

Applications

PRODUCT ND	100/120	200/220	200s	600/620	600hdsv	620hd	4+1lt	4+1	4+1high	5+1lt	5+1	6+1
Vertical drainage - Walls / Basements	✓	✓	✓									
Extensive green roofs	✓	✓					✓	✓	✓	✓	✓	✓
- inverted roof constructions			✓				✓	✓	✓		✓	✓
- roof with insufficient falls - <1:500									✓	✓	✓	✓
Intensive green roofs		✓		✓		✓		✓	✓	✓	✓	✓
- inverted roof constructions			✓		✓			✓	✓		✓	✓
- roof with insufficient falls - <1:500									✓		✓	✓
Podium roof decks		✓	✓	✓	✓	✓				✓		
- inverted roof constructions			✓		✓							
Parking roof decks				✓	✓	✓						
- inverted roof constructions					✓							

nophadrain[®]
GREEN ROOF INNOVATORS

TECHNICAL DATA SHEET ND DRAINAGE COMPOSITES

0.7

GREEN ROOFS
PODIUM ROOF DECKS
PARKING ROOF DECKS

nophadrain[®]
GREEN ROOF INNOVATORS



Nophadrain BV
Mercuriusstraat 10
P.O. Box 3016
NL-6460 HA Kerkrade
T +31(0)45 535 50 30
F +31(0)45 535 39 30
E info@nophadrain.com
S www.nophadrain.com

PRODUCT ND			100/120	200/220	200s	600/620	600hdsv	620hd	4+1lt	4+1	4+1high	5+1lt	5+1	6+1	
Material	Standard	Unit													
Core	-	-	HIPS	HIPS	HIPS	HIPS	HIPS	HIPS	HIPS	HIPS	HIPS	HIPS	HIPS	HIPS	
Filter geotextile	-	-	PE/PP	PE/PP	PE/PP	PP-woven	PP-woven	PP-woven	PP	PP	PP	PE/PP	PP	PE/PP	
Separation film	-	-	- /PP	- /PP	-	- /PP	-	- /PP	-	-	-	-	-	-	
Separation geotextile	-	-	-	-	-	-	PE/PP	-	PE/PP	PE/PP	PE/PP	-	PE/PP	-	
Mecanical Properties (mean values)															
Compressive strength	BS EN ISO 25619-2	kPa	500	700	700	900	1,200	1,200	300	700	450	480	480	300	
Compressive strength at 10% deformation	BS EN ISO 25619-2	kPa	445	645	645	890	1,100	1,100	310	645	475	485	485	330	
Deformation at 1 mPa	BS EN ISO 25619-2	%	-	-	-	-	9,06	9,06	-	-	-	-	-	-	
Tensile strength* [MD/CMD]**	BS EN ISO 10319	kN/m	8 / 8	8 / 8	8 / 8	48,2 / 41,0	48,2 / 41,1	48,2 / 41,2	8 / 8	8 / 8	8 / 8	8 / 8	8 / 8	8 / 8	
CBR Puncture resistance*	BS EN ISO 12236	N	1,500	1,500	1,500	4,376	4,376	4,376	1,400	1,400	1,400	1,500	1,400	1,500	
Dynamic perforation (Cone drop)*	BS EN ISO 13433	mm	38	38	38	8,8	8,8	8,8	26	26	26	38	26	38	
Resistance to weathering***	BS EN ISO 12224	%	60/80	60/80	60/80	60/80	60/80	60/80	60/80	60/80	60/80	60/80	60/80	60/80	
Hydraulic Properties (mean values)															
Opening size O_{90} *	BS EN ISO 12956	μ m	150	150	150	173	173	173	100	100	100	150	100	150	
Water permeability H_{50} *	BS EN ISO 11058	mm/s	100	100	100	51	51	51	90	90	90	100	90	100	
Drainage capacity / Water flow capacity****															
Vertical Drainage - Wall / gradient i = 1															
SURFACE LOAD		BUILD-IN DEPTH													
30 kPa	3,0 m	BS EN ISO 12958	U/(s.m)	2,85	5,38	5,38	5,41	5,41	5,41	5,77	5,67	7,64	13,97	15,64	8,33
50 kPa	5,0 m	BS EN ISO 12958	U/(s.m)	2,75	5,18	5,18	5,28	5,18	5,18	5,64	5,57	7,54	13,51	15,40	7,64
100 kPa	10,0 m	BS EN ISO 12958	U/(s.m)	2,22	4,23	4,23	4,52	4,26	4,26	5,15	5,54	6,89	11,21	14,75	6,07
200 kPa	Exceptional case	BS EN ISO 12958	U/(s.m)	1,41	3,61	3,61	4,00	3,77	3,77	4,10	5,08	6,06	9,48	13,02	-
Horizontal drainage															
Fall ratio <1:500 - Exceptional case															
SURFACE LOAD															
≤ 2 kPa - Extensive green roof		FH Karlsruhe (D)	U/(s.m)	-	-	-	-	-	-	-	-	0,36	0,36	-	
≤ 10 kPa - Intensive green roof		FH Karlsruhe (D)	U/(s.m)	-	-	-	-	-	-	-	-	0,30	0,30	-	
Fall ratio 1:80 - Standard green roof															
SURFACE LOAD															
10 kPa - Extensive green roof		BS EN ISO 12958	U/(s.m)	0,39	0,66	0,66	0,66	0,66	0,66	0,72	0,66	0,95	1,74	1,87	1,02
20 kPa - Intensive green roof		BS EN ISO 12958	U/(s.m)	0,29	0,62	0,62	0,59	0,62	0,62	0,72	0,66	0,78	1,67	1,77	1,02
100 kPa - Podium roof deck		BS EN ISO 12958	U/(s.m)	0,19	0,37	0,37	0,51	0,38	0,38	0,62	0,62	0,66	1,25	1,64	0,65
200 kPa - Parking roof deck		BS EN ISO 12958	U/(s.m)	0,07	0,36	0,36	0,38	0,37	0,37	0,49	0,59	0,56	1,18	1,51	-
Fall ratio 1:60															
SURFACE LOAD															
10 kPa - Extensive green roof		BS EN ISO 12958	U/(s.m)	0,43	0,72	0,72	0,72	0,75	0,75	0,82	0,69	1,05	1,90	2,13	1,11
20 kPa - Intensive green roof		BS EN ISO 12958	U/(s.m)	0,33	0,69	0,69	0,61	0,64	0,64	0,82	0,72	0,81	1,87	2,03	1,08
100 kPa - Podium roof deck		BS EN ISO 12958	U/(s.m)	0,20	0,40	0,40	0,52	0,39	0,39	0,69	0,72	0,72	1,41	1,84	0,72
200 kPa - Parking roof deck		BS EN ISO 12958	U/(s.m)	0,07	0,39	0,39	0,39	0,37	0,37	0,49	0,62	0,62	1,28	1,74	-
Fall ratio 1:40 - Standard hard landscaping															
SURFACE LOAD															
10 kPa - Extensive green roof		BS EN ISO 12958	U/(s.m)	0,46	0,89	0,89	0,89	0,85	0,85	1,02	0,92	1,41	2,26	2,49	1,31
20 kPa - Intensive green roof		BS EN ISO 12958	U/(s.m)	0,43	0,80	0,80	0,76	0,78	0,78	0,95	0,89	1,34	2,20	2,33	1,34
100 kPa - Podium roof deck		BS EN ISO 12958	U/(s.m)	0,23	0,49	0,49	0,61	0,53	0,53	0,79	0,82	0,98	1,64	2,16	0,82
200 kPa - Parking roof deck		BS EN ISO 12958	U/(s.m)	0,10	0,46	0,46	0,49	0,52	0,52	0,62	0,72	0,79	1,54	2,07	-
Physical properties (typical values)															
Build-up height at 2 kPa	BS EN ISO 9863-1	mm	8,15	12,56	12,56	12,71	13,31	13,31	12,61	12,61	17,48	26,83	27,99	26,5	
Dimple height at 2 kPa	BS EN ISO 9863-1	mm	7,38	11,9	11,9	12,01	12,24	12,24	11,54	11,54	15,48	25,74	25,77	25,98	
Perforations per m ²		-	-	-	1,540	-	1,540	-	1,540	1,540	1,540	-	575	1,048	
Diameter perforations		mm	-	-	6,30	-	6,30	-	6,30	6,30	6,30	-	15,80	2,80	
Weight of the filter/geotextile		g/m ²	125	125	125	210	210	210	140	140	140	125	140	125	
Weight of the separation geotextile		g/m ²	-	-	-	-	125	-	125	125	125	-	125	-	
Water reservoir		l/m ²	-	-	-	-	-	-	3,2	3,2	4,4	-	5,8	8	
Material width		m	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,20	
Mass per unit area		g/m ²	665/667	915/918	882	1,159/1,162	1,405	1,334	786	1,026	1,029	1,237	1,261	1,237	
Roll length		m	32	32	32	32	32	32	32	32	30	20	20	20	
Roll width		m	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,25	1,20	
Surface area per roll		m ²	40	40	40	40	40	40	40	40	37,5	25	25	24	
Roll diameter		cm	57	70	70	75	75	75	75	75	83	83	83	83	
Roll weight		kg	27	37	35	46	56	53	31	41	39	31	32	30	

* Performance expressed of the filter/geotextile only
** MD = Machine direction / CMD = Cross machine direction
*** Material has to be completely covered within 14 days after installation
**** BS EN ISO 12958 tested soft/hard

The values correspond to average results obtained in our laboratories and outside institutes and are indicative. The right is reserved to make changes at any time without notice. Standard variations in mechanical properties of 15% and in hydraulic properties of 20% and in physical properties of 2% are normal.
©Nophadrain 11.11 GB