BONAR NATPET
GEOSYNTHETICS

Data sheets / Safety Data Sheets

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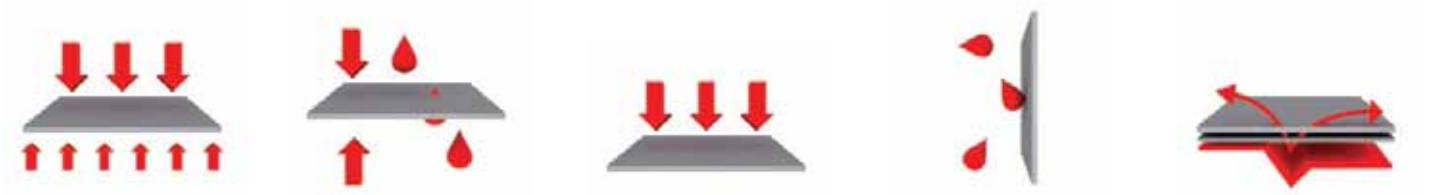
BONAR NATPET
geosynthetics

Geotextiles

Superior Needle Punched Nonwoven Geotextiles

Technical Data Sheet
April 2014 / Rev. No. 1



1 Separation 2 Filtration 3 Protection 4 Drainage 5 Erosion control

	Test	Standered	Units	SNW.9 90	SNW.11 100	SNW.14 120	SNW.16 140	SNW.21 180	SNW.25 200	SNW.40 300	SNW.50 400	SNW.62 500	SNW.75 600	SNW.120 1000
Mechanical Properties	Tensile Strength *MD/CD*	EN ISO 10319	kN/m	5	6	8	9.4	12.5	14	22	30	37	42	70
	Elongation *MD/CD*	EN ISO 10319	%	40 / 55	40 / 55	40 / 55	40 / 55	45 / 55	45 / 55	50 / 55	50 / 55	60 / 65	60 / 65	70 / 70
	CBR Puncture	EN ISO 12236	N	910	1085	1400	1630	2100	2500	4000	5000	6200	7000	11500
	Dynamic cone drop	EN ISO 13433	mm	31	30	28	24	20	18	12	9	5	4	0
	Grab strength *MD/CD*	ASTM D 4632	N	350	400	500	590	760	960	1400	1800	2300	2600	4000
	Grab Elongation *MD/CD*	ASTM D 4632	%	70 / 75	70 / 75	70 / 75	70 / 75	70 / 75	70 / 75	70 / 75	70 / 75	70 / 75	70 / 75	70 / 75
	Puncture strength	ASTM D 4833	N	190	220	270	320	450	500	750	900	1000	1075	1600
	Mullen Burst	ASTM D 3786	Psi	150	170	210	255	325	375	580	700	800	865	1500
	Trapezoidal tear strength	ASTM D 4533	N	180	200	265	290	370	475	600	650	850	1020	1800
Hydraulic Properties	Permeability	EN ISO 11058	m/s.10^{-3}	120	116	110	102	95	80	60	50	40	33	20
	Water flow in plane 20kpa	EN ISO 12958	m^2/s	$1x10^{-7}$	$1x10^{-7}$	$1x10^{-7}$	$1x10^{-7}$	$2x10^{-7}$	$1x10^{-6}$	$3x10^{-6}$	$1x10^{-5}$	$6x10^{-6}$	$7x10^{-6}$	$8x10^{-6}$
	Apparent Opening size	EN ISO 12956	μ	130	125	120	115	100	100	90	80	72	68	55
	Permeability	ASTM D 4491	l/m^2s	140	135	130	120	100	85	75	50	40	33	20
	Apparent Opening size	ASTM D 4751	μ	200	190	180	170	140	110	80	65	60	60	60
Physical	Thickness under 2kpa	EN ISO 9863-1	mm	0.9	1	1.2	1.4	1.65	1.8	2.4	3	3.5	4	6
	Thickness under 2kpa	ASTM D 5199	mm	0.9	1	1.2	1.4	1.65	1.8	2.4	3	3.5	4	6
	Natural UV	ASTM D 4355	%	75	75	75	75	75	75	75	75	75	75	75

Durability

Chemical Resistance	EN 14030	100%
Oxidation Resistance	EN ISO 13438	>90%
Microbiological Resistance	EN 12225	100%
Hydrolysis	EN 12447	100 %

Product Description

Polymer	100% Polypropylene
Density	0 ,91 kg/dm³
Melting Point	165 °C
Fiber bonding	Mechanical/Thermal

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Installation Guidelines for *bontec* Geotextiles

- **Storage Advice**
  The rolls are preffered to stored in a shade place. The protective packing should not be removed until the product is required for use. Should product be left uncovered during installation then temporary exposure should not exceed 7 days.

- **Subgrade Preparation**
  It is possible to lay the geotetile directly on undisturbed vegetation e.g. grasses and reeds should levels so permit. Any plant vegetation such as bushes or shrubs, as well as large rocks or other similer obstacles must first be removed. All voids, wheel ruts or other deep depressions must be either filled or leveled to provide a smooth surface.

- **Product Installation**
  The geotextile should be rolled out and allowed to follow the contours of the land. It should be kept as taut as possible in an effort to minimise folds but not stretched so that it spans over any hollows. Small deposits of fill material may be required across the geotextile surface to hold it in place until fill placement commences. NO vehicle should drive directly on the geotextile surface at any time.

- **Product Continuity**
  The simplest and quickest method of ensuring product continuity is to overlap adjacent layers. Rolls placed side by side should have a minimum overlap of 300mm whilst length on length should have a minimum overlap of 600mm. Over soft or uneven soils these overlaps may require to be increased. Please contact our office for further advice. Should special circumstances identify a need for a mechanical joint then further details may be obtained from our office.

- **Cutting to Length**
  Product may be cut to length using either a sharp blade or scissors.

- **Cutting to Width**
  Should the geotextile width have to be reduced then the product may be cut whilst still in a roll form Non-woven products may be cut with a hand or power saw whilst woven products may be cut using a circular stone cutting saw. This latter method may melt the roll end a little, making the product slightly more difficult to unwind.

- **Placement of Cover Fill**
  Fill material should be end tipped at either the edge of the geotextile or on top of already placed fill before being spread to the required depth using a tracked machine. A minimum fill layer thickness over the geotextile of 150mm is recommended prior to trafficking or compaction.

For Further Asistance Contact your Local
Bonar Natpet Sales Office

www.bonarnatpet.com

BONTEC "INSTALLATION GUIDELINES"

GEOTEXTILE

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BONTEC

NONWOVEN GEOTEXTILE

NW

Thermally bonded Nonwoven Geotextiles

Technical Data Sheet ½

Date: 3-12-2012 rev 20

Mechanical Properties	Test	Units	NW 5	NW6	NW7	NW8	NW9	NW10	NW12	NW13	NW15	NW16
Tensile Strength - MD	EN ISO 10319	kN/m	5,0	6,0	7,0	8,0	9,0	10,0	12,0	13,0	15,0	16 , 0
Tensile Strength - XD	EN ISO 10319	kN/m	5,0	6,0	7,0	8,0	9,0	10,0	12,0	13,0	15,0	16 , 0
Elongation at break - MD	EN ISO 10319	%	40,0	40,0	40,0	40,0	40,0	40,0	40,0	45,0	45,0	45 , 0
Elongation at break - XD	EN ISO 10319	%	40,0	40,0	45,0	45,0	45,0	45,0	45,0	50,0	50,0	50 , 0
CBR Puncture Resistance	EN ISO 12236	N	850	890	1 200	1 240	1 500	1 600	1 780	2 200	2 500	2 700
Dynamic Cone Drop	EN ISO 13433	mm	42	40	37	34	30	28	24	21	20	19
Hydraulic Properties	**Test**	**Units**	**NW 5**	**NW6**	**NW7**	**NW8**	**NW9**	**NW10**	**NW12**	**NW13**	**NW15**	**NW16**
Permeability	EN ISO 11058	m/s	125×10^{-3}	120×10^{-3}	115×10^{-3}	110×10^{-3}	108×10^{-3}	106×10^{-3}	105×10^{-3}	100×10^{-3}	90×10^{-3}	85×10^{-3}
Waterflow normal to the plane	EN ISO 11058	l/m².s	125	120	115	110	108	106	105	100	90	85
Waterflow in the plane-20kPa	EN ISO 12958	m²/s	1×10^{-7}	1×10^{-7}	1×10^{-7}	1×10^{-7}	2×10^{-7}	2×10^{-7}	2×10^{-7}	3×10^{-7}	3×10^{-7}	1×10^{-6}
Characteristic Opening Size	EN ISO 12956	µm	145	140	135	130	115	110	105	100	90	85
Physical Properties	**Test**	**Units**	**NW 5**	**NW6**	**NW7**	**NW8**	**NW9**	**NW10**	**NW12**	**NW13**	**NW15**	**NW16**
Thickness under 2 kPa	EN ISO 9863-1	mm	0,75	0,85	0,90	1,00	1,10	1,15	1,40	1,45	1,20	1 , 25
Weight	EN ISO 9864	g/m²	70	80	85	100	110	120	145	160	180	200
Roll width		cm	600	600	600	600	600	600	600	600	600	600
Roll length		m	100	100	100	100	100	100	100	100	100	100
Full truck load volume (+/- 10%)		m²	105 000	94 500	86 625	70 875	68 250	65 625	47 250	45 675	47 250	43 050
Full 40ft HC container volume (+/- 10%)		m²										
Roll diameter (+/- 10%)		cm	27	28	29	30	31	33	36	37	36	37

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Durability		
Natural UV light	ASTM 4533	100%
Chemical Resistance	EN 14030	100%
Oxidation Resistance	EN ISO 13438	>90%
Microbiological Resistance	EN 12225	100%
Hydrolosis	EN 12447	100 %

Product Description	
Polymer	100% PP
Denisty	0 ,91 kg/dm³
Melting Point	165 °C
Fiber bonding	Mechanical/Thermal

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NW

Thermally bonded Nonwoven Geotextiles

Technical Data Sheet 2/2

Date: 3-12-2012 rev 20

Mechanical Properties	Test	Units	NW18	NW20	NW21	NW25	NW26	NW32	NW40	NW 45
Tensile Strength - MD	EN ISO 10319	kN/m	18,0	20,0	21,0	25,0	26,0	32,0	40,0	45,0
Tensile Strength - XD	EN ISO 10319	kN/m	18,0	20,0	21,0	25,0	26,0	32,0	40,0	45,0
Elongation at break - MD	EN ISO 10319	%	45,0	50,0	50,0	50,0	50,0	50,0	55,0	65,0
Elongation at break - XD	EN ISO 10319	%	55,0	55,0	55,0	60,0	60,0	60,0	60,0	65,0
CBR Puncture Resistance	EN ISO 12236	N	3 000	3 100	3 500	3 600	4 350	5 400	6 500	7 800
Dynamic Cone Drop	EN ISO 13433	mm	17	16	15	12	11	10	6	4
Pyramid Puncture	EN ISO14574	N				300	352	385	617	700
Hydraulic Properties	**Test**	**Units**	**NW18**	**NW20**	**NW21**	**NW25**	**NW26**	**NW32**	**NW40**	**NW 45**
Permeability	EN ISO 11058	m/s	70×10^{-3}	65×10^{-3}	60×10^{-3}	55×10^{-3}	45×10^{-3}	40×10^{-3}	30×10^{-3}	25×10^{-3}
Waterflow normal to the plane	EN ISO 11058	l/m².s	70	65	60	55	45	40	30	25
Waterflow in the plane-20kPa	EN ISO 12958	m²/s	3×10^{-6}	3.5×10^{-6}	4×10^{-6}	4×10^{-6}	4×10^{-6}	4×10^{-6}	$4x\ 10^{-6}$	$4,5 \times 10^{-6}$
Characteristic Opening Size	EN ISO 12956	µm	75,0	70,0	65,0	65,0	65,0	65,0	65,0	65,0
Physical Properties	**Test**	**Units**	**NW18**	**NW20**	**NW21**	**NW25**	**NW26**	**NW32**	**NW40**	**NW 45**
Thickness under 2 kPa	EN ISO 9863-1	mm	1,30	1,40	1,50	1,60	1,80	1,90	2,50	2,96
Weight	EN ISO 9864	g/m²	215	235	260	300	325	385	500	625
Roll width		cm	600	600	600	600	600	600	600	600
Roll length		m	100	100	100	100	100	100	100	100
Full truck load volume (+/- 10%)		m²	43 050	35 175	30 450	30 450	28 875	22 050	15 750	12 600
Full 40ft HC container volume (+/- 10%)		m²								
Roll diameter (+/- 10%)		cm	38	42	44	46	48	53	62	66

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Durability		
Natural UV light	ASTM 4533	100%
Chemical Resistance	EN 14030	100%
Oxidation Resistance	EN ISO 13438	>90%
Microbiological Resistance	EN 12225	100%
Hydrolosis	EN 12447	100 %

Product Description	
Polymer	100% PP
Denisty	0 ,91 kg/dm³
Melting Point	165 °C
Fiber bonding	Mechanical/Thermal

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NW

Thermally bonded Nonwoven Geotextiles

Technical Data Sheet 1/2

Date: 3-12-2012 rev 20

Mechanical Properties	Test	Units	NW6	NW8	NW9	NW10	NW 11	NW12	NW13	NW15	NW16
Grab strength - MD	ASTM D 4632	N	435	530	630	650	710	800	810	1000	1100
Grab strength - CD	ASTM D 4632	N	435	530	630	650	710	800	810	1000	1100
Grab elongation - MD	ASTM D 4632	%	55	50	60	60	60	60	60	60	60
Grab Elongation - XD	ASTM D 4632	%	55	55	60	60	60	60	60	60	65
CBR Puncture strength N	ASTM D 6241	N	185	285	300	320	350	360	375	510	620
Mullen Burst strength	ASTM D 3786	psi	155	201	206	245	253	262	295	350	400
Mullen Burst strength	ASTM D 3786	kg/cm²	10,88	14,10	14,48	17,20	17,75	18,96	20,71	24,34	28,95
Trapezoidal Tear strength (N)	ASTM D 4533	N	110,0	164,0	178,5	200,0	210,0	225,0	235,0	240,0	275,0
Energy Index	ASTM D 4632	N	120	139	189	195	213	240	243	300	344

Hydraulic Properties	Test	Units	NW6	NW8	NW9	NW10	NW 11	NW12	NW13	NW15	NW16
Apparent Opening Size	ASTM D 4751	µm	300	160	155	150	145	140	120	100	90
Permeability	ASTM D 4491	l/m²s	165	150	140	130	120	110	105	90	85

Physical Properties	Test	Units	NW6	NW8	NW9	NW10	NW 11	NW12	NW13	NW15	NW16
Thickness under 2 kPa	ASTM D 5199	mm	0,85	0.90	1,00	1,15	1.35	1,40	1,45	1,20	1 ,25
Weight	ASTM D -5261	g/m²	80	100	110	120	130	145	160	180	200
Roll width		cm	600	600	600	600	600	600	600	600	600
Roll length		m	100	100	100	100	100	100	100	100	100
Full truck load volume (+/- 10%)		m²	94 500	70 875	68 625	65 625	68 250	65 625	47 250	45 675	43 050
Full 40ft HC container volume (+/- 10%)		m²									
Roll diameter (+/- 10%)		Cm	27	28	29	30	31	33	36	37	36

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Durability

Natural UV light	100%
Chemical Resistance	100%
Oxidation Resistance	>90%
Microbiological Resistance	100%
Hydrolosis	100 %

Product Description

Polymer	100% PP
Denisty	0 ,91 kg/dm³
Melting Point	165 °C
Fiber bonding	Mechanical/Thermal

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NW

Thermally bonded Nonwoven Geotextiles

Technical Data Sheet 2/2

Date: 3-12-2012 rev 20

Mechanical Properties	Test	Units	NW18	NW20	NW25	NW26	NW30	NW34	NW40	NW45
Grab strength - MD	ASTM D 4632	N	1200	1300	1534	1640	1900	2135	2500	2800
Grab strength - CD	ASTM D 4632	N	1200	1300	1534	1640	1900	2135	2500	2800
Grab elongation - MD	ASTM D 4632	%	60	60	73	70	70	70	70	70
Grab Elongation - XD	ASTM D 4632	%	65	65	80	70	70	70	70	70
CBR Puncture strength N	ASTM D 6241	N	650	670	680	695	800	900	1050	1180
Mullen Burst strength	ASTM D 3786	psi	430	460	562	600	695	785	915	1030
Mullen Burst strength	ASTM D 3786	kg/cm²	30,19	32,30	39,43	42,13	48,80	55,11	64,24	72,32
Trapezoidal Tear strength (N)	ASTM D 4533	N	325,0	470,0	480,0	490,0	500,0	550,0	640,0	715,0
Energy Index	ASTM D 4632	N	375	406	621	574	665	747	875	980
Hydraulic Properties	**Test**	**Units**	**NW18**	**NW20**	**NW25**	**NW26**	**NW30**	**NW34**	**NW40**	**NW45**
Apparent Opening Size	ASTM D 4751	µm	85	80	75	65	50	40	30	20
Permeability	ASTM D 4491	l/m²s	80	70	60	50	40	30	20	15
Physical Properties	**Test**	**Units**	**NW18**	**NW20**	**NW25**	**NW26**	**NW30**	**NW34**	**NW40**	**NW45**
Thickness under 2 kPa	ASTM D 5199	mm	1.30	1.40	1.50	1.80	1.75	2.15	2.50	2.96
Weight	ASTM D - 5261	g/m²	215	235	300	325	360	450	500	625
Roll width		cm	600	600	600	600	600	600	600	600
Roll length		m	100	100	100	100	100	100	100	100
Full truck load volume (+/- 10%)		m²	43 050	35 175	30 450	28 875	25 463	18 900	15 750	12 600
Full 40ft HC container volume (+/- 10%)		m²								
Roll diameter (+/- 10%)		cm	38	42	44	46	51	58	62	66

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Durability	
Natural UV light	100%
Chemical Resistance	100%
Oxidation Resistance	>90%
Microbiological Resistance	100%
Hydrolosis	100 %

Product Description	
Polymer	100% PP
Denisty	0 ,91 kg/dm³
Melting Point	165 °C
Fiber bonding	Mechanical/Thermal

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GEOTEXTILE

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BONTEC

NONWOVEN GEOTEXTILE

SNW

Superior Needle Punched Nonwoven Geotextiles

Technical Data Sheet 1/2

Date: 12-02-2012 rev 18

Mechanical Properties	Test	Units	SNW 14	SNW 17	SNW 25	SNW 31	SNW 35	SNW 40 UV	SNW 46	SNW 50	SNW 55
Tensile Strength - MD	EN ISO 10319	kN/m	8,0	10,3	14,0	17,8	20.0	22,0	27,0	30,0	33,5
Tensile Strength - XD	EN ISO 10319	kN/m	8,0	10,3	14,0	17,8	20.0	22,0	27,0	30,0	33,5
Elongation at break - MD	EN ISO 10319	%	40,0	45,0	45,0	50,0	50.0	50,0	50,0	50,0	55,0
Elongation at break - XD	EN ISO 10319	%	55,0	55,0	55,0	55,0	55.0	55,0	55,0	55,0	60,0
CBR Puncture Resistance	EN ISO 12236	N	1400	1700	2500	3100	3500	4000	4600	5000	5500
Dynamic Cone Drop	EN ISO 13433	mm	28	22	18	13	12	12	10	9	7
Pyramid Puncture	EN ISO14574	N	85,0	120,0	200,0	275,0	330.0	385,0	440,0	500,0	550,0

Hydraulic Properties	Test	Units	SNW 14	SNW 17	SNW 25	SNW 31	SNW 35	SNW 40 UV	SNW 46	SNW 50 SP	SNW 55
Permeability	EN ISO 11058	m/s	$110x10^{-3}$	$100x10^{-3}$	$80x10^{-3}$	$70x10^{-3}$	$65x10^{-3}$	$60x10^{-3}$	$55x10^{-3}$	$50x10^{-3}$	$45x10^{-3}$
Waterflow normal to the plane	EN ISO 11058	l/m².s	110	100	80	70	65	60	55	50	45
Waterflow in the plane- 20kPa	EN ISO 12958	m^2/s	$1x10^{-7}$	$1x10^{-7}$	$1x10^{-6}$	$2x10^{-6}$	$2.5x10^{-6}$	$3x10^{-6}$	$5x10^{-6}$	$1x10^{-5}$	$6x10^{-6}$
Characteristic Opening Size	EN ISO 12956	µm	120,0	110,0	100,0	95,0	92.0	90,0	85,0	80,0	75,0

Physical Properties	Test	Units	SNW 14	SNW 17	SNW 25	SNW 31	SNW 35	SNW 40 UV	SNW 46	SNW 50 SP	SNW 55
Thickness under 2 kPa	EN ISO 9863-1	mm	1,2	1,5	1,8	2,2	2.3	2,4	2,8	3	3,2
Weight	EN ISO 9864	g/m^2	120	150	200	250	280	300	370	400	450
Roll width		cm	600	600	600	600	600	600	600	600	600
Roll length		m	100	100	100	100	100	100	100/50	50	75
Full truck load volume (+/- 10%)		m^2	57 750	44 625	34 125	27 200	24 850	22 500	18 000	17 325	14 700
Full 40ft HC container volume (+/- 10%)		m^2									
Roll diameter (+/- 10%)		cm	35	38	45	49	51	54	60/42	44	58

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Durability		
Natural UV light	ASTM 4533	100%
Chemical Resistance	EN 14030	100%
Oxidation Resistance	EN ISO 13438	>90%
Microbiological Resistance	EN 12225	100%
Hydrolosis	EN 12447	100 %

Product Description	
Polymer	100% PP
Denisty	0 ,91 kg/dm³
Melting Point	165 °C
Fiber bonding	Mechanical/Thermal

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GEOTEXTILE

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BONTEC

NONWOVEN GEOTEXTILE

SNW

Superior Needle Punched Nonwoven Geotextiles

Technical Data Sheet 2/2

Date: 12-02-2012 rev 18

Mechanical Properties	Test	Units	SNW 62	SNW 70	SNW 75	SNW 80	SNW 85	SNW 90	SNW 100	SNW 110	SNW 120	SNW 140
Tensile Strength - MD	EN ISO 10319	kN/m	37,0	42,0	43,0	45,0	50,0	54,0	58,0	65.0	70,0	84,0
Tensile Strength - XD	EN ISO 10319	kN/m	37,0	42,0	43,0	45,0	50,0	54,0	58,0	65.0	70,0	84,0
Elongation at break - MD	EN ISO 10319	%	60,0	60,0	60,0	65,0	70,0	70,0	70,0	70.0	70,0	70,0
Elongation at break - XD	EN ISO 10319	%	65,0	65,0	65,0	70,0	70,0	70,0	70,0	70.0	70,0	70,0
CBR Puncture Resistance	EN ISO 12236	N	6200	7000	7400	8000	8500	9000	10000	10750	11500	14000
Dynamic Cone Drop	EN ISO 13433	mm	5	4	3	2	2	1	1	0	0	0
Pyramid Puncture	EN ISO14574	N	600,0	705,0	750,0	810,0	850,0	900,0	1000,0	1125.0	1250,0	1700,0

Hydraulic Properties	Test	Units	SNW 62	SNW 70	SNW 75	SNW 80	SNW 85	SNW 90	SNW 100	SNW 110	SNW 120	SNW 140
Permeability	EN ISO 11058	m/s	$40x10^{-3}$	$35x10^{-3}$	$33x10^{-3}$	$30x10^{-3}$	$29x10^{-3}$	$28x10^{-3}$	$28x10^{-3}$	$30x10^{-3}$	$20x10^{-3}$	$15x10^{-3}$
Waterflow normal to the plane	EN ISO 11058	l/m².s	40	35	33	30	29	28	28	24	20	15
Waterflow in the plane-20kPa	EN ISO 12958	m^2/s	$6,5x10^{-6}$	$7x10^{-6}$	$7x10^{-6}$	$6x10^{-6}$	$8,5x10^{-6}$	$7x10^{-6}$	$8x10^{-6}$	$8,5x10^{-6}$	$8,5x10^{-6}$	$9x10^{-6}$
Characteristic Opening Size	EN ISO 12956	µm	72,0	70,0	68,0	65,0	63,0	60,0	58,0	49	55,0	49,0

Physical Properties	Test	Units	SNW 62	SNW 70	SNW 75	SNW 80	SNW 85	SNW 90	SNW 100	SNW 110	SNW 120	SNW 140
Thickness under 2 kPa	EN ISO 9863-1	mm	3,5	3,8	4	4,4	4,6	4,7	5,0	5.5	6,0	7,0
Weight	EN ISO 9864	g/m^2	500	565	600	650	700	750	800	900	1000	1200
Roll width		cm	600	600	600	600	600	600	600	600	600	600
Roll length		m	50	60	55	55	50	50	50	50	35	35
Full truck load volume (+/- 10%)		m^2	14 700	13 860	12 994	12 416	10 500	10 500	10 500	9 200	8 085	6 614
Full 40ft HC container Volume (+/- 10%)		m^2										
Roll diameter (+/- 10%)		cm	48	56	55	57	58	58	60	58	57	62

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Durability		
Natural UV light	ASTM 4533	100%
Chemical Resistance	EN 14030	100%
Oxidation Resistance	EN ISO 13438	>90%
Microbiological Resistance	EN 12225	100%
Hydrolosis	EN 12447	100 %

Product Description	
Polymer	100% PP
Denisty	0 ,91 kg/dm³
Melting Point	165 °C
Fiber bonding	Mechanical/Thermal

Sales Office

Bonar Natpet Geosynthetics

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GEOTEXTILE

BONAR NATPET geosynthetics

BONTEC

NONWOVEN GEOTEXTILE

SNW

Superior Needle Punched Nonwoven Geotextiles

Technical Data Sheet 1/2

Date: 25-9-2013 rev 15

Mechanical Properties	Test	Units	SNW 14	SNW 17	SNW 25	SNW 31	SNW 35	SNW 40 UV	SNW 46	SNW 50	SNW 55	SNW 62
Grab strength - MD	ASTM D 4632	N	500	630	960	1200	1300	1400	1600	1800	2200	2400
Grab strength - CD	ASTM D 4632	N	500	630	960	1200	1300	1400	1600	1800	2200	2400
Grab elongation - MD	ASTM D 4632	%	60	70	70	70	70	70	70	70	70	70
Grab Elongation - XD	ASTM D 4632	%	70	70	75	75	75	75	75	75	75	75
CBR Puncture strength N	ASTM D 6241	N	270	370	500	650	700	750	850	900	950	1200
Mullen Burst strength	ASTM D 3786	psi	210	290	375	450	500	580	660	700	750	900
Mullen Burst strength	ASTM D 3786	kg/cm²	14.72	20.38	26.47	31.56	36.13	40.72	46.34	49.15	52.66	63.19
Trapezoidal Tear strength (N)	ASTM D 4533	N	265	310	475	600	540	480	545	650	800	1000
Energy Index	ASTM D 4632	N	163	221	348	435	471	508	580	653	798	870
UV Resistance	ASTM D 4355	%	75	75	75	75	75	85	75	80	75	75
Hydraulic Properties	**Test**	**Units**	**SNW 14**	**SNW 17**	**SNW 25**	**SNW 31**	**SNW 35**	**SNW 40 UV**	**SNW 46**	**SNW 50**	**SNW 55**	**SNW 62**
Apparent Opening Size	ASTM D 4751	µm	180	160	110	85	83	80	75	65	65	80
Permeability	ASTM D 4491	l/m²s	130	115	85	80	77	75	65	60	50	41
Physical Properties	**Test**	**Units**	**SNW 14**	**SNW 17**	**SNW 25**	**SNW 31**	**SNW 35**	**SNW 40 UV**	**SNW 46**	**SNW 50**	**SNW 55**	**SNW 62**
Thickness under 2 kPa	ASTM D 5199	mm	1.2	1.5	1.8	2.2	2.3	2.4	2.8	3.0	3.2	3.5
Weight	ASTM D - 5261	g/m²	120	150	200	250	280	300	370	400	450	500
Roll width		cm	600	600	600	600	600	600	600	600	600	600
Roll length		m	100	100	100	100	100	100	100/50	50	75	50
Full truck load volume (+/- 10%)		m²	57 750	44 625	34 125	27 200	24 850	22 500	18 000	17 325	14 700	14 700
Full 40ft HC container volume (+/- 10%)		m²										
Roll diameter (+/- 10%)		cm	35	38	45	49	51	54	60/42	44	58	48

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ASQUAL GÉOTEXTILES ET PRODUITS APPARENTÉS CERTIFIÉS

Durability	
Natural UV light	100%
Chemical Resistance	100%
Oxidation Resistance	>90%
Microbiological Resistance	100%
Hydrolosis	100 %

Product Description	
Polymer	100% PP
Denisty	0 ,91 kg/dm³
Melting Point	165 °C
Fiber bonding	Mechanical/Thermal

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GEOTEXTILE

BONAR NATPET geosynthetics

BONTEC

NONWOVEN GEOTEXTILE

SNW

Superior Needle Punched Nonwoven Geotextiles

Technical Data Sheet 2/2

Date: 25-9-2013 rev 15

Mechanical Properties	Test	Units	SNW 70	SNW 75	SNW 80	SNW 85 XUV	SNW 90	SNW 100	SNW 110	SNW 120	SNW 140	PROTEC 1000 XUV
Grab strength - MD	ASTM D 4632	N	2440	2610	2780	3100	3120	3500	3750	4000	5000	4200
Grab strength - CD	ASTM D 4632	N	2440	2610	2780	3100	3120	3500	3750	4000	5000	4200
Grab elongation - MD	ASTM D 4632	%	70	70	70	80	80	90	85	80	80	80
Grab Elongation - XD	ASTM D 4632	%	75	75	75	80	80	80	80	80	80	80
CBR Puncture strength N	ASTM D 6241	N	1200	1250	1250	1300	1350	1600	1650	1700	2500	2400
Mullen Burst strength	ASTM D 3786	psi	1000	100	1000	1100	1100	1400	1450	1500	2000	1700
Mullen Burst strength	ASTM D 3786	kg/cm²	68.15	69.15	70.21	77.23	77.23	98.29	100.00	105.32	140.42	119.36
Trapezoidal Tear strength (N)	ASTM D 4533	N	1075	1125	1150	1400	1400	1600	1700	1800	2000	1600
Energy Index	ASTM D 4632	N	939	975	1008	1240	1248	1500	1550	1600	2000	1680
UV Resistance	ASTM D 4355	%	75	75	75	85	75	75	75	80	80	90

Hydraulic Properties	Test	Units	SNW 70	SNW 75	SNW 80	SNW 85 XUV	SNW 90	SNW 100	SNW 110	SNW 120	SNW 140	PROTEC 1000 XUV
Apparent Opening Size	ASTM D 4751	µm	70	68	60	60	60	60	60	60	60	65
Permeability	ASTM D 4491	l/m²s	35	35	40	30	30	34	32	20	20	20

Physical Properties	Test	Units	SNW 70	SNW 75	SNW 80	SNW 85 XUV	SNW 90	SNW 100	SNW 110	SNW 120	SNW 140	PROTEC 1000 XUV
Thickness under 2 kPa	ASTM D 5199	mm	3.8	4.0	4.4	4.6	4.7	5.0	5.5	6.0	7.0	7.0
Weight	ASTM D - 5261	g/m²	565	600	650	700	750	800	900	1000	1200	1000
Roll width		cm	600	600	600	600	600	600	600	600	600	600
Roll length		m	60	55	50	50	50	50	50	30	30	50
Full truck load volume (+/- 10%)		m²	13 860	12 416	12 416	10 500	10 500	10 500	9 292	8 085	6 614	8 085
Full 40ft HC container volume (+/- 10%)		m²										
Roll diameter (+/- 10%)		cm	56	57	57	58	58	60	56	57	62	55

CE 1137-CPD-615

Durability	
Natural UV light	100%
Chemical Resistance	100%
Oxidation Resistance	>90%
Microbiological Resistance	100%
Hydrolosis	100 %

Product Description	
Polymer	100% PP
Denisty	0 ,91 kg/dm³
Melting Point	165 °C
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