



cust: Waste Services, Inc

PO#: JED CELL 10

dest:

St Cloud, FL

doc

24544

English Dimensions				95 rolls 60 HD micro (505)						
				1 roll 40 HD micro (710) (cut into 3 pcs)						
roll #	wid	len	area	check weld rod qty (if ordered)				wgt	resin lot #	
100k / lot TRICALI WE cut 1ft conf + 2x 2ft fric UPS GROUND Brantley acct 71Y048										
G14C101014	23	712	16,376.0	40HD micro (to be cut into 3 pcs) (no conf)				3470	PDFD	H8240163
G14A096064	23	505	11,615.0	60HD	micro	95 tot	1	3860	1ft conf	H8240157
G14A096065	23	505	11,615.0	60HD	micro	95 tot	2	3854		H8240157
G14A096066	23	505	11,615.0	60HD	micro	95 tot	3	3860		H8240157
G14A096067	23	505	11,615.0	60HD	micro	95 tot	4	3858		H8240157
G14A096068	23	505	11,615.0	60HD	micro	95 tot	5	3864		H8240157
G14A096069	23	505	11,615.0	60HD	micro	95 tot	6	3838		H8240157
G14A096070	23	505	11,615.0	60HD	micro	95 tot	7	3818		H8240157
G14A097072	23	505	11,615.0	60HD	micro	95 tot	8	3718		H8240157
G14A097073	23	505	11,615.0	60HD	micro	95 tot	9	3884	1ft conf	H8240157
G14A097074	23	505	11,615.0	60HD	micro	95 tot	10	3864		H8240157
G14A097075	23	505	11,615.0	60HD	micro	95 tot	11	3858		H8240157
G14A097076	23	505	11,615.0	60HD	micro	95 tot	12	3884		H8240157
G14A097077	23	505	11,615.0	60HD	micro	95 tot	13	3926		H8240157
G14A097079	23	505	11,615.0	60HD	micro	95 tot	14	3831		H8240157
G14A097080	23	505	11,615.0	60HD	micro	95 tot	15	3852		H8240157
G14A097081	23	505	11,615.0	60HD	micro	95 tot	16	3874		H8240157
G14A097082	23	505	11,615.0	60HD	micro	95 tot	17	3864		H8240157
G14A097083	23	505	11,615.0	60HD	micro	95 tot	18	3842	2x 3ft fric + 1ft conf	H8240157
G14C101015	23	505	11,615.0	60HD	micro	95 tot	19	3710		H8240163
G14C102016	23	505	11,615.0	60HD	micro	95 tot	20	3720		H8240163
G14C102017	23	505	11,615.0	60HD	micro	95 tot	21	3723		H8240163
G14C102018	23	505	11,615.0	60HD	micro	95 tot	22	3728		H8240163
G14C102019	23	505	11,615.0	60HD	micro	95 tot	23	3734		H8240163
G14C102020	23	505	11,615.0	60HD	micro	95 tot	24	3738		H8240163
G14C102021	23	505	11,615.0	60HD	micro	95 tot	25	3713		H8240163
G14C102022	23	505	11,615.0	60HD	micro	95 tot	26	3712	1ft conf	H8240163
G14C102023	23	505	11,615.0	60HD	micro	95 tot	27	3740		H8240163
G14C102024	23	505	11,615.0	60HD	micro	95 tot	28	3717		H8240163
G14C102025	23	505	11,615.0	60HD	micro	95 tot	29	3720		H8240163
G14C102026	23	505	11,615.0	60HD	micro	95 tot	30	3720		H8240163
G14C102027	23	505	11,615.0	60HD	micro	95 tot	31	3712		H8240163
G14C102028	23	505	11,615.0	60HD	micro	95 tot	32	3712		H8240163
G14C103029	23	505	11,615.0	60HD	micro	95 tot	33	3710		H8240163
G14C103030	23	505	11,615.0	60HD	micro	95 tot	34	3712		H8240163
G14C103031	23	505	11,615.0	60HD	micro	95 tot	35	3720	1ft conf	H8240163
G14C103032	23	505	11,615.0	60HD	micro	95 tot	36	3714		H8240163
G14C103033	23	505	11,615.0	60HD	micro	95 tot	37	3718		H8240200
G14C103034	23	505	11,615.0	60HD	micro	95 tot	38	3702		H8240200
G14C103035	23	505	11,615.0	60HD	micro	95 tot	39	3698		H8240200
G14C103036	23	505	11,615.0	60HD	micro	95 tot	40	3704		H8240200
G14C103037	23	505	11,615.0	60HD	micro	95 tot	41	3696		H8240200
G14C103038	23	505	11,615.0	60HD	micro	95 tot	42	3678		H8240200
G14C103039	23	505	11,615.0	60HD	micro	95 tot	43	3682		H8240200
G14C103040	23	505	11,615.0	60HD	micro	95 tot	44	3684	1ft conf	H8240200
G14C103041	23	505	11,615.0	60HD	micro	95 tot	45	3664		H8240200
G14C104042	23	505	11,615.0	60HD	micro	95 tot	46	3694		H8240200
G14C104043	23	505	11,615.0	60HD	micro	95 tot	47	3694		H8240200
G14C104044	23	505	11,615.0	60HD	micro	95 tot	48	3684		H8240200
G14C104045	23	505	11,615.0	60HD	micro	95 tot	49	3694		H8240200
G14C104046	23	505	11,615.0	60HD	micro	95 tot	50	3692		H8240200
G14C104049	23	505	11,615.0	60HD	micro	95 tot	51	3648		H8240200
G14C104050	23	505	11,615.0	60HD	micro	95 tot	52	3622	1ft conf	H8240200
G14C104051	23	505	11,615.0	60HD	micro	95 tot	53	3626		H8240200
G14C104052	23	505	11,615.0	60HD	micro	95 tot	54	3616		H8240200
G14C104053	23	505	11,615.0	60HD	micro	95 tot	55	3606		H8240200
G14C104054	23	505	11,615.0	60HD	micro	95 tot	56	3606		H8240200
G14C104055	23	505	11,615.0	60HD	micro	95 tot	57	3600		H8240200
G14C105056	23	505	11,615.0	60HD	micro	95 tot	58	3592		H8240200
G14C105057	23	505	11,615.0	60HD	micro	95 tot	59	3608		H8240200



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				1 roll 40 HD micro (710) (cut into 3 pcs)						
roll #	wid	len	area	check weld rod qty (if ordered)				wgt	resin lot #	
100k /lot TRICALI WE cut 1ft conf + 2x 2ft fric UPS GROUND Brantley acct 71Y048										
G14C105058	23	505	11,615.0	60HD	micro	95 tot	60	3602	1ft conf	H8240200
G14C105059	23	505	11,615.0	60HD	micro	95 tot	61	3604		H8240200
G14C105060	23	505	11,615.0	60HD	micro	95 tot	62	3612		H8240200
G14C105061	23	505	11,615.0	60HD	micro	95 tot	63	3610		H8240200
G14C105062	23	505	11,615.0	60HD	micro	95 tot	64	3604	1ft conf	H8240200
G14C105063	23	505	11,615.0	60HD	micro	95 tot	65	3608		H8240208
G14C105064	23	505	11,615.0	60HD	micro	95 tot	66	3604		H8240208
G14C105065	23	505	11,615.0	60HD	micro	95 tot	67	3608		H8240208
G14C105066	23	505	11,615.0	60HD	micro	95 tot	68	3602	1ft conf	H8240208
G14C105067	23	505	11,615.0	60HD	micro	95 tot	69	3602		H8240208
G14C105068	23	505	11,615.0	60HD	micro	95 tot	70	3604		H8240208
G14C105069	23	505	11,615.0	60HD	micro	95 tot	71	3605		H8240208
G14C106070	23	505	11,615.0	60HD	micro	95 tot	72	3604	1ft conf	H8240208
G14C106071	23	505	11,615.0	60HD	micro	95 tot	73	3600		H8240208
G14C106072	23	505	11,615.0	60HD	micro	95 tot	74	3602		H8240208
G14C106073	23	505	11,615.0	60HD	micro	95 tot	75	3602		H8240208
G14C106076	23	505	11,615.0	60HD	micro	95 tot	76	3520	1ft conf	H8240208
G14C106079	23	505	11,615.0	60HD	micro	95 tot	77	3578		H8240208
G14C106080	23	505	11,615.0	60HD	micro	95 tot	78	3572		H8240208
G14C106081	23	505	11,615.0	60HD	micro	95 tot	79	3574		H8240208
G14C106082	23	505	11,615.0	60HD	micro	95 tot	80	3572	1ft conf	H8240208
G14C107083	23	505	11,615.0	60HD	micro	95 tot	81	3572		H8240208
G14C107084	23	505	11,615.0	60HD	micro	95 tot	82	3570		H8240208
G14C107085	23	505	11,615.0	60HD	micro	95 tot	83	3568		H8240208
G14C107088	23	505	11,615.0	60HD	micro	95 tot	84	3648	1ft conf	H8240208
G14C107089	23	505	11,615.0	60HD	micro	95 tot	85	3646		H8240208
G14C107090	23	505	11,615.0	60HD	micro	95 tot	86	3644		H8240217
G14C107091	23	505	11,615.0	60HD	micro	95 tot	87	3646		H8240217
G14C107092	23	505	11,615.0	60HD	micro	95 tot	88	3644	1ft conf	H8240217
G14C107093	23	505	11,615.0	60HD	micro	95 tot	89	3645		H8240217
G14C107094	23	505	11,615.0	60HD	micro	95 tot	90	3644		H8240217
G14C107095	23	505	11,615.0	60HD	micro	95 tot	91			H8240217
G14C111001	23	505	11,615.0	60HD	micro	95 tot	92		1ft conf	H8240217
G14C111002	23	505	11,615.0	60HD	micro	95 tot	93			H8240217
G14C111003	23	505	11,615.0	60HD	micro	95 tot	94			H8240217
G14C111004	23	505	11,615.0	60HD	micro	95 tot	95			H8240217



quality certificate

ROLL # G14C101014**LOT # H8240163****LINER TYPE MICROSPIKE HD 40**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	.97 mm	38 mil	Thickness	1.02 mm	40 mil	
Measurement	MAX	1.09 mm	43 mil	Length	216.411 m	710 feet	
ASTM D5994	AVE	1.01 mm	40 mil	Width	7.01 m	23 feet	
(Modified)							
OIT(Standard) ASTM D 3895							209 minutes
Asperity	Average	Top					29 mil
ASTM D7466		Bottom					31 mil
Specific Gravity	Average Density				g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E			Melt Flow Index 190C/2160 g - g/10 min				.27
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.10
Carbon Black Dispersion ASTM D5596	Category				10 in Category 1		
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	16 N/mm	92 ppi	2300 psi		
		TD	17 N/mm	99 ppi	2473 psi		
	Average Strength @ Break	MD	29 N/mm	165 ppi	4117 psi		
		TD	24 N/mm	139 ppi	3463 psi		
Tensile Elongation ASTM D6693 Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	23.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	468.0	
		TD			%	608.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-1.13
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		146.8 N	33.0 lbs		
		TD		155.7 N	35.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				360.3 N		81.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				435.9 N		98.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

Customer Waste Services, Inc
PO JED CELL 10
Destination St Cloud, FL

Date **3/3/2014**

Signature


Quality Control Department



quality certificate

ROLL # G14A096064**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.43 mm	56 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.65 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				33 mil	
ASTM D7466		Bottom				34 mil	
Specific Gravity	Average Density				g/cc		.946
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min				.27		
Grade K307							
Carbon Black Content ASTM D4218	Range				%		2.20
Carbon Black Dispersion ASTM D5596	Category				10 in Category 1		
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	149 ppi	2479 psi		
		TD	30 N/mm	172 ppi	2864 psi		
	Average Strength @ Break	MD	37 N/mm	209 ppi	3478 psi		
		TD	31 N/mm	180 ppi	2994 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	414.0	
		TD			%	520.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.4
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		271.3 N	61.0 lbs		
		TD		262.4 N	59.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				404.8 N		91.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				596.0 N		134.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

Customer Waste Services, Inc
PO JED CELL 10
Destination St Cloud, FL

Date **3/1/2014**

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Quality Control Department



quality certificate

ROLL # G14A096065**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.43 mm	56 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.65 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				33 mil	
ASTM D7466		Bottom				32 mil	
Specific Gravity	Average Density				g/cc		.946
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.27
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.20
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	149 ppi	2479 psi		
		TD	30 N/mm	172 ppi	2864 psi		
	Average Strength @ Break	MD	37 N/mm	209 ppi	3478 psi		
		TD	31 N/mm	180 ppi	2994 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	414.0	
		TD			%	520.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.4
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			271.3 N	61.0 lbs	
		TD			262.4 N	59.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				404.8 N		91.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				596.0 N		134.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

Customer Waste Services, Inc
PO JED CELL 10
Destination St Cloud, FL

Date **3/1/2014**

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quality certificate

ROLL # G14A096066**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.45 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.55 mm	61 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.52 mm	60 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity		Average	Top				33 mil
ASTM D7466			Bottom				33 mil
Specific Gravity		Average Density				g/cc	.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	149 ppi	2479 psi	
			TD	30 N/mm	172 ppi	2864 psi	
		Average Strength @ Break	MD	37 N/mm	209 ppi	3478 psi	
			TD	31 N/mm	180 ppi	2994 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	15.0
		Average Elongation @Break	MD			%	414.0
			TD			%	520.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.4
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N		61.0 lbs
			TD		262.4 N		59.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			404.8 N		91.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			596.0 N		134.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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quality certificate

ROLL # G14A096067**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.69 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				31 mil	
ASTM D7466		Bottom				33 mil	
Specific Gravity	Average Density				g/cc	.946	
ASTM D792							
MFI ASTM D1238 COND. E			Melt Flow Index 190C/2160 g - g/10 min				.27
Grade	K307						
Carbon Black Content ASTM D4218	Range				%	2.30	
Carbon Black Dispersion ASTM D5596	Category				10 in Category 1		
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	149 ppi	2479 psi		
		TD	30 N/mm	172 ppi	2864 psi		
	Average Strength @ Break	MD	37 N/mm	209 ppi	3478 psi		
		TD	31 N/mm	180 ppi	2994 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	414.0	
		TD			%	520.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%	-0.4	
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			271.3 N	61.0 lbs	
		TD			262.4 N	59.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				404.8 N	91.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				596.0 N	134.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs	ONGOING	

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quality certificate

ROLL # G14A096068**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC		ENGLISH		METRIC		ENGLISH			
Thickness	MIN	1.50	mm	59	mil	Thickness	1.52	mm	60	mil	
Measurement						Length	153.926	m	505	feet	
ASTM D5994	MAX	1.61	mm	64	mil	Width	7.01	m	23	feet	
(Modified)	AVE	1.56	mm	61	mil						
OIT(Standard) ASTM D 3895									196		minutes
Asperity		Average	Top						33	mil	
ASTM D7466			Bottom						32	mil	
Specific Gravity		Average Density				g/cc			.946		
ASTM D792											
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min								.27	
Grade	K307										
Carbon Black Content ASTM D4218		Range				%			2.30		
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1					
Tensile Strength	ASTM D6693	(2 inches / minute)	Average Strength @ Yield	MD	25	N/mm	143	ppi	2390	psi	
				TD	27	N/mm	155	ppi	2580	psi	
				MD	34	N/mm	197	ppi	3275	psi	
				TD	31	N/mm	178	ppi	2961	psi	
Tensile Elongation	ASTM D6693	(2 inches / minute) Lo	Average Elongation @ Yield	MD				%	21.0		
				TD				%	15.0		
				MD				%	445.0		
				TD				%	532.0		
= 1.3" Yield	Lo = 2.0" Break	Average Elongation @Break									
Dimensional Stability		Average Dimensional Change						%	-0.4		
ASTM D1204 (Modified)											
Tear Resistance	ASTM D1004 (Modified)	Average Tear Resistance	MD		271.3	N	61.0	lbs			
			TD		262.4	N	59.0	lbs			
Puncture Resistance		Average Peak Load				404.8		N	91.0	lbs	
FTMS 101 Method 2065 Modified											
Puncture Resistance		Average Peak Load				596.0		N	134.0	lbs	
ASTM D4833 (Modified)											
ESCR ASTM D1693		Minumum Hrs w/o Failures				1500		Hrs	CERTIFIED		
Notched Constant Tensile Load		Pass/Fail @ 30%				300		Hrs	ONGOING		
ASTM D5397											

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ROLL # G14A096069**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.49 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.62 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				38 mil	
ASTM D7466		Bottom				33 mil	
Specific Gravity	Average Density				g/cc	.946	
ASTM D792							
MFI ASTM D1238 COND. E			Melt Flow Index 190C/2160 g - g/10 min				.27
Grade K307							
Carbon Black Content ASTM D4218	Range				%	2.30	
Carbon Black Dispersion ASTM D5596	Category				10 in Category 1		
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	25 N/mm	143 ppi	2390 psi		
		TD	27 N/mm	155 ppi	2580 psi		
	Average Strength @ Break	MD	34 N/mm	197 ppi	3275 psi		
		TD	31 N/mm	178 ppi	2961 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	21.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	445.0	
		TD			%	532.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%	-0.4	
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			271.3 N	61.0 lbs	
		TD			262.4 N	59.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				404.8 N	91.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				596.0 N	134.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs	ONGOING	

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ROLL # G14A096070**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	57 mil	Thickness	1.52 mm	60 mil	
Measurement				Length	153.926 m	505 feet	
ASTM D5994	MAX	1.59 mm	62 mil	Width	7.01 m	23 feet	
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				37 mil	
ASTM D7466		Bottom				33 mil	
Specific Gravity	Average Density				g/cc	.946	
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.27
Grade	K307						
Carbon Black Content ASTM D4218	Range				%	2.30	
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	25 N/mm	143 ppi	2390 psi		
		TD	27 N/mm	155 ppi	2580 psi		
	Average Strength @ Break	MD	34 N/mm	197 ppi	3275 psi		
		TD	31 N/mm	178 ppi	2961 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD		%	21.0		
		TD		%	15.0		
	Average Elongation @Break	MD		%	445.0		
		TD		%	532.0		
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%	-0.4	
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		271.3 N	61.0 lbs		
		TD		262.4 N	59.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				404.8 N	91.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				596.0 N	134.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures		1500 Hrs				CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%		300 Hrs				ONGOING

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ROLL # G14A097072**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.61 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.53 mm	60 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity		Average	Top				37 mil
ASTM D7466			Bottom				32 mil
Specific Gravity		Average Density				g/cc	.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	25 N/mm	143 ppi	2390 psi	
			TD	27 N/mm	155 ppi	2580 psi	
		Average Strength @ Break	MD	34 N/mm	197 ppi	3275 psi	
			TD	31 N/mm	178 ppi	2961 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	21.0
			TD			%	15.0
		Average Elongation @Break	MD			%	445.0
			TD			%	532.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.4
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N		61.0 lbs
			TD		262.4 N		59.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			404.8 N		91.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			596.0 N		134.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14A097073**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.44 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.67 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity		Average	Top				35 mil
ASTM D7466			Bottom				35 mil
Specific Gravity		Average Density				g/cc	.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	25 N/mm	143 ppi		2390 psi
			TD	27 N/mm	155 ppi		2580 psi
		Average Strength @ Break	MD	34 N/mm	197 ppi		3275 psi
			TD	31 N/mm	178 ppi		2961 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	21.0
			TD			%	15.0
		Average Elongation @Break	MD			%	445.0
			TD			%	532.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.4
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N		61.0 lbs
			TD		262.4 N		59.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			404.8 N		91.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			596.0 N		134.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14A097074**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.64 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity		Average	Top				35 mil
ASTM D7466			Bottom				32 mil
Specific Gravity		Average Density			g/cc		.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	150 ppi	2498 psi	
			TD	30 N/mm	171 ppi	2853 psi	
		Average Strength @ Break	MD	34 N/mm	197 ppi	3276 psi	
			TD	30 N/mm	172 ppi	2872 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	21.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	412.0	
			TD		%	512.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.4
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		258.0 N	58.0 lbs	
			TD		240.2 N	54.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			391.4 N	88.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			591.6 N	133.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14A097075**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.71 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	63 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				31 mil
Specific Gravity		Average Density				g/cc	.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	150 ppi	2498 psi	
			TD	30 N/mm	171 ppi	2853 psi	
		Average Strength @ Break	MD	34 N/mm	197 ppi	3276 psi	
			TD	30 N/mm	172 ppi	2872 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	21.0
			TD			%	15.0
		Average Elongation @Break	MD			%	412.0
			TD			%	512.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.4
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		258.0 N		58.0 lbs
			TD		240.2 N		54.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			391.4 N		88.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			591.6 N		133.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14A097076**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.64 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				34 mil	
ASTM D7466		Bottom				32 mil	
Specific Gravity	Average Density				g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.27
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.30
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	150 ppi			2498 psi
		TD	30 N/mm	171 ppi			2853 psi
	Average Strength @ Break	MD	34 N/mm	197 ppi			3276 psi
		TD	30 N/mm	172 ppi			2872 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	21.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	412.0	
		TD			%	512.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.4
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			258.0 N	58.0 lbs	
		TD			240.2 N	54.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				391.4 N		88.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				591.6 N		133.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14A097077**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.43 mm	56 mil	Thickness	1.52 mm	60 mil	
Measurement				Length	153.926 m	505 feet	
ASTM D5994	MAX	1.66 mm	65 mil	Width	7.01 m	23 feet	
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				30 mil	
ASTM D7466		Bottom				29 mil	
Specific Gravity	Average Density				g/cc	.944	
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.27
Grade	K307						
Carbon Black Content ASTM D4218	Range				%	2.30	
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	150 ppi	2498 psi		
		TD	30 N/mm	171 ppi	2853 psi		
	Average Strength @ Break	MD	34 N/mm	197 ppi	3276 psi		
		TD	30 N/mm	172 ppi	2872 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	21.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	412.0	
		TD			%	512.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change						% -0.4
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			258.0 N	58.0 lbs	
		TD			240.2 N	54.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				391.4 N	88.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				591.6 N	133.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs	ONGOING	

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ROLL # G14A097079**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.62 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				30 mil	
ASTM D7466		Bottom				30 mil	
Specific Gravity	Average Density				g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E			Melt Flow Index 190C/2160 g - g/10 min				.27
Grade K307							
Carbon Black Content ASTM D4218	Range				%		2.30
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	150 ppi	2498 psi		
		TD	30 N/mm	171 ppi	2853 psi		
	Average Strength @ Break	MD	34 N/mm	197 ppi	3276 psi		
		TD	30 N/mm	172 ppi	2872 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	21.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	412.0	
		TD			%	512.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.4
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD	258.0 N		58.0 lbs		
		TD	240.2 N		54.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load		391.4 N		88.0 lbs		
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load		591.6 N		133.0 lbs		
ESCR ASTM D1693	Minumum Hrs w/o Failures		1500 Hrs		CERTIFIED		
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%		300 Hrs		ONGOING		

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ROLL # G14A097080**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.48 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.62 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity		Average	Top				34 mil
ASTM D7466			Bottom				31 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.40
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	150 ppi	2498 psi	
			TD	30 N/mm	171 ppi	2853 psi	
		Average Strength @ Break	MD	34 N/mm	197 ppi	3276 psi	
			TD	30 N/mm	172 ppi	2872 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	21.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	412.0	
			TD		%	512.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.4
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		258.0 N	58.0 lbs	
			TD		240.2 N	54.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			391.4 N	88.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			591.6 N	133.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14A097081**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.67 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity	Average	Top				34 mil	
ASTM D7466		Bottom				33 mil	
Specific Gravity	Average Density				g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.27
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.10
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	150 ppi	2498 psi		
		TD	30 N/mm	171 ppi	2853 psi		
	Average Strength @ Break	MD	34 N/mm	197 ppi	3276 psi		
		TD	30 N/mm	172 ppi	2872 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	21.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	412.0	
		TD			%	512.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.4
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			258.0 N	58.0 lbs	
		TD			240.2 N	54.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				391.4 N		88.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				591.6 N		133.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14A097082**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.45 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.62 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.56 mm	61 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity		Average	Top				36 mil
ASTM D7466			Bottom				33 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.10
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	150 ppi	2498 psi	
			TD	30 N/mm	171 ppi	2853 psi	
		Average Strength @ Break	MD	34 N/mm	197 ppi	3276 psi	
			TD	30 N/mm	172 ppi	2872 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	21.0
			TD			%	15.0
		Average Elongation @Break	MD			%	412.0
			TD			%	512.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.4
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		258.0 N		58.0 lbs
			TD		240.2 N		54.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			391.4 N		88.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			591.6 N		133.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14A097083**LOT # H8240157****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.42 mm	56 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.53 mm	60 mil				
OIT(Standard) ASTM D 3895							196 minutes
Asperity		Average	Top				36 mil
ASTM D7466			Bottom				33 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	150 ppi	2498 psi	
			TD	30 N/mm	171 ppi	2853 psi	
		Average Strength @ Break	MD	34 N/mm	197 ppi	3276 psi	
			TD	30 N/mm	172 ppi	2872 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	21.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	412.0	
			TD		%	512.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.4
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		258.0 N	58.0 lbs	
			TD		240.2 N	54.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load				391.4 N	88.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load				591.6 N	133.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%				300 Hrs	ONGOING

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ROLL # G14C101015**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.56 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.65 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.61 mm	64 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	147 ppi	2456 psi	
			TD	29 N/mm	166 ppi	2774 psi	
		Average Strength @ Break	MD	35 N/mm	202 ppi	3361 psi	
			TD	33 N/mm	186 ppi	3108 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	14.0	
		Average Elongation @Break	MD		%	453.0	
			TD		%	560.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N	61.0 lbs	
			TD		253.5 N	57.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			467.0 N	105.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			636.1 N	143.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C102016**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.49 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.64 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				31 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	147 ppi	2456 psi	
			TD	29 N/mm	166 ppi	2774 psi	
		Average Strength @ Break	MD	35 N/mm	202 ppi	3361 psi	
			TD	33 N/mm	186 ppi	3108 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	14.0	
		Average Elongation @Break	MD		%	453.0	
			TD		%	560.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N	61.0 lbs	
			TD		253.5 N	57.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			467.0 N	105.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			636.1 N	143.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C102017**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.66 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.60 mm	63 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				28 mil
ASTM D7466			Bottom				31 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	147 ppi		2456 psi
			TD	29 N/mm	166 ppi		2774 psi
		Average Strength @ Break	MD	35 N/mm	202 ppi		3361 psi
			TD	33 N/mm	186 ppi		3108 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	14.0
		Average Elongation @Break	MD			%	453.0
			TD			%	560.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N		61.0 lbs
			TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			467.0 N		105.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			636.1 N		143.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C102018**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.56 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.70 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.64 mm	64 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				32 mil
ASTM D7466			Bottom				31 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	147 ppi	2456 psi	
			TD	29 N/mm	166 ppi	2774 psi	
		Average Strength @ Break	MD	35 N/mm	202 ppi	3361 psi	
			TD	33 N/mm	186 ppi	3108 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	14.0	
		Average Elongation @Break	MD		%	453.0	
			TD		%	560.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N	61.0 lbs	
			TD		253.5 N	57.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			467.0 N	105.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			636.1 N	143.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # **G14C102019**

LOT # **H8240163**

LINER TYPE **MICROSPIKE HD 60**

		METRIC	ENGLISH		METRIC	ENGLISH
Thickness	MIN	1.56 mm	61 mil	Thickness	1.52 mm	60 mil
Measurement				Length	153.926 m	505 feet
ASTM D5994	MAX	1.66 mm	66 mil	Width	7.01 m	23 feet
(Modified)	AVE	1.61 mm	63 mil			
OIT(Standard) ASTM D 3895						209 minutes
Asperity		Average	Top			27 mil
ASTM D7466			Bottom			29 mil
Specific Gravity		Average Density			g/cc	.944
ASTM D792						
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min				.27
Grade	K307					
Carbon Black Content ASTM D4218		Range			%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	147 ppi		2456 psi
		TD	29 N/mm	166 ppi		2774 psi
		MD	35 N/mm	202 ppi		3361 psi
		TD	33 N/mm	186 ppi		3108 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0
		TD			%	14.0
		MD			%	453.0
		TD			%	560.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change			%	-1.13
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		271.3 N		61.0 lbs
		TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load		467.0 N		105.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load		636.1 N		143.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures		1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%		300 Hrs		ONGOING

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ROLL # G14C102020**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.53 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				31 mil
ASTM D7466			Bottom				28 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	149 ppi	2488 psi	
			TD	28 N/mm	157 ppi	2621 psi	
		Average Strength @ Break	MD	36 N/mm	206 ppi	3432 psi	
			TD	35 N/mm	200 ppi	3325 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	15.0
		Average Elongation @Break	MD			%	486.0
			TD			%	575.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N		61.0 lbs
			TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			467.0 N		105.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			636.1 N		143.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C102021**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness Measurement	MIN	1.57 mm	62 mil		Thickness	1.52 mm	60 mil
ASTM D5994	MAX	1.68 mm	66 mil		Length	153.926 m	505 feet
(Modified)	AVE	1.62 mm	64 mil		Width	7.01 m	23 feet
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				27 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	149 ppi	2488 psi	
			TD	28 N/mm	157 ppi	2621 psi	
		Average Strength @ Break	MD	36 N/mm	206 ppi	3432 psi	
			TD	35 N/mm	200 ppi	3325 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	486.0	
			TD		%	575.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N	61.0 lbs	
			TD		253.5 N	57.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			467.0 N	105.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			636.1 N	143.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # **G14C102022**

LOT # **H8240163**

LINER TYPE **MICROSPIKE HD 60**

		METRIC	ENGLISH		METRIC	ENGLISH
Thickness	MIN	1.51 mm	59 mil	Thickness	1.52 mm	60 mil
Measurement				Length	153.926 m	505 feet
ASTM D5994	MAX	1.62 mm	64 mil	Width	7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil			
OIT(Standard) ASTM D 3895						209 minutes
Asperity		Average	Top			29 mil
ASTM D7466			Bottom			27 mil
Specific Gravity		Average Density			g/cc	.944
ASTM D792						
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min				.27
Grade K307						
Carbon Black Content ASTM D4218	Range				%	2.30
Carbon Black Dispersion ASTM D5596	Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	149 ppi		2488 psi
		TD	28 N/mm	157 ppi		2621 psi
	Average Strength @ Break	MD	36 N/mm	206 ppi		3432 psi
		TD	35 N/mm	200 ppi		3325 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0
		TD			%	15.0
	Average Elongation @Break	MD			%	486.0
		TD			%	575.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		271.3 N		61.0 lbs
		TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load			467.0 N		105.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load			636.1 N		143.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C102023**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.56 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				29 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	149 ppi		2488 psi
			TD	28 N/mm	157 ppi		2621 psi
		Average Strength @ Break	MD	36 N/mm	206 ppi		3432 psi
			TD	35 N/mm	200 ppi		3325 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	15.0
		Average Elongation @Break	MD			%	486.0
			TD			%	575.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N		61.0 lbs
			TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			467.0 N		105.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			636.1 N		143.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C102024**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	63 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				27 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	149 ppi	2488 psi	
			TD	28 N/mm	157 ppi	2621 psi	
		Average Strength @ Break	MD	36 N/mm	206 ppi	3432 psi	
			TD	35 N/mm	200 ppi	3325 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	486.0	
			TD		%	575.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		271.3 N	61.0 lbs	
			TD		253.5 N	57.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			467.0 N	105.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			636.1 N	143.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C102025**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.57 mm	62 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.67 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.61 mm	64 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				21 mil
ASTM D7466			Bottom				24 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi	2459 psi	
			TD	27 N/mm	156 ppi	2606 psi	
		Average Strength @ Break	MD	36 N/mm	204 ppi	3405 psi	
			TD	32 N/mm	183 ppi	3043 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	15.0
		Average Elongation @Break	MD			%	481.0
			TD			%	571.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		249.1 N		56.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			413.7 N		93.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C102026**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.54 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.69 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.62 mm	64 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				20 mil
ASTM D7466			Bottom				20 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi	2459 psi	
			TD	27 N/mm	156 ppi	2606 psi	
		Average Strength @ Break	MD	36 N/mm	204 ppi	3405 psi	
			TD	32 N/mm	183 ppi	3043 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	15.0
		Average Elongation @Break	MD			%	481.0
			TD			%	571.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		249.1 N		56.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			413.7 N		93.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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LINER TYPE **MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness Measurement	MIN	1.48 mm	58 mil		Thickness	1.52 mm	60 mil
ASTM D5994	MAX	1.63 mm	64 mil		Length	153.926 m	505 feet
(Modified)	AVE	1.59 mm	63 mil		Width	7.01 m	23 feet
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				20 mil
ASTM D7466			Bottom				23 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade K307							
Carbon Black Content ASTM D4218		Range				%	2.60
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 psi	2459 psi	
			TD	27 N/mm	156 psi	2606 psi	
			MD	36 N/mm	204 psi	3405 psi	
			TD	32 N/mm	183 psi	3043 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	20.0	
			TD		%	15.0	
			MD		%	481.0	
			TD		%	571.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N	60.0 lbs	
			TD		249.1 N	56.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			413.7 N	93.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N	136.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C102028**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.60 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity	Average	Top				29 mil	
ASTM D7466		Bottom				31 mil	
Specific Gravity	Average Density				g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E			Melt Flow Index 190C/2160 g - g/10 min				.27
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.30
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	148 ppi	2459 psi		
		TD	27 N/mm	156 ppi	2606 psi		
	Average Strength @ Break	MD	36 N/mm	204 ppi	3405 psi		
		TD	32 N/mm	183 ppi	3043 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	20.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	481.0	
		TD			%	571.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-1.13
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		266.9 N	60.0 lbs		
		TD		249.1 N	56.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				413.7 N		93.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				604.9 N		136.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14C103029**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.53 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.66 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.61 mm	63 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi		2459 psi
			TD	27 N/mm	156 ppi		2606 psi
		Average Strength @ Break	MD	36 N/mm	204 ppi		3405 psi
			TD	32 N/mm	183 ppi		3043 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	15.0
		Average Elongation @Break	MD			%	481.0
			TD			%	571.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		249.1 N		56.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			413.7 N		93.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C103030**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.56 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.68 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.61 mm	64 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				28 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi	2462 psi	
			TD	28 N/mm	157 ppi	2622 psi	
		Average Strength @ Break	MD	37 N/mm	214 ppi	3567 psi	
			TD	35 N/mm	197 ppi	3288 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	20.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	495.0	
			TD		%	610.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N	60.0 lbs	
			TD		249.1 N	56.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			413.7 N	93.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N	136.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C103031**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	63 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				30 mil
ASTM D7466			Bottom				29 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi	2462 psi	
			TD	28 N/mm	157 ppi	2622 psi	
		Average Strength @ Break	MD	37 N/mm	214 ppi	3567 psi	
			TD	35 N/mm	197 ppi	3288 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	15.0
		Average Elongation @Break	MD			%	495.0
			TD			%	610.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		249.1 N		56.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			413.7 N		93.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C103032**LOT # H8240163****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.55 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	63 mil				
OIT(Standard) ASTM D 3895							209 minutes
Asperity		Average	Top				28 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.27
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi	2462 psi	
			TD	28 N/mm	157 ppi	2622 psi	
		Average Strength @ Break	MD	37 N/mm	214 ppi	3567 psi	
			TD	35 N/mm	197 ppi	3288 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	20.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	495.0	
			TD		%	610.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-1.13
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		249.1 N		56.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			413.7 N		93.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C103033**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.55 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.75 mm	69 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.64 mm	65 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				32 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.40
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi		2462 psi
			TD	28 N/mm	157 ppi		2622 psi
		Average Strength @ Break	MD	37 N/mm	214 ppi		3567 psi
			TD	35 N/mm	197 ppi		3288 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	15.0
		Average Elongation @Break	MD			%	495.0
			TD			%	610.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		249.1 N		56.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			413.7 N		93.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C103034**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.52 mm	60 mil	Thickness	1.52 mm	60 mil	
Measurement				Length	153.926 m	505 feet	
ASTM D5994	MAX	1.65 mm	65 mil	Width	7.01 m	23 feet	
(Modified)	AVE	1.60 mm	63 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity	Average	Top				29 mil	
ASTM D7466		Bottom				30 mil	
Specific Gravity	Average Density				g/cc	.944	
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.25
Grade	K307						
Carbon Black Content ASTM D4218	Range				%	2.40	
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	148 ppi	2462 psi		
		TD	28 N/mm	157 ppi	2622 psi		
	Average Strength @ Break	MD	37 N/mm	214 ppi	3567 psi		
		TD	35 N/mm	197 ppi	3288 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	20.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	495.0	
		TD			%	610.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change					%	-0.54
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		266.9 N	60.0 lbs		
		TD		249.1 N	56.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				413.7 N	93.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				604.9 N	136.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs	ONGOING	

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ROLL # G14C103035**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.49 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.59 mm	62 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.56 mm	61 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	151 ppi		2524 psi
			TD	26 N/mm	150 ppi		2505 psi
		Average Strength @ Break	MD	37 N/mm	214 ppi		3562 psi
			TD	35 N/mm	201 ppi		3351 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	16.0
		Average Elongation @Break	MD			%	476.0
			TD			%	552.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N		57.0 lbs
			TD		244.6 N		55.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load				395.9 N	89.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load				618.3 N	139.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%				300 Hrs	ONGOING

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ROLL # G14C103036**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.61 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				27 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	151 ppi	2524 psi	
			TD	26 N/mm	150 ppi	2505 psi	
		Average Strength @ Break	MD	37 N/mm	214 ppi	3562 psi	
			TD	35 N/mm	201 ppi	3351 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	16.0	
		Average Elongation @Break	MD		%	476.0	
			TD		%	552.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N	57.0 lbs	
			TD		244.6 N	55.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			395.9 N	89.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			618.3 N	139.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C103037**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.55 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.61 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				28 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	151 ppi		2524 psi
			TD	26 N/mm	150 ppi		2505 psi
		Average Strength @ Break	MD	37 N/mm	214 ppi		3562 psi
			TD	35 N/mm	201 ppi		3351 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	16.0
		Average Elongation @Break	MD			%	476.0
			TD			%	552.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N		57.0 lbs
			TD		244.6 N		55.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			395.9 N		89.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			618.3 N		139.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C103038**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.52 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.60 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.56 mm	61 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				28 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	151 ppi		2524 psi
			TD	26 N/mm	150 ppi		2505 psi
		Average Strength @ Break	MD	37 N/mm	214 ppi		3562 psi
			TD	35 N/mm	201 ppi		3351 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	16.0
		Average Elongation @Break	MD			%	476.0
			TD			%	552.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N		57.0 lbs
			TD		244.6 N		55.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load				395.9 N	89.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load				618.3 N	139.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%				300 Hrs	ONGOING

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ROLL # G14C103039**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.64 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				32 mil
ASTM D7466			Bottom				29 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	151 ppi		2524 psi
			TD	26 N/mm	150 ppi		2505 psi
		Average Strength @ Break	MD	37 N/mm	214 ppi		3562 psi
			TD	35 N/mm	201 ppi		3351 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	16.0
		Average Elongation @Break	MD			%	476.0
			TD			%	552.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N		57.0 lbs
			TD		244.6 N		55.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load				395.9 N	89.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load				618.3 N	139.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%				300 Hrs	ONGOING

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ROLL # G14C103040**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.56 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.70 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.61 mm	63 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				25 mil
ASTM D7466			Bottom				29 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	147 ppi		2448 psi
			TD	28 N/mm	159 ppi		2658 psi
		Average Strength @ Break	MD	35 N/mm	201 ppi		3351 psi
			TD	30 N/mm	172 ppi		2865 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	15.0
		Average Elongation @Break	MD			%	466.0
			TD			%	514.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N		57.0 lbs
			TD		244.6 N		55.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			395.9 N		89.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			618.3 N		139.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C103041**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.54 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.71 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.60 mm	63 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity	Average	Top				28 mil	
ASTM D7466		Bottom				28 mil	
Specific Gravity	Average Density				g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.25
Grade K307							
Carbon Black Content ASTM D4218	Range				%		2.30
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	147 ppi	2448 psi		
		TD	28 N/mm	159 ppi	2658 psi		
	Average Strength @ Break	MD	35 N/mm	201 ppi	3351 psi		
		TD	30 N/mm	172 ppi	2865 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	466.0	
		TD			%	514.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.54
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			253.5 N	57.0 lbs	
		TD			244.6 N	55.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				395.9 N		89.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				618.3 N		139.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14C104042**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.54 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.60 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				23 mil
ASTM D7466			Bottom				23 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	147 ppi	2448 psi	
			TD	28 N/mm	159 ppi	2658 psi	
		Average Strength @ Break	MD	35 N/mm	201 ppi	3351 psi	
			TD	30 N/mm	172 ppi	2865 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	466.0	
			TD		%	514.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N	57.0 lbs	
			TD		244.6 N	55.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			395.9 N	89.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			618.3 N	139.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C104043**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC		ENGLISH		METRIC		ENGLISH			
Thickness	MIN	1.47	mm	58	mil	Thickness	1.52	mm	60	mil	
Measurement						Length	153.926	m	505	feet	
ASTM D5994	MAX	1.65	mm	65	mil	Width	7.01	m	23	feet	
(Modified)	AVE	1.58	mm	62	mil						
OIT(Standard) ASTM D 3895									195 minutes		
Asperity		Average	Top						37 mil		
ASTM D7466			Bottom						39 mil		
Specific Gravity		Average Density					g/cc		.944		
ASTM D792											
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min							.25		
Grade	K307										
Carbon Black Content ASTM D4218		Range					%		2.30		
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1				
Tensile Strength	ASTM D6693	(2 inches / minute)	Average Strength @ Yield	MD	26	N/mm	147	ppi	2448	psi	
				TD	28	N/mm	159	ppi	2658	psi	
				MD	35	N/mm	201	ppi	3351	psi	
				TD	30	N/mm	172	ppi	2865	psi	
Tensile Elongation	ASTM D6693	(2 inches / minute) Lo	Average Elongation @ Yield	MD				%	19.0		
				TD				%	15.0		
				MD				%	466.0		
				TD				%	514.0		
= 1.3" Yield	Lo = 2.0" Break	Average Elongation @Break									
Dimensional Stability		Average Dimensional Change					%		-0.54		
ASTM D1204 (Modified)											
Tear Resistance	ASTM D1004 (Modified)	Average Tear Resistance		MD		253.5	N		57.0	lbs	
				TD		244.6	N		55.0	lbs	
Puncture Resistance		Average Peak Load					395.9		N		
FTMS 101 Method 2065 Modified										89.0 lbs	
Puncture Resistance		Average Peak Load					618.3		N		
ASTM D4833 (Modified)										139.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures					1500 Hrs		CERTIFIED		
Notched Constant Tensile Load		Pass/Fail @ 30%					300 Hrs		ONGOING		
ASTM D5397											

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ROLL # G14C104044**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.54 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.69 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.62 mm	64 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				30 mil
ASTM D7466			Bottom				29 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	147 ppi		2448 psi
			TD	28 N/mm	159 ppi		2658 psi
		Average Strength @ Break	MD	35 N/mm	201 ppi		3351 psi
			TD	30 N/mm	172 ppi		2865 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	15.0
		Average Elongation @Break	MD			%	466.0
			TD			%	514.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N		57.0 lbs
			TD		244.6 N		55.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			395.9 N		89.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			618.3 N		139.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C104045		LOT # H8240200		LINER TYPE MICROSPIKE HD 60			
		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness	1.52 mm	60 mil	
Measurement							
ASTM D5994	MAX	1.68 mm	66 mil	Length	153.926 m	505 feet	
(Modified)	AVE	1.61 mm	63 mil	Width	7.01 m	23 feet	
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				35 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category			10 in Category 1		
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	152 ppi	2525 psi	
			TD	30 N/mm	169 ppi	2815 psi	
		Average Strength @ Break	MD	37 N/mm	210 ppi	3495 psi	
			TD	36 N/mm	206 ppi	3427 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	16.0
		Average Elongation @Break	MD			%	459.0
			TD			%	600.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N	60.0 lbs	
			TD		253.5 N	57.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			440.4 N	99.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N	136.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C104046**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.49 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.65 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	63 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	152 ppi	2525 psi	
			TD	30 N/mm	169 ppi	2815 psi	
		Average Strength @ Break	MD	37 N/mm	210 ppi	3495 psi	
			TD	36 N/mm	206 ppi	3427 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	20.0	
			TD		%	16.0	
		Average Elongation @Break	MD		%	459.0	
			TD		%	600.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N	60.0 lbs	
			TD		253.5 N	57.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			440.4 N	99.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N	136.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C104049**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.73 mm	68 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity	Average	Top				35 mil	
ASTM D7466		Bottom				32 mil	
Specific Gravity	Average Density				g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.25
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.20
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	27 N/mm	152 ppi			2525 psi
		TD	30 N/mm	169 ppi			2815 psi
	Average Strength @ Break	MD	37 N/mm	210 ppi			3495 psi
		TD	36 N/mm	206 ppi			3427 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	20.0	
		TD			%	16.0	
	Average Elongation @Break	MD			%	459.0	
		TD			%	600.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.54
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			266.9 N	60.0 lbs	
		TD			253.5 N	57.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				440.4 N		99.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				604.9 N		136.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14C104050**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.67 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				32 mil
ASTM D7466			Bottom				33 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	152 ppi	2525 psi	
			TD	30 N/mm	169 ppi	2815 psi	
		Average Strength @ Break	MD	37 N/mm	210 ppi	3495 psi	
			TD	36 N/mm	206 ppi	3427 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	16.0
		Average Elongation @Break	MD			%	459.0
			TD			%	600.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			440.4 N		99.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C104051**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC		ENGLISH		METRIC		ENGLISH		
Thickness	MIN	1.50	mm	59	mil	Thickness	1.52	mm	60	mil
Measurement						Length	153.926	m	505	feet
ASTM D5994	MAX	1.76	mm	69	mil	Width	7.01	m	23	feet
(Modified)	AVE	1.58	mm	62	mil					
OIT(Standard) ASTM D 3895									195	minutes
Asperity		Average	Top						31	mil
ASTM D7466			Bottom						31	mil
Specific Gravity		Average Density				g/cc			.944	
ASTM D792										
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min								.25
Grade	K307									
Carbon Black Content ASTM D4218		Range				%			2.20	
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1				
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield		MD	27	N/mm	152	ppi	2525	psi
				TD	30	N/mm	169	ppi	2815	psi
		Average Strength @ Break		MD	37	N/mm	210	ppi	3495	psi
				TD	36	N/mm	206	ppi	3427	psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield		MD				%	20.0	
				TD				%	16.0	
		Average Elongation @Break		MD				%	459.0	
				TD				%	600.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change						%	-0.54	
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance		MD		266.9	N		60.0	lbs
				TD		253.5	N		57.0	lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load				440.4		N	99.0	lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load				604.9		N	136.0	lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures				1500		Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%				300		Hrs	ONGOING	

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ROLL # G14C104052**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.65 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				32 mil
ASTM D7466			Bottom				34 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	140 ppi		2330 psi
			TD	28 N/mm	160 ppi		2664 psi
		Average Strength @ Break	MD	37 N/mm	210 ppi		3505 psi
			TD	35 N/mm	201 ppi		3346 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	22.0
			TD			%	15.0
		Average Elongation @Break	MD			%	470.0
			TD			%	595.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			440.4 N		99.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C104053**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.66 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity	Average	Top				31 mil	
ASTM D7466		Bottom				30 mil	
Specific Gravity	Average Density				g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E			Melt Flow Index 190C/2160 g - g/10 min				.25
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.20
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	24 N/mm	140 ppi	2330 psi		
		TD	28 N/mm	160 ppi	2664 psi		
	Average Strength @ Break	MD	37 N/mm	210 ppi	3505 psi		
		TD	35 N/mm	201 ppi	3346 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	22.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	470.0	
		TD			%	595.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.54
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD	266.9 N		60.0 lbs		
		TD	253.5 N		57.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load		440.4 N		99.0 lbs		
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load		604.9 N		136.0 lbs		
ESCR ASTM D1693	Minumum Hrs w/o Failures		1500 Hrs		CERTIFIED		
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%		300 Hrs		ONGOING		

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ROLL # G14C104054**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.61 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.53 mm	60 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	140 ppi	2330 psi	
			TD	28 N/mm	160 ppi	2664 psi	
		Average Strength @ Break	MD	37 N/mm	210 ppi	3505 psi	
			TD	35 N/mm	201 ppi	3346 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	22.0
			TD			%	15.0
		Average Elongation @Break	MD			%	470.0
			TD			%	595.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			440.4 N		99.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C104055**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.49 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.68 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.56 mm	61 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				28 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	140 ppi		2330 psi
			TD	28 N/mm	160 ppi		2664 psi
		Average Strength @ Break	MD	37 N/mm	210 ppi		3505 psi
			TD	35 N/mm	201 ppi		3346 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	22.0
			TD			%	15.0
		Average Elongation @Break	MD			%	470.0
			TD			%	595.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			440.4 N		99.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C105056**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.69 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				29 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	140 ppi	2330 psi	
			TD	28 N/mm	160 ppi	2664 psi	
		Average Strength @ Break	MD	37 N/mm	210 ppi	3505 psi	
			TD	35 N/mm	201 ppi	3346 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	22.0
			TD			%	15.0
		Average Elongation @Break	MD			%	470.0
			TD			%	595.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		266.9 N		60.0 lbs
			TD		253.5 N		57.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			440.4 N		99.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C105057**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.68 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				28 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	135 ppi		2245 psi
			TD	26 N/mm	147 ppi		2455 psi
		Average Strength @ Break	MD	33 N/mm	191 ppi		3175 psi
			TD	33 N/mm	186 ppi		3094 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	16.0
		Average Elongation @Break	MD			%	455.0
			TD			%	597.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		275.8 N		62.0 lbs
			TD		258.0 N		58.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			449.2 N		101.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C105058**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.68 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.20
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	135 ppi		2245 psi
			TD	26 N/mm	147 ppi		2455 psi
		Average Strength @ Break	MD	33 N/mm	191 ppi		3175 psi
			TD	33 N/mm	186 ppi		3094 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	16.0
		Average Elongation @Break	MD			%	455.0
			TD			%	597.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		275.8 N		62.0 lbs
			TD		258.0 N		58.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			449.2 N		101.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C105059**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.65 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				31 mil
Specific Gravity		Average Density			g/cc		.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	135 ppi	2245 psi	
			TD	26 N/mm	147 ppi	2455 psi	
		Average Strength @ Break	MD	33 N/mm	191 ppi	3175 psi	
			TD	33 N/mm	186 ppi	3094 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	20.0	
			TD		%	16.0	
		Average Elongation @Break	MD		%	455.0	
			TD		%	597.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		275.8 N	62.0 lbs	
			TD		258.0 N	58.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			449.2 N	101.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N	136.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C105060**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.64 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.56 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				35 mil
ASTM D7466			Bottom				32 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	135 ppi	2245 psi	
			TD	26 N/mm	147 ppi	2455 psi	
		Average Strength @ Break	MD	33 N/mm	191 ppi	3175 psi	
			TD	33 N/mm	186 ppi	3094 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	16.0
		Average Elongation @Break	MD			%	455.0
			TD			%	597.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		275.8 N		62.0 lbs
			TD		258.0 N		58.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			449.2 N		101.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C105061**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.71 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							195 minutes
Asperity		Average	Top				34 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density				g/cc	.944
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.20
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	24 N/mm	135 ppi		2245 psi
			TD	26 N/mm	147 ppi		2455 psi
		Average Strength @ Break	MD	33 N/mm	191 ppi		3175 psi
			TD	33 N/mm	186 ppi		3094 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	20.0
			TD			%	16.0
		Average Elongation @Break	MD			%	455.0
			TD			%	597.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.54
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		275.8 N		62.0 lbs
			TD		258.0 N		58.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			449.2 N		101.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C105062**LOT # H8240200****LINER TYPE MICROSPIKE HD 60**

		METRIC		ENGLISH				METRIC		ENGLISH	
Thickness	MIN	1.50 mm		59 mil				Thickness	1.52 mm		60 mil
Measurement								Length	153.926 m		505 feet
ASTM D5994	MAX	1.75 mm		69 mil				Width	7.01 m		23 feet
(Modified)	AVE	1.58 mm		62 mil							
OIT(Standard) ASTM D 3895											195 minutes
Asperity	Average			Top						34 mil	
ASTM D7466				Bottom						31 mil	
Specific Gravity			Average Density				g/cc				.944
ASTM D792											
MFI ASTM D1238 COND. E										.25	
Grade	K307										
Carbon Black Content ASTM D4218		Range						%		2.20	
Carbon Black Dispersion ASTM D5596		Category								10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield		MD	24 N/mm		139 ppi		2321 psi			
			TD	28 N/mm		158 ppi		2637 psi			
	Average Strength @ Break		MD	37 N/mm		213 ppi		3548 psi			
			TD	35 N/mm		199 ppi		3314 psi			
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield		MD					%		21.0	
			TD					%		16.0	
	Average Elongation @Break		MD					%		466.0	
			TD					%		603.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change						%		-0.54	
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance		MD			275.8 N		62.0 lbs			
			TD			258.0 N		58.0 lbs			
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load				449.2 N		101.0 lbs			
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load				604.9 N		136.0 lbs			
ESCR ASTM D1693		Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED			
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%				300 Hrs		ONGOING			

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ROLL # G14C105063**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.48 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.66 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity	Average	Top				35 mil	
ASTM D7466		Bottom				32 mil	
Specific Gravity	Average Density				g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.26
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.20
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	24 N/mm	139 ppi	2321 psi		
		TD	28 N/mm	158 ppi	2637 psi		
	Average Strength @ Break	MD	37 N/mm	213 ppi	3548 psi		
		TD	35 N/mm	199 ppi	3314 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	21.0	
		TD			%	16.0	
	Average Elongation @Break	MD			%	466.0	
		TD			%	603.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.83
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		275.8 N	62.0 lbs		
		TD		258.0 N	58.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				449.2 N		101.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				604.9 N		136.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14C105064**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	59 mil	Thickness	1.52 mm	60 mil	
Measurement				Length	153.926 m	505 feet	
ASTM D5994	MAX	1.69 mm	67 mil	Width	7.01 m	23 feet	
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity	Average	Top				34 mil	
ASTM D7466		Bottom				31 mil	
Specific Gravity	Average Density				g/cc	.943	
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.26
Grade	K307						
Carbon Black Content ASTM D4218	Range				%	2.20	
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	24 N/mm	139 ppi	2321 psi		
		TD	28 N/mm	158 ppi	2637 psi		
	Average Strength @ Break	MD	37 N/mm	213 ppi	3548 psi		
		TD	35 N/mm	199 ppi	3314 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	21.0	
		TD			%	16.0	
	Average Elongation @Break	MD			%	466.0	
		TD			%	603.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.83
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		275.8 N	62.0 lbs		
		TD		258.0 N	58.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				449.2 N	101.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				604.9 N	136.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs	ONGOING	

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ROLL # G14C105065**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.48 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.66 mm	65 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity	Average	Top				33 mil	
ASTM D7466		Bottom				32 mil	
Specific Gravity	Average Density				g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.26
Grade	K307						
Carbon Black Content ASTM D4218	Range				%		2.20
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength	Average Strength @ Yield	MD	24 N/mm	139 ppi	2321 psi		
		TD	28 N/mm	158 ppi	2637 psi		
		Average Strength @ Break	MD	37 N/mm	213 ppi	3548 psi	
			TD	35 N/mm	199 ppi	3314 psi	
ASTM D6693	Average Elongation @ Yield	MD			%	21.0	
		TD			%	16.0	
		Average Elongation @Break	MD			%	466.0
			TD			%	603.0
(2 inches / minute)							
Tensile Elongation	Average Elongation @ Yield	MD			%	21.0	
ASTM D6693		TD			%	16.0	
(2 inches / minute) Lo	Average Elongation @Break	MD			%	466.0	
= 1.3" Yield		TD			%	603.0	
Lo = 2.0" Break							
Dimensional Stability	Average Dimensional Change				%		-0.83
ASTM D1204 (Modified)							
Tear Resistance	Average Tear Resistance	MD		275.8 N	62.0 lbs		
		TD		258.0 N	58.0 lbs		
ASTM D1004 (Modified)							
Puncture Resistance	Average Peak Load				449.2 N		101.0 lbs
FTMS 101 Method 2065 Modified							
Puncture Resistance	Average Peak Load				604.9 N		136.0 lbs
ASTM D4833 (Modified)							
ESCR ASTM D1693	Minumum Hrs w/o Failures		1500 Hrs				CERTIFIED
Notched Constant Tensile Load	Pass/Fail @ 30%		300 Hrs				ONGOING
ASTM D5397							

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ROLL # G14C105066**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC		ENGLISH		METRIC		ENGLISH			
Thickness	MIN	1.49	mm	59	mil	Thickness	1.52	mm	60	mil	
Measurement						Length	153.926	m	505	feet	
ASTM D5994	MAX	1.59	mm	62	mil	Width	7.01	m	23	feet	
(Modified)	AVE	1.54	mm	61	mil						
OIT(Standard) ASTM D 3895									200 minutes		
Asperity		Average	Top						28 mil		
ASTM D7466			Bottom						30 mil		
Specific Gravity		Average Density					g/cc		.943		
ASTM D792											
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min								.26	
Grade	K307										
Carbon Black Content ASTM D4218		Range					%		2.20		
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1				
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield		MD	24	N/mm	139	ppi	2321	psi	
				TD	28	N/mm	158	ppi	2637	psi	
		Average Strength @ Break		MD	37	N/mm	213	ppi	3548	psi	
				TD	35	N/mm	199	ppi	3314	psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield		MD				%	21.0		
				TD				%	16.0		
		Average Elongation @Break		MD				%	466.0		
				TD				%	603.0		
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change						%		-0.83	
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance		MD			275.8	N	62.0	lbs	
				TD			258.0	N	58.0	lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load					449.2		N	101.0	lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load					604.9		N	136.0	lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures					1500		Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%					300		Hrs	ONGOING	

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ROLL # G14C105067**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC		ENGLISH		METRIC		ENGLISH			
Thickness	MIN	1.49	mm	59	mil	Thickness	1.52	mm	60	mil	
Measurement						Length	153.926	m	505	feet	
ASTM D5994	MAX	1.66	mm	65	mil	Width	7.01	m	23	feet	
(Modified)	AVE	1.55	mm	61	mil						
OIT(Standard) ASTM D 3895									200 minutes		
Asperity		Average	Top						27 mil		
ASTM D7466			Bottom						27 mil		
Specific Gravity		Average Density					g/cc		.943		
ASTM D792											
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min								.26	
Grade	K307										
Carbon Black Content ASTM D4218		Range					%		2.20		
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1				
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield		MD	25	N/mm	145	ppi	2420	psi	
				TD	28	N/mm	158	ppi	2634	psi	
		Average Strength @ Break		MD	36	N/mm	206	ppi	3440	psi	
				TD	35	N/mm	203	ppi	3378	psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield		MD				%	19.0		
				TD				%	17.0		
		Average Elongation @Break		MD				%	480.0		
				TD				%	596.0		
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change						%		-0.83	
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance		MD			284.7	N	64.0	lbs	
				TD			235.7	N	53.0	lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load					480.4		N	108.0	lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load					578.2		N	130.0	lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures					1500		Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%					300		Hrs	ONGOING	

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ROLL # G14C105068**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.45 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.56 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity	Average	Top				24 mil	
ASTM D7466		Bottom				29 mil	
Specific Gravity	Average Density				g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E			Melt Flow Index 190C/2160 g - g/10 min				.26
Grade K307							
Carbon Black Content ASTM D4218	Range				%		2.20
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	25 N/mm	145 ppi	2420 psi		
		TD	28 N/mm	158 ppi	2634 psi		
	Average Strength @ Break	MD	36 N/mm	206 ppi	3440 psi		
		TD	35 N/mm	203 ppi	3378 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0	
		TD			%	17.0	
	Average Elongation @Break	MD			%	480.0	
		TD			%	596.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.83
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD	284.7 N		64.0 lbs		
		TD	235.7 N		53.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load		480.4 N		108.0 lbs		
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load		578.2 N		130.0 lbs		
ESCR ASTM D1693	Minumum Hrs w/o Failures		1500 Hrs		CERTIFIED		
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%		300 Hrs		ONGOING		

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ROLL # G14C105069**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	57 mil	Thickness	1.52 mm	60 mil	
Measurement	MAX	1.62 mm	64 mil	Length	153.926 m	505 feet	
ASTM D5994	AVE	1.56 mm	61 mil	Width	7.01 m	23 feet	
(Modified)							
OIT(Standard) ASTM D 3895						200 minutes	
Asperity	Average	Top				26 mil	
ASTM D7466		Bottom				29 mil	
Specific Gravity	Average Density				g/cc	.943	
ASTM D792							
MFI ASTM D1238 COND. E							
Grade	K307	Melt Flow Index 190C/2160 g - g/10 min				.26	
Carbon Black Content ASTM D4218	Range				%	2.20	
Carbon Black Dispersion ASTM D5596	Category				10 in Category 1		
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	25 N/mm	145 ppi	2420 psi		
		TD	28 N/mm	158 ppi	2634 psi		
	Average Strength @ Break	MD	36 N/mm	206 ppi	3440 psi		
		TD	35 N/mm	203 ppi	3378 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD		%	19.0		
		TD		%	17.0		
	Average Elongation @Break	MD		%	480.0		
		TD		%	596.0		
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%	-0.83	
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		284.7 N	64.0 lbs		
		TD		235.7 N	53.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				480.4 N	108.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				578.2 N	130.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs	ONGOING	

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ROLL # G14C106070**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.43 mm	56 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.61 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity	Average	Top				26 mil	
ASTM D7466		Bottom				29 mil	
Specific Gravity	Average Density				g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.26
Grade K307							
Carbon Black Content ASTM D4218	Range				%		2.20
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	25 N/mm	145 ppi	2420 psi		
		TD	28 N/mm	158 ppi	2634 psi		
	Average Strength @ Break	MD	36 N/mm	206 ppi	3440 psi		
		TD	35 N/mm	203 ppi	3378 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0	
		TD			%	17.0	
	Average Elongation @Break	MD			%	480.0	
		TD			%	596.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.83
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			284.7 N	64.0 lbs	
		TD			235.7 N	53.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				480.4 N		108.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				578.2 N		130.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14C106071**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.49 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.61 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.56 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				29 mil
Specific Gravity		Average Density			g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.26
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	25 N/mm	145 ppi	2420 psi	
			TD	28 N/mm	158 ppi	2634 psi	
		Average Strength @ Break	MD	36 N/mm	206 ppi	3440 psi	
			TD	35 N/mm	203 ppi	3378 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	17.0	
		Average Elongation @Break	MD		%	480.0	
			TD		%	596.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.83
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		284.7 N	64.0 lbs	
			TD		235.7 N	53.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			480.4 N	108.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			578.2 N	130.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C106072**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness	1.52 mm	60 mil	
Measurement				Length	153.926 m	505 feet	
ASTM D5994	MAX	1.65 mm	65 mil	Width	7.01 m	23 feet	
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895						200 minutes	
Asperity		Average	Top			27 mil	
ASTM D7466			Bottom			30 mil	
Specific Gravity		Average Density			g/cc	.943	
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min				.26	
Grade	K307						
Carbon Black Content ASTM D4218		Range			%	2.20	
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield		MD	27 N/mm	154 ppi	2572 psi
				TD	29 N/mm	163 ppi	2723 psi
		Average Strength @ Break		MD	37 N/mm	213 ppi	3546 psi
				TD	38 N/mm	219 ppi	3643 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield		MD		%	20.0
				TD		%	19.0
		Average Elongation @Break		MD		%	469.0
				TD		%	610.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.83
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance		MD	284.7 N		64.0 lbs
				TD	235.7 N		53.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			480.4 N		108.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			578.2 N		130.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # **G14C106073**

LOT # **H8240208**

LINER TYPE **MICROSPIKE HD 60**

		METRIC	ENGLISH		METRIC	ENGLISH
Thickness	MIN	1.48 mm	58 mil	Thickness	1.52 mm	60 mil
Measurement				Length	153.926 m	505 feet
ASTM D5994	MAX	1.67 mm	66 mil	Width	7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil			
OIT(Standard) ASTM D 3895						200 minutes
Asperity		Average	Top			25 mil
ASTM D7466			Bottom			29 mil
Specific Gravity		Average Density			g/cc	.943
ASTM D792						
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min				.26
Grade K307						
Carbon Black Content ASTM D4218	Range				%	2.20
Carbon Black Dispersion ASTM D5596	Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	27 N/mm	154 ppi		2572 psi
		TD	29 N/mm	163 ppi		2723 psi
	Average Strength @ Break	MD	37 N/mm	213 ppi		3546 psi
		TD	38 N/mm	219 ppi		3643 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	20.0
		TD			%	19.0
	Average Elongation @Break	MD			%	469.0
		TD			%	610.0
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%	-0.83
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		284.7 N		64.0 lbs
		TD		235.7 N		53.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load			480.4 N		108.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load			578.2 N		130.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C106076**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC		ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47	mm	58 mil	Thickness	1.52	mm	60 mil
Measurement	MAX	1.64	mm	65 mil	Length	153.926	m	505 feet
ASTM D5994	AVE	1.53	mm	60 mil	Width	7.01	m	23 feet
(Modified)								
OIT(Standard) ASTM D 3895								200 minutes
Asperity	Average	Top						29 mil
ASTM D7466		Bottom						30 mil
Specific Gravity	Average Density		g/cc				.943	
ASTM D792								
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.26	
Grade	K307							
Carbon Black Content ASTM D4218	Range		%				2.30	
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	27	N/mm	154	ppi	2572	psi
		TD	29	N/mm	163	ppi	2723	psi
	Average Strength @ Break	MD	37	N/mm	213	ppi	3546	psi
		TD	38	N/mm	219	ppi	3643	psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD				%	20.0	
		TD				%	19.0	
	Average Elongation @Break	MD				%	469.0	
		TD				%	610.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change						%	-0.83
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		284.7	N		64.0	lbs
		TD		235.7	N		53.0	lbs
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				480.4		N	108.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				578.2		N	130.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING	

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ROLL # G14C106079**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.48 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.68 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				28 mil
Specific Gravity		Average Density			g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.26
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi	2466 psi	
			TD	28 N/mm	158 ppi	2630 psi	
		Average Strength @ Break	MD	37 N/mm	211 ppi	3511 psi	
			TD	35 N/mm	200 ppi	3335 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	16.0	
		Average Elongation @Break	MD		%	494.0	
			TD		%	604.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.83
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N	57.0 lbs	
			TD		235.7 N	53.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			444.8 N	100.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			627.2 N	141.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C106080**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.43 mm	56 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.58 mm	62 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity		Average	Top				27 mil
ASTM D7466			Bottom				29 mil
Specific Gravity		Average Density				g/cc	.943
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.26
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.40
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	148 ppi	2466 psi	
			TD	28 N/mm	158 ppi	2630 psi	
		Average Strength @ Break	MD	37 N/mm	211 ppi	3511 psi	
			TD	35 N/mm	200 ppi	3335 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	16.0
		Average Elongation @Break	MD			%	494.0
			TD			%	604.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.83
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N		57.0 lbs
			TD		235.7 N		53.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			444.8 N		100.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			627.2 N		141.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C106081**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.59 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity	Average	Top				29 mil	
ASTM D7466		Bottom				30 mil	
Specific Gravity	Average Density				g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.26
Grade K307							
Carbon Black Content ASTM D4218	Range				%		2.40
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	148 ppi	2466 psi		
		TD	28 N/mm	158 ppi	2630 psi		
	Average Strength @ Break	MD	37 N/mm	211 ppi	3511 psi		
		TD	35 N/mm	200 ppi	3335 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0	
		TD			%	16.0	
	Average Elongation @Break	MD			%	494.0	
		TD			%	604.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.83
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			253.5 N	57.0 lbs	
		TD			235.7 N	53.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				444.8 N		100.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				627.2 N		141.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14C106082**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.47 mm	58 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.68 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.56 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity	Average	Top				27 mil	
ASTM D7466		Bottom				28 mil	
Specific Gravity	Average Density			g/cc		.943	
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min					.26	
Grade K307							
Carbon Black Content ASTM D4218	Range			%		2.30	
Carbon Black Dispersion ASTM D5596	Category					10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	146 ppi		2436 psi	
		TD	24 N/mm	135 ppi		2254 psi	
	Average Strength @ Break	MD	37 N/mm	213 ppi		3553 psi	
		TD	34 N/mm	192 ppi		3208 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	29.0	
		TD			%	27.0	
	Average Elongation @Break	MD			%	505.0	
		TD			%	590.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change					%	-0.83
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		253.5 N		57.0 lbs	
		TD		235.7 N		53.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load			444.8 N		100.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load			627.2 N		141.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%			300 Hrs		ONGOING	

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ROLL # G14C107083**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.62 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.55 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity		Average	Top				25 mil
ASTM D7466			Bottom				28 mil
Specific Gravity		Average Density				g/cc	.943
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.26
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	146 ppi		2436 psi
			TD	24 N/mm	135 ppi		2254 psi
		Average Strength @ Break	MD	37 N/mm	213 ppi		3553 psi
			TD	34 N/mm	192 ppi		3208 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	29.0
			TD			%	27.0
		Average Elongation @Break	MD			%	505.0
			TD			%	590.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.83
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N		57.0 lbs
			TD		235.7 N		53.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load				444.8 N	100.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load				627.2 N	141.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%				300 Hrs	ONGOING

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ROLL # G14C107084**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness	1.52 mm	60 mil	
Measurement	MAX	1.66 mm	65 mil	Length	153.926 m	505 feet	
ASTM D5994	AVE	1.57 mm	62 mil	Width	7.01 m	23 feet	
(Modified)							
OIT(Standard) ASTM D 3895							200 minutes
Asperity	Average	Top				27 mil	
ASTM D7466		Bottom				27 mil	
Specific Gravity	Average Density				g/cc	.943	
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.26
Grade	K307						
Carbon Black Content ASTM D4218	Range				%	2.30	
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	146 ppi	2436 psi		
		TD	24 N/mm	135 ppi	2254 psi		
	Average Strength @ Break	MD	37 N/mm	213 ppi	3553 psi		
		TD	34 N/mm	192 ppi	3208 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD		%	29.0		
		TD		%	27.0		
	Average Elongation @Break	MD		%	505.0		
		TD		%	590.0		
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%	-0.83	
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		253.5 N	57.0 lbs		
		TD		235.7 N	53.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				444.8 N	100.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				627.2 N	141.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs	ONGOING	

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ROLL # G14C107085**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.45 mm	57 mil	Thickness	1.52 mm	60 mil	
Measurement				Length	153.926 m	505 feet	
ASTM D5994	MAX	1.67 mm	66 mil	Width	7.01 m	23 feet	
(Modified)	AVE	1.54 mm	61 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity		Average	Top				34 mil
ASTM D7466			Bottom				31 mil
Specific Gravity		Average Density			g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.26
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category			10 in Category 1		
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	146 ppi	2436 psi	
			TD	24 N/mm	135 ppi	2254 psi	
		Average Strength @ Break	MD	37 N/mm	213 ppi	3553 psi	
			TD	34 N/mm	192 ppi	3208 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	29.0	
			TD		%	27.0	
		Average Elongation @Break	MD		%	505.0	
			TD		%	590.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.83
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		253.5 N	57.0 lbs	
			TD		235.7 N	53.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			444.8 N	100.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			627.2 N	141.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C107088**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.69 mm	66 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity		Average	Top				36 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.26
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	153 ppi	2550 psi	
			TD	30 N/mm	170 ppi	2826 psi	
		Average Strength @ Break	MD	38 N/mm	216 ppi	3607 psi	
			TD	37 N/mm	212 ppi	3532 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	450.0	
			TD		%	625.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.83
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		249.1 N		56.0 lbs
			TD		231.3 N		52.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			431.5 N		97.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C107089**LOT # H8240208****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.46 mm	57 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.70 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							200 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.943
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.26
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	153 ppi	2550 psi	
			TD	30 N/mm	170 ppi	2826 psi	
		Average Strength @ Break	MD	38 N/mm	216 ppi	3607 psi	
			TD	37 N/mm	212 ppi	3532 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	450.0	
			TD		%	625.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.83
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		249.1 N	56.0 lbs	
			TD		231.3 N	52.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			431.5 N	97.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N	136.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C107090**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.50 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.70 mm	67 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.58 mm	62 mil				
OIT(Standard) ASTM D 3895							204 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				31 mil
Specific Gravity		Average Density				g/cc	.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.20
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	153 ppi		2550 psi
			TD	30 N/mm	170 ppi		2826 psi
		Average Strength @ Break	MD	38 N/mm	216 ppi		3607 psi
			TD	37 N/mm	212 ppi		3532 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	19.0
			TD			%	15.0
		Average Elongation @Break	MD			%	450.0
			TD			%	625.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.43
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		249.1 N		56.0 lbs
			TD		231.3 N		52.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			431.5 N		97.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C107091**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.52 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.73 mm	68 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.60 mm	63 mil				
OIT(Standard) ASTM D 3895							204 minutes
Asperity		Average	Top				37 mil
ASTM D7466			Bottom				34 mil
Specific Gravity		Average Density			g/cc		.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm	153 ppi	2550 psi	
			TD	30 N/mm	170 ppi	2826 psi	
		Average Strength @ Break	MD	38 N/mm	216 ppi	3607 psi	
			TD	37 N/mm	212 ppi	3532 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	19.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	450.0	
			TD		%	625.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change					% -0.43
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		249.1 N	56.0 lbs	
			TD		231.3 N	52.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			431.5 N	97.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N	136.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs	ONGOING	

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ROLL # G14C107092**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							204 minutes
Asperity	Average	Top				27 mil	
ASTM D7466		Bottom				30 mil	
Specific Gravity	Average Density				g/cc		.946
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.25
Grade K307							
Carbon Black Content ASTM D4218	Range				%		2.30
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	146 ppi	2438 psi		
		TD	28 N/mm	158 ppi	2628 psi		
	Average Strength @ Break	MD	38 N/mm	218 ppi	3641 psi		
		TD	34 N/mm	195 ppi	3254 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	22.0	
		TD			%	15.0	
	Average Elongation @Break	MD			%	437.0	
		TD			%	583.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change				%		-0.43
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		249.1 N	56.0 lbs		
		TD		231.3 N	52.0 lbs		
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				431.5 N		97.0 lbs
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				604.9 N		136.0 lbs
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs		ONGOING

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ROLL # G14C107093**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.51 mm	59 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.61 mm	63 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil				
OIT(Standard) ASTM D 3895							204 minutes
Asperity		Average	Top				29 mil
ASTM D7466			Bottom				28 mil
Specific Gravity		Average Density			g/cc		.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	146 ppi	2438 psi	
			TD	28 N/mm	158 ppi	2628 psi	
		Average Strength @ Break	MD	38 N/mm	218 ppi	3641 psi	
			TD	34 N/mm	195 ppi	3254 psi	
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD		%	22.0	
			TD		%	15.0	
		Average Elongation @Break	MD		%	437.0	
			TD		%	583.0	
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.43
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		249.1 N		56.0 lbs
			TD		231.3 N		52.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			431.5 N		97.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C107094**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.55 mm	61 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.62 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	62 mil				
OIT(Standard) ASTM D 3895							204 minutes
Asperity		Average	Top				31 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density			g/cc		.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range			%		2.30
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	146 ppi		2438 psi
			TD	28 N/mm	158 ppi		2628 psi
		Average Strength @ Break	MD	38 N/mm	218 ppi		3641 psi
			TD	34 N/mm	195 ppi		3254 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	22.0
			TD			%	15.0
		Average Elongation @Break	MD			%	437.0
			TD			%	583.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.43
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		249.1 N		56.0 lbs
			TD		231.3 N		52.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			431.5 N		97.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C107095**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.54 mm	60 mil	Thickness		1.52 mm	60 mil
Measurement				Length		153.926 m	505 feet
ASTM D5994	MAX	1.63 mm	64 mil	Width		7.01 m	23 feet
(Modified)	AVE	1.59 mm	62 mil				
OIT(Standard) ASTM D 3895							204 minutes
Asperity		Average	Top				30 mil
ASTM D7466			Bottom				30 mil
Specific Gravity		Average Density				g/cc	.946
ASTM D792							
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25
Grade	K307						
Carbon Black Content ASTM D4218		Range				%	2.20
Carbon Black Dispersion ASTM D5596		Category					10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	26 N/mm	146 ppi		2438 psi
			TD	28 N/mm	158 ppi		2628 psi
		Average Strength @ Break	MD	38 N/mm	218 ppi		3641 psi
			TD	34 N/mm	195 ppi		3254 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%	22.0
			TD			%	15.0
		Average Elongation @Break	MD			%	437.0
			TD			%	583.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change				%	-0.43
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD		249.1 N		56.0 lbs
			TD		231.3 N		52.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load			431.5 N		97.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load			604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%			300 Hrs		ONGOING

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ROLL # G14C111001**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH		METRIC	ENGLISH
Thickness	MIN	1.48 mm	58 mil	Thickness	1.52 mm	60 mil
Measurement				Length	153.926 m	505 feet
ASTM D5994	MAX	1.62 mm	64 mil	Width	7.01 m	23 feet
(Modified)	AVE	1.57 mm	62 mil			
OIT(Standard) ASTM D 3895						204 minutes
Asperity		Average	Top			30 mil
ASTM D7466			Bottom			29 mil
Specific Gravity		Average Density			g/cc	.946
ASTM D792						
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min				.25
Grade	K307					
Carbon Black Content ASTM D4218		Range			%	2.20
Carbon Black Dispersion ASTM D5596		Category				10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	26 N/mm	146 ppi		2438 psi
		TD	28 N/mm	158 ppi		2628 psi
		MD	38 N/mm	218 ppi		3641 psi
		TD	34 N/mm	195 ppi		3254 psi
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	22.0
		TD			%	15.0
		MD			%	437.0
		TD			%	583.0
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change			%	-0.43
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD		249.1 N		56.0 lbs
		TD		231.3 N		52.0 lbs
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load		431.5 N		97.0 lbs
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load		604.9 N		136.0 lbs
ESCR ASTM D1693		Minumum Hrs w/o Failures		1500 Hrs		CERTIFIED
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%		300 Hrs		ONGOING

Customer Waste Services, Inc
PO JED CELL 10
Destination St Cloud, FL

Date **3/10/2014**

Signature


Quality Control Department



quality certificate

ROLL # G14C111002**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH
Thickness	MIN	1.52 mm	60 mil	Thickness	1.52 mm	60 mil	
Measurement				Length	153.926 m	505 feet	
ASTM D5994	MAX	1.75 mm	69 mil	Width	7.01 m	23 feet	
(Modified)	AVE	1.60 mm	63 mil				
OIT(Standard) ASTM D 3895							204 minutes
Asperity	Average	Top				29 mil	
ASTM D7466		Bottom				30 mil	
Specific Gravity	Average Density				g/cc	.946	
ASTM D792							
MFI ASTM D1238 COND. E	Melt Flow Index 190C/2160 g - g/10 min						.25
Grade	K307						
Carbon Black Content ASTM D4218	Range				%	2.20	
Carbon Black Dispersion ASTM D5596	Category						10 in Category 1
Tensile Strength ASTM D6693 (2 inches / minute)	Average Strength @ Yield	MD	27 N/mm	152 ppi	2533 psi		
		TD	28 N/mm	160 ppi	2667 psi		
	Average Strength @ Break	MD	36 N/mm	204 ppi	3408 psi		
		TD	35 N/mm	198 ppi	3299 psi		
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break	Average Elongation @ Yield	MD			%	19.0	
		TD			%	17.0	
	Average Elongation @Break	MD			%	464.0	
		TD			%	555.0	
Dimensional Stability ASTM D1204 (Modified)	Average Dimensional Change						% -0.43
Tear Resistance ASTM D1004 (Modified)	Average Tear Resistance	MD			275.8 N	62.0 lbs	
		TD			258.0 N	58.0 lbs	
Puncture Resistance FTMS 101 Method 2065 Modified	Average Peak Load				413.7 N	93.0 lbs	
Puncture Resistance ASTM D4833 (Modified)	Average Peak Load				600.5 N	135.0 lbs	
ESCR ASTM D1693	Minumum Hrs w/o Failures				1500 Hrs	CERTIFIED	
Notched Constant Tensile Load ASTM D5397	Pass/Fail @ 30%				300 Hrs	ONGOING	

Customer Waste Services, Inc
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Destination St Cloud, FL

Date 3/10/2014

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Quality Control Department



quality certificate

ROLL # G14C111003**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC	ENGLISH			METRIC	ENGLISH	
Thickness	MIN	1.42 mm	56 mil	Thickness	1.52 mm	60 mil		
Measurement				Length	153.926 m	505 feet		
ASTM D5994	MAX	1.58 mm	62 mil	Width	7.01 m	23 feet		
(Modified)	AVE	1.53 mm	60 mil					
OIT(Standard) ASTM D 3895						204 minutes		
Asperity		Average	Top			27 mil		
ASTM D7466			Bottom			30 mil		
Specific Gravity		Average Density			g/cc	.946		
ASTM D792								
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min					.25	
Grade	K307							
Carbon Black Content ASTM D4218		Range			%	2.20		
Carbon Black Dispersion ASTM D5596		Category			10 in Category 1			
Tensile Strength	ASTM D6693	Average Strength @ Yield	MD	27 N/mm	152 ppi	2533 psi		
			TD	28 N/mm	160 ppi	2667 psi		
			Average Strength @ Break	MD	36 N/mm	204 ppi	3408 psi	
				TD	35 N/mm	198 ppi	3299 psi	
Tensile Elongation	ASTM D6693	Average Elongation @ Yield	MD		%	19.0		
			TD		%	17.0		
			Average Elongation @Break	MD		%	464.0	
				TD		%	555.0	
(2 inches / minute)	= 1.3" Yield	Lo = 2.0" Break						
Dimensional Stability		Average Dimensional Change			%	-0.43		
ASTM D1204 (Modified)								
Tear Resistance	ASTM D1004 (Modified)	Average Tear Resistance	MD	275.8 N	62.0 lbs			
			TD	258.0 N	58.0 lbs			
Puncture Resistance		Average Peak Load			413.7 N	93.0 lbs		
FTMS 101 Method 2065 Modified								
Puncture Resistance		Average Peak Load			600.5 N	135.0 lbs		
ASTM D4833 (Modified)								
ESCR ASTM D1693		Minumum Hrs w/o Failures			1500 Hrs	CERTIFIED		
Notched Constant Tensile Load		Pass/Fail @ 30%			300 Hrs	ONGOING		
ASTM D5397								

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Date 3/10/2014

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quality certificate

ROLL # G14C111004**LOT # H8240217****LINER TYPE MICROSPIKE HD 60**

		METRIC		ENGLISH				METRIC		ENGLISH	
Thickness	MIN	1.50 mm		59 mil				Thickness	1.52 mm		60 mil
Measurement	MAX	1.70 mm		67 mil				Length	153.926 m		505 feet
ASTM D5994	AVE	1.58 mm		62 mil				Width	7.01 m		23 feet
(Modified)											
OIT(Standard) ASTM D 3895										204 minutes	
Asperity		Average	Top								31 mil
ASTM D7466			Bottom								33 mil
Specific Gravity		Average Density						g/cc		.946	
ASTM D792											
MFI ASTM D1238 COND. E		Melt Flow Index 190C/2160 g - g/10 min								.25	
Grade	K307										
Carbon Black Content ASTM D4218		Range						%		2.20	
Carbon Black Dispersion ASTM D5596		Category								10 in Category 1	
Tensile Strength ASTM D6693 (2 inches / minute)		Average Strength @ Yield	MD	27 N/mm		152 ppi		2533 psi			
			TD	28 N/mm		160 ppi		2667 psi			
			MD	36 N/mm		204 ppi		3408 psi			
			TD	35 N/mm		198 ppi		3299 psi			
Tensile Elongation ASTM D6693 (2 inches / minute) Lo = 1.3" Yield Lo = 2.0" Break		Average Elongation @ Yield	MD			%		19.0			
			TD			%		17.0			
			MD			%		464.0			
			TD			%		555.0			
Dimensional Stability ASTM D1204 (Modified)		Average Dimensional Change						%		-0.43	
Tear Resistance ASTM D1004 (Modified)		Average Tear Resistance	MD			275.8 N		62.0 lbs			
			TD			258.0 N		58.0 lbs			
Puncture Resistance FTMS 101 Method 2065 Modified		Average Peak Load						413.7 N		93.0 lbs	
Puncture Resistance ASTM D4833 (Modified)		Average Peak Load						600.5 N		135.0 lbs	
ESCR ASTM D1693		Minumum Hrs w/o Failures						1500 Hrs		CERTIFIED	
Notched Constant Tensile Load ASTM D5397		Pass/Fail @ 30%						300 Hrs		ONGOING	

Customer Waste Services, Inc
PO JED CELL 10
Destination St Cloud, FL

Date 3/10/2014

Signature


Quality Control Department

Certificate of Analysis

Shipped To: AGRU AMERICA INC:GEORGETOWN
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

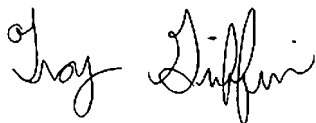
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PO #: 008022
Weight: 184900 LB
Ship Date: 02/11/2014
Package: BULK
Mode: Hopper Car
Car #: CEFX053803
Seal No: 309536

Product:
MARLEX POLYETHYLENE K307 BULK

Lot Number: H8240157

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.27	g/10mi
HLMI Flow Rate	ASTM D1238	22	g/10mi
Density	D1505 or D4883	0.937	g/cm3
Pellet Count	P02.08.03	26	pel/g
Production Date		02/08/2014	

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.



Troy Griffin
Quality Systems Coordinator

For CoA questions contact Customer Service Representative at +1-832-813-4806

Certificate of Analysis

Shipped To: AGRU AMERICA INC:GEORGETOWN
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

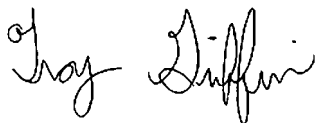
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PO #: 008022
Weight: 183600 LB
Ship Date: 02/12/2014
Package: BULK
Mode: Hopper Car
Car #: SHPX464467
Seal No: 309090

Product:
MARLEX POLYETHYLENE K307 BULK

Lot Number: H8240163

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.27	g/10mi
HLMI Flow Rate	ASTM D1238	22	g/10mi
Density	D1505 or D4883	0.937	g/cm3
Pellet Count	P02.08.03	26	pel/g
Production Date		02/09/2014	

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
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Troy Griffin
Quality Systems Coordinator

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500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

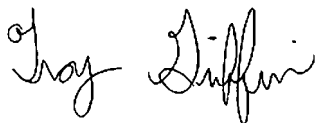
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Weight: 146900 LB
Ship Date: 02/19/2014
Package: BULK
Mode: Hopper Car
Car #: ACFX462046
Seal No: 309028

Product:
MARLEX POLYETHYLENE K307 BULK

Lot Number: H8240200

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.25	g/10mi
HLMI Flow Rate	ASTM D1238	22	g/10mi
Density	D1505 or D4883	0.937	g/cm3
Pellet Count	P02.08.03	29	pel/g
Production Date		02/16/2014	

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Quality Systems Coordinator

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500 GARRISON RD
GEORGETOWN SC 29440
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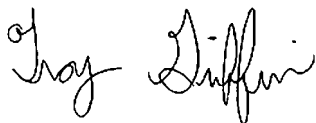
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Weight: 183500 LB
Ship Date: 02/20/2014
Package: BULK
Mode: Hopper Car
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Seal No: 320933

Product:
MARLEX POLYETHYLENE K307 BULK

Lot Number: H8240208

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.26	g/10mi
HLMI Flow Rate	ASTM D1238	21	g/10mi
Density	D1505 or D4883	0.938	g/cm3
Pellet Count	P02.08.03	27	pel/g
Production Date		02/18/2014	

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP (CPChem).
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Troy Griffin
Quality Systems Coordinator

For CoA questions contact Customer Service Representative at +1-832-813-4806

Certificate of Analysis

Shipped To: AGRU AMERICA INC:GEORGETOWN
500 GARRISON RD
GEORGETOWN SC 29440
USA

Recipient: PALMER
Fax:

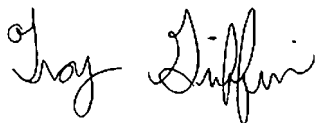
Delivery #: 88805522
PO #: 008022
Weight: 184700 LB
Ship Date: 02/22/2014
Package: BULK
Mode: Hopper Car
Car #: CHVX890339
Seal No: 320917

Product:
MARLEX POLYETHYLENE K307 BULK

Lot Number: H8240217

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.25	g/10mi
HLMI Flow Rate	ASTM D1238	21	g/10mi
Density	D1505 or D4883	0.938	g/cm3
Pellet Count	P02.08.03	26	pel/g
Production Date		02/19/2014	

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Troy Griffin
Quality Systems Coordinator

For CoA questions contact Customer Service Representative at +1-832-813-4806



Lili Cui, Ph.D., Geomembrane Technical Service & Applications Development
Room 154 PTC ■ Bartlesville, OK 74004 ■
918-661-1897 ■ cuil@cpchem.com ■ Fax: 918-662-2220 ■ www.cpchem.com

June 8, 2012

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

Dear Grant:

This letter is to report the final results of oven-aging and UV-aging tests (according to GRI-GM13 and GRI-GM17) on Agru America sheet samples that you provided to us in 2011. These tests were performed by CPChem's Materials Evaluation Laboratory in Bartlesville, OK. The tests were completed April 2012.

The GRI-GM13 (HDPE) and GRI-GM17 (LLDPE) durability tests were done according to the following procedures.

Test	Exposure	Method
HP-OIT	150 °C, 500 psi oxygen	D5885
Oven Aging	90 days, 85 °C	D5721
UV Aging	1600 UV hrs (Conditions were 20 hours UVA-340 at 75 °C followed by 4 hrs dark with condensation at 60 °C. Irradiance was 0.72 W/m ² at 340 nm.)	D7238

Oven-Aging Results

Sample	Initial HP-OIT (min)	HP-OIT Value after Oven Aging (min)	% HP-OIT Retained	GRI-GM13 or GRI-GM17 % Retained Requirement
40 mil LLDPE Roll # 346550-11 from Marlex® 7104 Polyethylene Lot # CBC810430	659	572	87	60
60 mil HDPE Roll # 447108-11 from Marlex® K307 Polyethylene Lot # 71-1-1104	1136	994	88	80

UV-Aging Results

Sample	Initial HP-OIT (min)	HP-OIT Value after UV Aging (min)	% HP-OIT Retained	GRI-GM13 or GRI-GM17 % Retained Requirement
40 mil LLDPE Roll # 346550-11 from Marlex® 7104 Polyethylene Lot # CBC810430	659	449	68	35
60 mil HDPE Roll # 447108-11 from Marlex® K307 Polyethylene Lot # 71-1-1104	1136	924	81	50

According to these test results, the durability requirements are met.

If you have any questions, please call me at 918-661-1897.

Sincerely,

A handwritten signature in black ink, appearing to read "Lili Cui". The signature is fluid and cursive, with the first name "Lili" and last name "Cui" clearly distinguishable.

Lili Cui, Ph.D.
Geomembrane Technical Service & Applications Development

*Any technical advice, recommendations, results, or analysis ("Information") contained herein, including, without limitation, Information as it may relate to the selection of a specific product ("Product") for your use and application, is given **without warranty or guarantee** and is accepted at your sole risk. It is imperative that you test the Information (and Product, if applicable) to determine to your own satisfaction whether the Information (and Product, if applicable) are suitable for your intended use and application. **You expressly assume, and release Chevron Phillips Chemical Company, from all risk and liability, whether based in contract, tort or otherwise, in connection with the use of, or results obtained from, such Information (and Product, if applicable).***



Lili Cui, Polyethylene Tech Service and Applications Development
Room 154 PTC ■ Bartlesville, OK 74003 ■
918-977- 4685 ■ cuill@cpchem.com ■ Fax: 918-977-7599 ■ www.cpchem.com

July 10, 2013

Grant Palmer
Agru America
500 Garrison Road
Georgetown, SC 29440

Dear Grant:

Per your request for this information, there has been no change to the additive formulation specifications of Marlex[®] 7104 and Marlex[®] K307 polyethylene resins since GRI-GM13 and GRI-GM17 oven- and UV-aging testing was performed on Agru America sheet from these resins in December 2012.

If you have any questions, please call me at 918-977-4685.

Sincerely,

A handwritten signature in black ink that reads "Lili Cui". The signature is fluid and cursive, with the first name "Lili" and last name "Cui" clearly distinguishable.

Lili Cui, Ph.D.
Polyethylene Tech Service and Applications Development

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