level. Insert one collar on each side in the case of a wall installation, if a gap remains around the installed collar, this must be filled with mortar.

# Terrain FUZE Jointing Methods

## Installation - Firetrap sleeves

To maintain the fire rated compartment between floor levels where HDPE penetrates the slab, an insulated fire sleeve shall be installed. The fire sleeve shall be installed through the entire slab penetration. Where possible a maximum of 25mm of sleeve can be left protruding out of the slab both at floor level and the underside of the slab. If, due to low level connections at slab level, this method is not possible then two alternative methods can be used;

1. Maintain the 25mm protrusion but scallop out the sleeve locally to accommodate the low level connection
2. Cut the sleeve flush with the slab/soffit level

Where possible the sleeve shall be installed by sliding over the pipe to be protected prior to installation and once the pipe is installed the sleeve shall be slid in to its finish position.

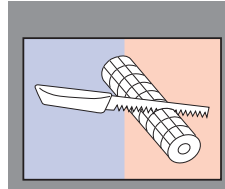
If this is not possible; the sleeve can be slit along its length and fitted around pipes already in-situ.

If this method is used then foil tape shall be used to join the two mating faces.

The sleeve can be fitted in to pre-cast holes that are to be made good. The material used to make good can be poured in to the shuttered hole and the material can be allowed to flow directly on to the sleeve outer diameter which is foil protected.

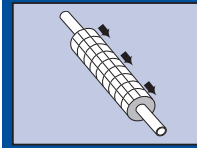
Alternatively the sleeve can be fitted in to a core drilled hole provided the hole is no more than 15mm larger than the outside diameter of the sleeve. If this method is used then a fire rated mastic shall be used to protect the gap between the sleeve outside diameter and the slab.

If acoustic insulation is used on the main body of the stack then this insulation can be jointed to the fire sleeve by using foil tape at the mating faces.

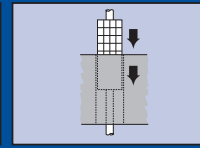


**Step One:**  
Cut sleeve to required length i.e. penetration thickness plus 50mm to allow for 25mm to protrude either side of the penetration

### For Uninstalled Pipe

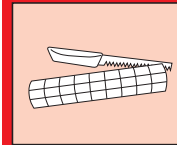


**Step Two:**  
Slide sleeve along the pipe prior to installation

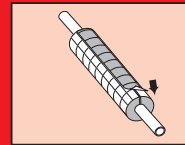


**Step Three:**  
Slide pipe and sleeve into cavity. Leave 25mm protruding out of the top and bottom of the slab

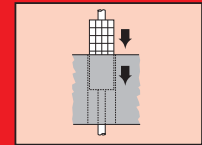
### For Installed Pipe



**Step Two A:**  
Make a single slit along the sleeve length to allow fitting around installed pipe



**Step Two B:**  
Fit sleeve around pipe and re-seal the cut with foil sealing tape supplied



**Step Three A:**  
Slide sleeve along pipe and into cavity. Leave 25mm protruding out of the top and bottom of the slab. Tape sleeve to existing insulation if required

**N.B.** The sleeve can be fitted into pre-cast holes that are to be made good. The material used to make good can be poured into the shuttered hole, this can be allowed to flow directly on to the sleeve outer diameter which is foil protected.

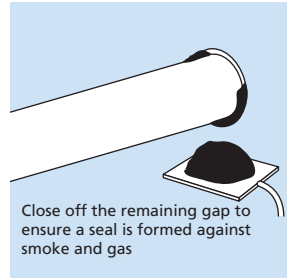
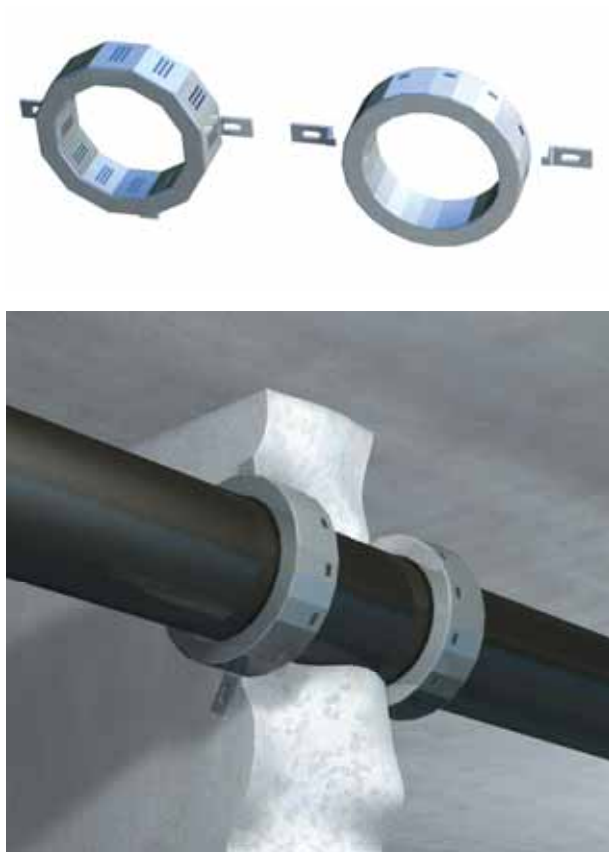
**Alternatively** the sleeve can be fitted into a core drilled hole provided the hole is no more than 15mm larger than the outside diameter of the sleeve. If this method is used then a fire rated mastic shall be used to protect the gap between the outside diameter of the sleeve and the slab.

## Fire collar installation instructions

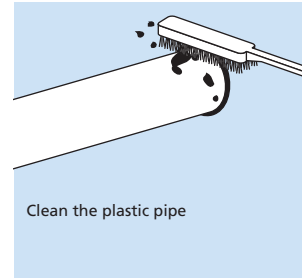
### Notes regarding the certifications

In theory, steps must be taken that comply with the provisions of the National certificates issued for the product when a fire-proof seal is made for the passage of pipes using fire-proof intumescent collars. Terrain FUZE recommends referring to the product's certificates to verify the limitations with regards to the size of the opening, type and thickness of the wall or floor and the maximum diameter of the pipes. Local Fire Regulations should always be consulted in accordance with Building Regulations Part B.

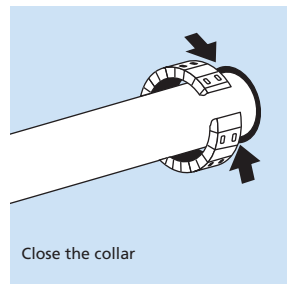
Warres Test Reports: Nos. 62293/A, 62293/B, 62293/C, 60300/A, 60300 /B, C 81542, 69750/A, 69751/B, 69752, 69853.



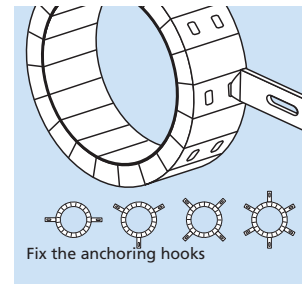
Close off the remaining gap to ensure a seal is formed against smoke and gas



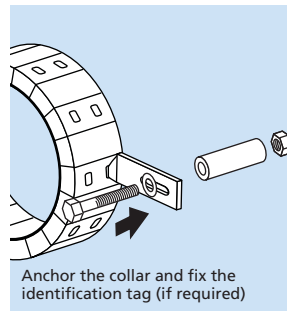
Clean the plastic pipe



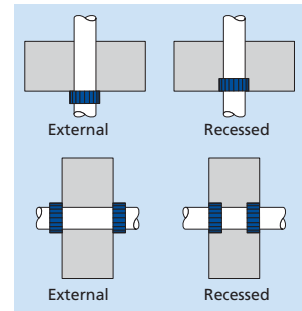
Close the collar



Fix the anchoring hooks



Anchor the collar and fix the identification tag (if required)



External

Recessed

External

Recessed

### Limitations

- Use in highly corrosive environments is not recommended
- Do not use anchoring/clamping devices that are not fire-proof
- Unsuitable for sealing the passage of metal pipes

### Safety measures

- Keep out of the reach of children
- Always consult and comply with the EC technical safety data sheet

### Preservation

- Store only in the original packaging in a dry place.

# Terrain FUZE Preparation

## Pipe cutter

Ø	Model	Qty	Code
<b>Pipe cutter</b>			
6 to 63mm	T1	1	HDC458001
50 to 140mm	T2	1	HDC458003
100 to 168mm	T3	1	HDC458005

### General properties

#### Model T1

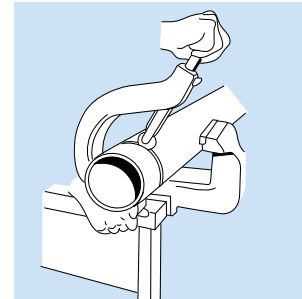
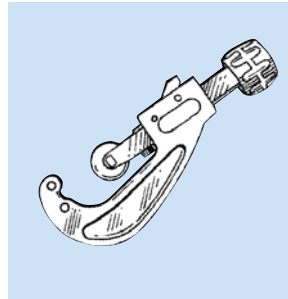
Weight 0.6 kg  
 Dimensions 222 x 95 x 30mm  
 Application field Ø 6 to Ø 63 th. max 7

#### Model T2

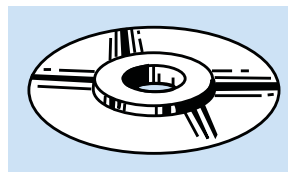
Weight 1.4 kg  
 Dimensions 351 x 155 x 45mm  
 Application field Ø 50 to Ø 140 th. max 19

#### Model T3

Weight 1.6 kg  
 Dimensions 222 x 95 x 30mm  
 Application field Ø 100 to Ø 168 th. max 15.5



Ø	Model	Qty	Code
<b>Spare blades</b>			
6 to 63mm	T1	1	HDC459001
50 to 140mm	T2	1	HDC459003
100 to 168mm	T3	1	HDC459005



## Bevelling tools

Ø	Model	Qty	Code
<b>Bevelling tool</b>			
32 to 160mm	1	1	HDC460001
40 to 250mm	2	1	HDC460003

Terrain FUZE bevelling tools offer economical and easy use. Two sizes are available.

### General properties

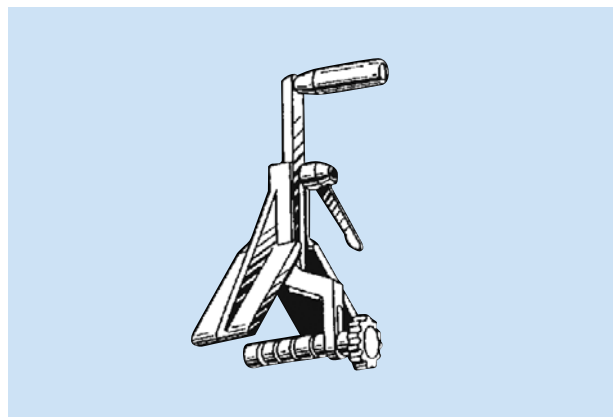
#### Model 1

Weight 0.8 kg  
 Dimensions 240 x 76 x 107mm  
 Application field Ø 32 to Ø 160

#### Model 2

Weight 1.4 kg  
 Dimensions 330 x 195 x 140mm  
 Application field Ø 40 to Ø 250

Ø	Qty	Code
<b>Spare blades</b>		
32 - 160mm	1	HDC460110
40 - 250mm	1	HDC460111

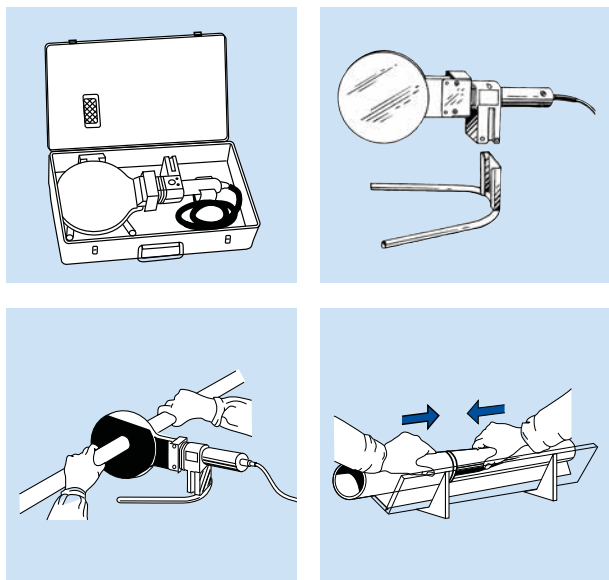




# Terrain FUZE Preparation

## Welding plate with steel box

Ø	Model	Qty	Code
<b>Welding Plate with Steel Box</b>			
40 to 160mm	1	1	HDC450001
110 to 300mm	2	1	HDN450003



For use with butt welding by hand, this apparatus includes;

- Thermal plate with steel box (fixed temperature 210°C)
- Teflon surfaces
- Temperature warning light
- Fork support

### General Properties

**Model 1**  
 Total weight 3Kg. approx  
 Dimensions 440 x 200 x 50mm  
 Application field up to Ø 160  
 Power supply 230 V / 50Hz  
 Absorbed power 1200 W  
 Temperature 210° ± 5°C

**Model 2**  
 Total weight 5Kg. approx  
 Dimensions 550 x 300 x 50mm  
 Application field up to Ø 250  
 Power supply 230 V / 50Hz  
 Absorbed power 1300 W  
 Temperature 210° ± 5°C

For diameters greater than 63mm, it is recommended to use a butt welding machine.

## Terrain FUZE electrofusion welding machine

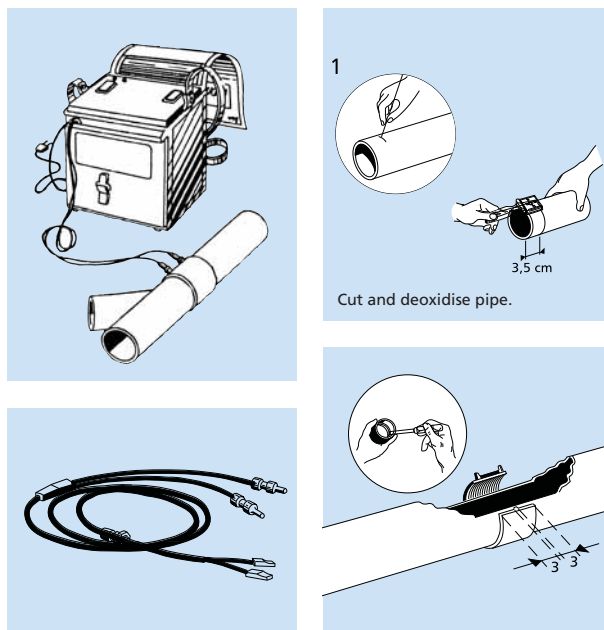
	Qty	Code
<b>Terrain FUZE electrofusion welding machine 40 to 160mm</b>		
230 Volt	1	HDC464001

This electric machine is designed for welding electro weld sleeve couplers and HDPE waste pipes from diameter 40 - 160mm.

### General Properties

Total weight 2.5Kg.  
 Dimensions 255 x 215 x 110mm  
 Application field Ø 40 to Ø 160  
 Power supply 230 V / 50Hz

	Qty	Code
<b>Cable and plugs</b>		
230 Volt	1	HDC464222



## Terrain FUZE universal electrofusion machine with scraper

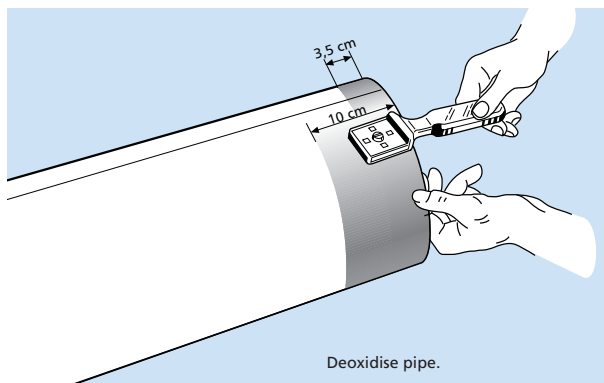
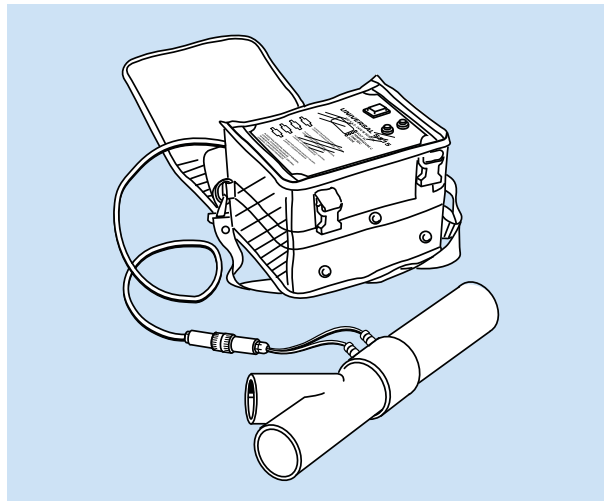
∅	Qty	Code
<b>Universal electrofusion machine with scraper</b>		
40 to 315mm (230V)	1	<b>HDN464333</b>
40 to 315mm (110V)	1	<b>HDN464005</b>

This universal electrofusion machine can be used to connect all HDPE pipes and waste fittings produced by Terrain and a number of other manufacturers. The instructions are in full compliance with DVS 2207-1 and are included within the instruction guides for each machine.

- The length of pipe to be scraped with diameters ranging from 40 – 160mm is 35mm.
- The length of pipe to be scraped with diameters 200, 250 and 300mm is 100mm.

### General properties

Power supply	230 V / 50Hz (110V)
Absorbed power	10A max.
Capacity	2300W max.
Fuse	T10A HRC 250 ceramic
Total weight	3.9 Kg.
Dimensions	238 x 110 x 47.5mm (control unit) 255 x 127 x 205mm (case)
Cycle	For safety reasons, maximum run per hour, 40 minutes. Cooling 20 minutes



# Terrain FUZE Preparation

## Portable welding machine 'pratica'

Ø	Model	Qty	Code
<b>Portable welding machine pratica</b>			
40 to 160mm	1	1	<b>HDN464005</b>
40 to 160mm	2	1	<b>HDN466003</b>

Consisting of a heating plate, a facing miller and a set of carriage-mounted clamps, this butt welding machine holds the pipe firmly during each operation to ensure the most accurate butt weld, with the possibility of milling on both the right and left hand side.

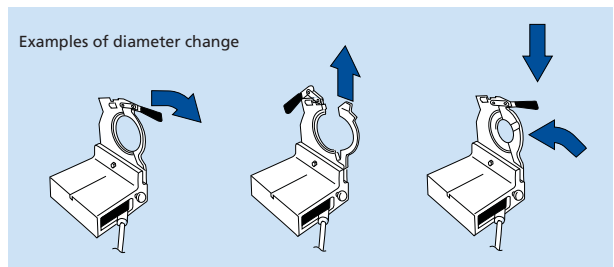
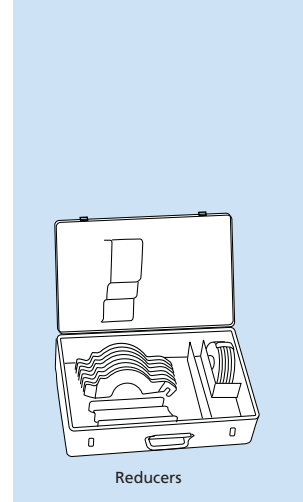
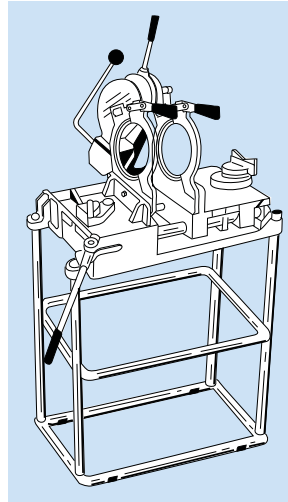
### General properties

#### Model 1

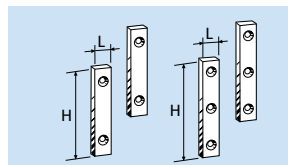
Application field	Ø 40 to Ø 160 up to PN6
Dimensions	660 x 535 x 530mm
Sizes for operation	1100 x 535 x 380mm
Total weight	54Kg.
Temperature regulation	Constant 220°C
Power supply	110 V
Power absorbed by miller	500 W
Power absorbed by heating plate	800 W

#### Model 2

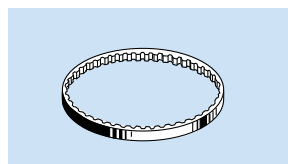
Application field	Ø 40 to Ø 160 up to PN6
Dimensions	660 x 535 x 50mm
Sizes for operation	1100 x 535 x 380mm
Total weight	54Kg.
Temperature regulation	constant 220°C
Power supply	220 V 50Hz
Power absorbed by miller	500 W
Power absorbed by heating plate	800 W



	H	L	Qty	Code
<b>Spare blade</b>				
Pratica 160	75	12	1	<b>HDN477515</b>



	Qty	Code
<b>Driving belt</b>		
Pratica 160	1	<b>HDN477500</b>





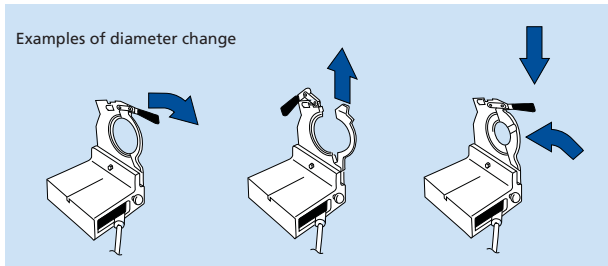
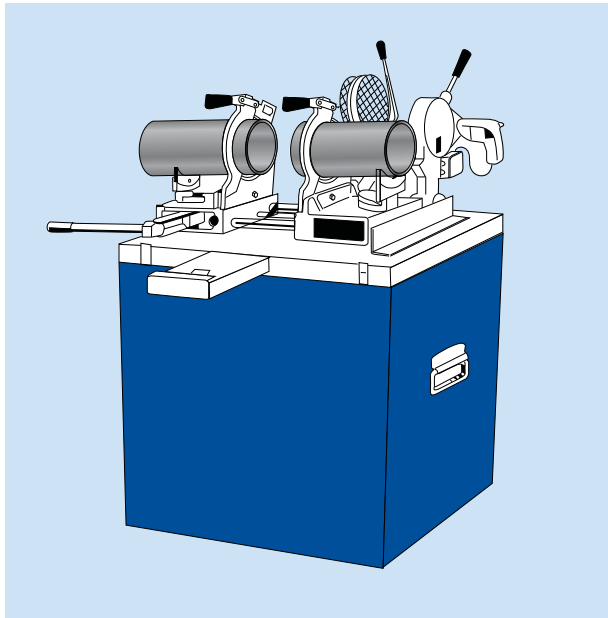
# Portable welding machine 'standard'

Ø	Qty	Code
<b>Portable welding machine standard</b>		
40 to 160mm	1	<b>HDN468160</b>

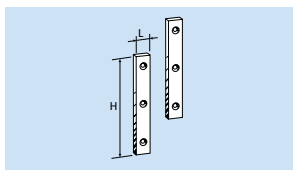
Consisting of a heating plate, a facing miller and a set of carriage-mounted clamps, this butt welding machine holds the pipe firmly during each operation to ensure the most accurate butt weld, with the possibility of milling on both the right and left hand side.

### General properties

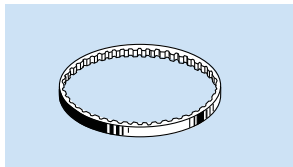
<b>Model 1</b>	
Application field	Ø 40 to Ø 160 up to PN6
Dimensions	800 x 760 x 520mm
Sizes for operation	1320 x 1030 x 800mm
Total weight	76Kg.
Temperature regulation	20° ± 5°C
Power supply	230 V 50Hz
Power absorbed by miller	400 W
Power absorbed by heating plate	1200 W
Cable	3 m



	H	L	Qty	Code
<b>Spare blade</b>				
Standard	75	12	1	<b>HDN477515</b>



	Qty	Code
<b>Driving belt</b>		
Standard	1	<b>HDN477500</b>



# Terrain FUZE Preparation

## Portable welding machine 'super'

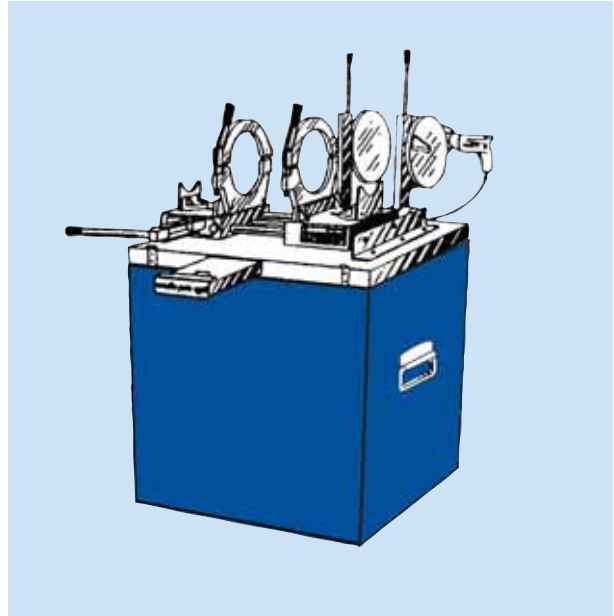
Ø	Qty	Code
<b>Portable welding machine super</b>		
75 to 250mm	1	<b>HDN470001</b>

The Super 250 welding machine is suitable for butt welding large waste pipes in HDPE. Reducers are provided for diameters of 75mm.

Special single clamps are available on request for welding 45° branches.

### General properties

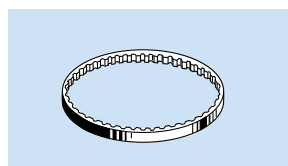
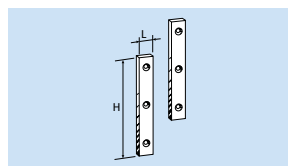
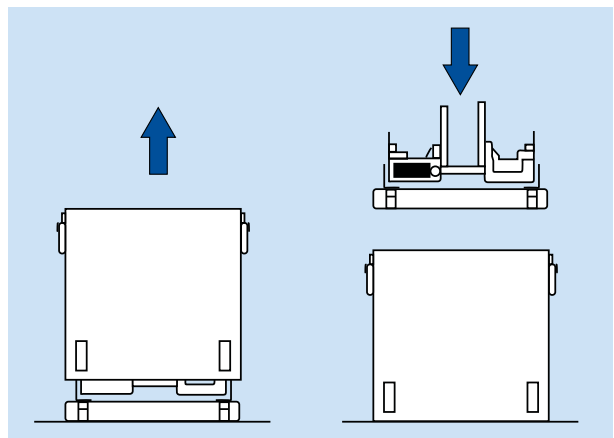
Application field	Ø 75 to Ø 250 up to PN6
Dimensions	800 x 760 x 520mm
Sizes for operation	1320 x 1030 x 800mm
Total weight	87Kg.
Temperature regulation	180° to 280°C
Power supply	220 V 50Hz
Power absorbed by miller	700 W
Power absorbed by heating plate	2000 W



	Qty	Code
<b>Driving belt</b>		
Pratica 110	1	<b>HDN477495</b>
Pratica 160	1	<b>HDN477500</b>

	H	L	Qty	Code
<b>Spare blade</b>				
Super	130	15	1	<b>HDN477525</b>

	Qty	Code
<b>Driving belt</b>		
Super	1	<b>HDN477520</b>



## Welding machine 'maxi'

Ø	Qty	Code
<b>Welding machine maxi</b>		
90 to 315mm	1	<b>HDN470005</b>

The Maxi 315 welding machine is suitable for butt welding large waste pipes in HDPE. Reducers and clamps are provided for diameters of 90mm.

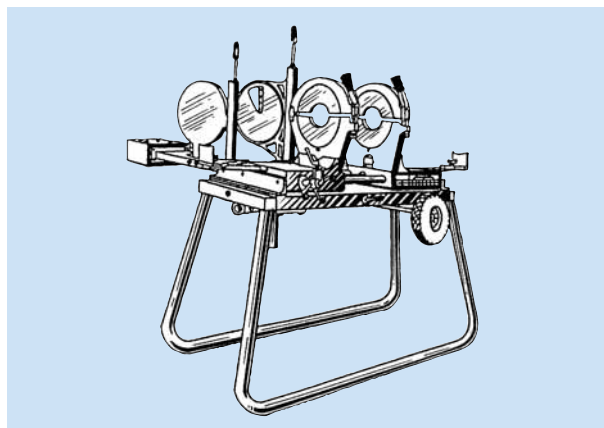
The following accessories are available on request, please contact the Polypipe Commercial Building Systems Technical Department for further information;

- Series of reducing clamps in diameters: 140 – 180mm and 225 – 280mm
- Series of single steel clamps for welding 45° branches, available in diameters 90 – 315mm
- Water-proof plate cover

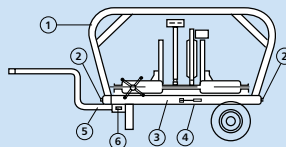
### General properties

Application field	Ø 90 to Ø 315 up to PN6
Sizes for operation	1460 x 1210 x 780*mm
Sizes when transported	1040 x 1210 x 780*mm
Sizes when on wheels	950 x 900 x 780*mm
Total weight without accessories	157Kg.
Temperature regulation	electronic from 180° - 280°C
Power supply	220 V 50Hz
Power absorbed by miller	800 W
Power absorbed by heating plate	2300 W

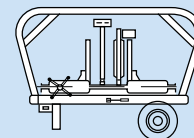
\*dimensions without towing handle



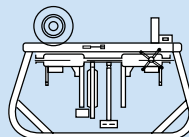
- Preparation
1. Slide
  2. Fastening screw
  3. Frame
  4. Stop lever
  6. Towing handle
  7. Fastening screw for towing handle



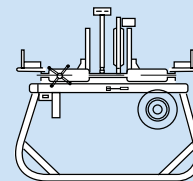
- Remove handle 5 and unscrew 2.



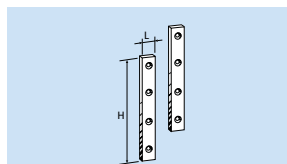
- Overturn the machine by 180°.



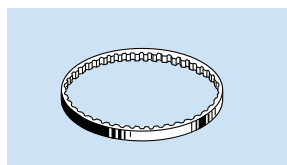
- Unlock lever 4. Overturn the frame by 180°, block the lever.



	H	L	Qty	Code
<b>Spare blade</b>				
Maxi	160	20	1	<b>HDN477535</b>



	Qty	Code
<b>Driving belt</b>		
Maxi	1	<b>HDN477540</b>



# Terrain FUZE System Features



## Terrain High Density Polyethylene HDPE: Density 945 - 965 kg/m<sup>3</sup>

Polyethylene density varies between 945 – 965 kg/m<sup>3</sup>. Terrain FUZE retains exceptional quality and durability at up to 965 kg/m<sup>3</sup> giving great confidence to specifiers and installers. HDPE is a lighter material than water, offering direct benefits in handling, transportation and installation.



## Resistance to cold

Terrain FUZE pipes are resistant to freezing within the pipeline. When tested, the pipes simply expand with the ice and then return to their original dimensions without any damage.



## Flexibility

Flexibility of a pipeline can be a major factor on certain building projects where concern must be given to the route of the pipeline through expansion joints or areas subject to vibrations.



## Resistance to abrasion

HDPE offers greater abrasion resistance through increased strength within the walls of the pipeline. This additional protection of the pipe makes HDPE an effective material for branch pipes, soil stacks and ground pipes.



## Heat expansion 0.2mm/m – K

Expansion of the HDPE pipeline should be anticipated when put under heat stress. As a general rule, an expansion rate of 10mm per linear metre for every 50°C should be allowed.



## Resistance to hot water

Terrain FUZE offers substantial durability against the flow of hot water. A waste pipe with no mechanical load will tolerate temperatures of up to 80°C and up to 95°C is permissible for a maximum of two minutes.



## Resistance to impact

Terrain FUZE ensures maximum strength against impact stresses and is unbreakable at room temperature. It still maintains a high impact resistance at temperatures as low as -40°C thus meets the requirements for outlet pipes.



## Condensate

Terrain FUZE is a poor heat conductor thus preventing condensation from forming as the pipeline undergoes short periods of intense undercooling.



## Behaviour in fire

HDPE in open construction is a flammable material. However, the material has been installed throughout Europe for over 40 years and poses no greater risk to fire spread than other similar plastic based systems when installed in accordance with local fire regulations. For further prevention, Terrain FUZE should be fitted with Terrain fire collars (See Polypipe Terrain Trade Price List) and these should be installed in strict accordance with instructions provided.

# and Benefits



## Noise

HDPE has a low E-modulus and limits solid-borne conduction along the pipeline. Airborne noise should be insulated by utilising a duct wall.



## Resistance to chemicals

Terrain FUZE offers high resistance against chemical corrosion and is insoluble in all inorganic and organic solutions at 20°C. Terrain FUZE is only susceptible to aliphatic and aromatic carbons and relative chlorination products over 90°C. The material is also vulnerable to attack by heavily oxidised media conc.  $\text{HNO}_3$  (chemical equation), conc.  $\text{H}_2\text{SO}_4$  (chemical equation) when exposed over long periods at room temperature.



## Non-conductive

HDPE like most plastics has an exceptional reputation as an insulator.



## Protection against blockages

Terrain FUZE enables the continual flow of waste through the pipe, reducing the possibility of blockages along the pipeline.



## Sealing material

The rubber ring on the seal is installed under compression on all sides and is protected from expansion so, although the chemical resistance of the seal does not equate to that of HDPE, there is no risk of the seal being destroyed.



## Welding temperature

With a much lower welding temperature of 210°C, HDPE is a much safer and easier material to work with compared to metal. This enables processing of the material using simple tools and in a more energy efficient manner.



## Non-toxic

Terrain FUZE pipes are non-toxic, ensuring safe handling during installation. With no risk of contamination to the flow through the pipeline, HDPE is even suitable for use in the food or liquid transportation industries.



## Scope of use

Terrain FUZE offers exceptional performance as a drainage system. A maximum load of 15m Water Column (1.5 bar) temperature of 30°C (10years) should be considered when utilising the pipes in a low-pressure environment.

# Notes



## Terrain FUZE



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