

GrainDrain® Flexible Landdrainage – Technical Data-Sheet

Wrappings

The wrappings for drainage-pipes are divided according to the O90-value. The basics for this systematic is the pore size per wrapping, indicated with a micron-value. The O90-value is a measurement for the pore size and the denomination for the compactness / density of the wrapping-material.

As the material gets more compact, the O90-value gets smaller. A wrapping with a low O90-value could, in some cases, get clogged more easily than a wrapping with a higher O90-value.

Overview wrappings

Artificial wrappings (PP450/PP700/Vlies) have a longer life expectancy than organic wrappings (Coco). These artificial wrappings are suitable for usage on sand- and peat soil.

Organic wrappings as Coco are more likely to digest sooner when used in lime-rich soil (as clay soil) but are suitable for usage on peat- sand- and iron rich soil and are often applied in Germany and Eastern-Holland.



PP	Polypropylene as base material
450	450 micron
Density	The wrapping will stop 90% of all particles larger than 450 micron
Application	Most frequently used, especially on clay soil



PP	Polypropylene as base material
700	700 micron
Density	The wrapping will stop 90% of all particles larger than 700 micron
Application	Open structure / Sand-, peat- and clay soil



Coco	Coco-fibres as base material
1000	1000 micron
Density	The wrapping will stop 90% of all particles larger than 1000 micron
Application	German market / Sand- and peat soil



Coco (heavy)	Coco-fibres as base material
700	700 micron
Density	The wrapping will stop 90% of all particles larger than 700 micron
Application	German market / Sand- and peat soil



Vlies	Polyester-nonwoven cloth as base material
180-240	180-240 micron
Density	The wrapping will stop 90% of all particles larger than 180-240 micron
Application	Sand-, peat- and clay soil / Germany



Nylon Stocking	Nylon stocking as base material
± 200	The wrapping will stop appr. 90% of all particles larger than 200 micron (variable per quality)
Application	Temporary drainage



PP/PE	Polypropylene and Polyethylene as base material
1000	1000 Micron
Density	The wrapping will stop 90% of all particles larger than 1000 micron
Application	Open structure / Sand-, peat- and clay soil

*Above mentioned data are provisional. This product is still being developed and therefore changes can still be made in the above mentioned technical data..

TECHNICAL DATA GRAINDRAIN®

Water evacuation in litres per minute at a hydraulic slope in cm by 100 meters of :									
DN.	5 cm	8 cm	10 cm	15 cm	20 cm	25 cm	30 cm	40 cm	50 cm
50	9	12	14	17	20	23	26	30	36
60	15	20	23	27	32	36	41	48	55
65	19	25	29	35	42	48	55	63	72
80	36	46	54	65	76	85	100	112	127
100	65	85	98	118	140	160	180	210	240
125	115	153	173	211	258	287	316	380	420
160	220	280	325	385	485	535	600	700	800
200	400	540	600	720	870	950	1090	1300	1500

Dimensions “GrainDrain®” PE Drainagetube

External Diameter (mm)	25	50	60	65	80	100	125	160	200
Internal Diameter (mm)	20	42	50,5	55,5	68,5	85	107,5	140	176
Rows of perforations (pcs.)	4	6	6	6	6	8	8	6	6
Width of perforations (mm)	0,8	1,1	1,1	1,1	1,3	1,5	1,5	1,5	1,8
Length of perforations (mm)	6,0	8,0	10	11	12,0	16	16	20	20
Number of perforations per meter	430	210	405	381	321	308	244	348	330
Perforated surface per m ¹ (mm ²)	2064	1848	4455	4610	5008	7392	5856	10440	9900
Weight (± gr/m.)	75	160	200	220	325	415	590	900	1440
Pressure-Class	SN8	SN8	SN8	SN8	SN8	SN6	SN4	SN4	SN4
Bending radius (min. mm)	100	100	120	130	160	200	250	320	400

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Material	PE	PP	PVC
Min. Temperature tolerance*	- 18°C	- 25°C	+ 3°C
Max. Temperature tolerance*	+ 110°C	+ 130°C	+ 80°C

* These are theoretical values. When in doubt, the material needs to be tested in the actual setting.

Advantages PE- and PP Drainage

- Durable
- Flexible
- High chemical resistance
- Able to resist high and lower temperatures
- Recycled / recyclable material
- Environment-friendly