

FIFA LABORATORY TEST REPORT

Test manual 2015
01.01.2015

Product	XM7 60-15 ProPlay20 Purefill
FIFA Licensee	FieldTurf Inc.
Test Institute	Sports Labs Ltd.

Test Number	55424
External Test Number	18769/8974
Date of Test	26.06.2018
Test Result	Passed
Quality Level	FIFA Quality & Quality PRO
Test Type	Initial



Licensee

Main Address

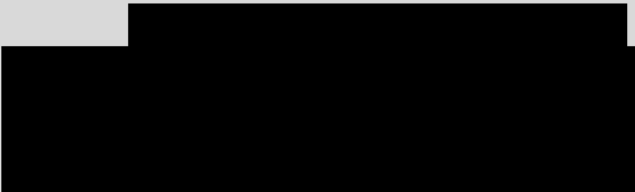
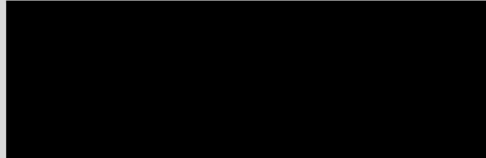
Name	FieldTurf Inc.
Address	7445 Cote-de-Liesse Rd, Suite 200
ZIP / City	H4T 1G2 / MONTREAL, QUEBEC
Website	www.fieldturf.com
Contact Email	
Contact Phone	

Test institute

Main Address

Name	Sports Labs Ltd.
Address	1 Adam Square Brucefield Industrial Park
ZIP / City	EH54 9DE / LIVINGSTON
Website	
Contact Email	
Contact Phone	

Approval

Test Institute Director	Sean Ramsay
Signature	
Date	20.06.2018
Test Institute Engineer	Craig Melrose
Signature	
Date	20.06.2018



1 – Test Results

Name	Comment	Result
1 - Summary		
Vertical ball rebound FIFA Quality		Passed
Vertical ball rebound FIFA Quality Pro		Passed
Angeled ball rebound FIFA Quality		Passed
Angeled ball rebound FIFA Quality Pro		Passed
Reduced ball roll FIFA Quality		Passed
Reduced ball roll FIFA Quality Pro		Passed
Shock absorption FIFA Quality		Passed
Shock absorption FIFA Quality Pro		Passed
Deformation FIFA Quality		Passed
Deformation FIFA Quality Pro		Passed
Rotational resistance FIFA Quality		Passed
Rotational resistance FIFA Quality Pro		Passed
Skin / surface friction		Passed
Skin abrasion		Passed
1 - Test Details Object		
Product Name		FieldTurf XM7 60-15 Proplay 20 Purefill
Product ID		FT XM7 60-15 ProPlay 20 Purefill
Synthetic Turf System		FT XM7 60-15
Performance infill		Purefill
Stabilising infill		Silica Sand
Shock-pad or elastic layer		Proplay 20
Sub-base composition		Rigid Engineered Base
2 - Test Details Test Institute		
Date(s) of test		26.06.2018
Report created by		Craig Melrose
Other Test Engineer on site		
Laboratory Test report number		18769/8974
Test Institute Project number		18769
3 – Product Declaration (Manufacturer)		
Manufacturer		FIELDTURF TARKETT
Tuft pattern		STRAIGHT
Yarn manufacturer yarn 1		Morton
Product name, code yarn 1		367 O, 367 G



Name	Comment	Result
Pile yarn profile yarn 1		Diamond
Pile thickness (µ m) yarn 1		360.0
Pile colour (RAL) value 1 yarn 1		6 013 - O
Pile colour (RAL) value 2 yarn 1		6 025 - G
Pile colour (RAL) value 3 yarn 1		
Pile width (mm) yarn 1		1.00
Number of tufts/m2 yarn 1	ISO1773	9449.00
Pile length (mm) yarn 1	ISO 2549	60.00
Pile weight (g/m2) yarn 1	ISO 8543	1691.00
Pile yarn characterization yarn 1		PE
Pile yarn dtex yarn 1		13300
Yarn manufacturer yarn 2		
Product name, code yarn 2		
Pile yarn profile yarn 2		
Pile thickness (µ m) yarn 2		
Pile colour (RAL) value 1 yarn 2		
Pile colour (RAL) value 2 yarn 2		
Pile colour (RAL) value 3 yarn 2		
Pile width (mm) yarn 2		
Number of tufts/m2 yarn 2	ISO1773	
Pile length (mm) yarn 2	ISO 2549	
Pile weight (g/m2) yarn 2	ISO 8543	
Pile yarn characterization yarn 2		
Pile yarn dtex yarn 2		
Yarn manufacturer yarn 3		
Product name, code yarn 3		
Pile yarn profile yarn 3		
Pile thickness (µ m) yarn 3		
Pile colour (RAL) value 1 yarn 3		
Pile colour (RAL) value 2 yarn 3		
Pile colour (RAL) value 3 yarn 3		
Pile width (mm) yarn 3		
Number of tufts/m2 yarn 3	ISO1773	
Pile length (mm) yarn 3	ISO 2549	
Pile weight (g/m2) yarn 3	ISO 8543	
Pile yarn characterization yarn 3		
Pile yarn dtex yarn 3		
Primary backing Product name, code		D4H
Primary backing Manufacturer		CARPET BACKING

Name	Comment	Result
Re-enforcement scrim Product name, code		-
Re-enforcement scrim Manufacturer		-
Secondary backing Product name, code		Latex
Secondary backing Manufacturer		EOC
Secondary backing Dry application rate (g/m ²)		900.0
Carpet Minimum tuft withdrawal force (N)		> 30
Carpet Carpet mass per unit area (g/m ²)		2831.0
Method of jointing		Bonded or stitched
Bonded joints Adhesive brand name		R202
Bonded joints Adhesive manufacturer		STAUF (Multiple Suppliers)
Bonded joints Application rate (g/m)		600
Bonded joints Jointing film brand name		M236
Bonded joints Jointing film manufacturer		KING SPORTS
Stitched seams Tread brand name/product code		-
Stitched seams Tread manufacturer		FMC
Stitched seams Stitch rate (stitch per 1m)		150.000
Performance Infill Product name, code		PUREFILL
Performance Infill Manufacturer		FieldTurf
Performance Infill Material type		Cork
Performance Infill Material grading		0.5 - 2.0 mm
Performance Infill Particle shape	prEN 14955	Angular
Performance Infill Particle size range	EN 933-Part 1	0.5 - 2.0 mm
Performance Infill Bulk density (g/cm ³)	EN 1097-3	0.170
Performance Infill Application rate (kg/m ²)		6.0
Stabilising Infill Product name, code		Silica Sand
Stabilising Infill Manufacturer		Various
Stabilising Infill Material type		Silica Sand



Name	Comment	Result
Stabilising Infill Material grading		0.315 - 1.0 mm
Stabilising Infill Particle shape	prEN 14955	Rounded
Stabilising Infill Particle size range	EN 933-Part 1	0.315 - 1.0 mm
Stabilising Infill Bulk density (g/cm ³)	EN 1097-3	1.40
Stabilising Infill Application rate (kg/m ²)		22.0
Shockpad, E-layer Product name, code		PROPLAY 20
Shockpad, E-layer Manufacturer		Schmitz Foam
Shockpad, E-layer Type		Prefabricated
Shockpad, E-layer Composition		Thermal bound cross linked foam
Shockpad, E-layer Bulk density (g/cm ³)		0.15
Shockpad, E-layer Thickness	EN 1979	20.0
Shockpad, E-layer Shock absorption (%)	FIFA 4a	56.0
Shockpad, E-layer Deformation	FIFA 5a	5.3
Shockpad, E-layer Tensile strength (N)		0.26
Shockpad, E-layer Mass per unit area (kg/m ²)		3.0
Other, detail		
4 – Product Identification		
Artificial Turf Carpet mass per unit area [g/m ²]		2936
Artificial Turf Tufts per unit area [m ²]		9361
Artificial Turf Pile length above backing [mm]		60.0
Artificial Turf Pile weight [g/m ²]		1574
Artificial Turf Water permeability of carpet [mm/h]		5143
Artificial Turf Free pile height		15
Performance infill Particle size range [mm]		0.315 - 2.5 mm
Performance infill Particle shape		A2
Performance infill Bulk density [g/cm ³]		0.165
Performance infill Infill depth [mm]		30
Performance infill Thermographic analysis organic [%]		100

Name	Comment	Result
Performance infill Thermographic analysis inorganic [%]		0
Stabilising infill Particle size range [mm]		0.5 - 1.0 mm
Stabilising infill Particle shape		B2
Stabilising infill Bulk density [g/cm ³]		1.54
Shock pad / E-layer Shock absorption [%]	if part of supplied system	60.0
Shock pad / E-layer Deformation	if part of supplied system	6.0
Shock pad / E-layer Thickness	if part of supplied system	20.0
Other, detail		
5 – Test Results Ball / Surface interaction		
Vertical Ball Rebound Initial Dry (Quality)	0.6 - 1m	0.79
Vertical Ball Rebound Initial Dry (Pro)	0.6 - 0.85m	0.79
Vertical Ball Rebound Initial Wet (Quality)	0.6 - 1m	0.69
Vertical Ball Rebound Initial Wet (Pro)	0.6 - 0.85m	0.69
Vertical Ball Rebound after simulated wear 3'000 cycles (5*)	0.6 - 0.85m	0.84
Vertical Ball Rebound after simulated wear 6'000 cycles (5*)	0.6 - 1m	1.00
Vertical Ball Rebound after simulated wear 3'000 cycles (20*)	0.6 - 0.85m	
Vertical Ball Rebound after simulated wear 6'000 cycles (20*)	0.6 - 1m	
Angeled Ball Rebound Dry	45 - 80 %	50
Angeled Ball Rebound Wet	45 - 80 %	63
Reduced Ball Roll Initial Dry (Quality)	4 - 10 m	4.4
Reduced Ball Roll Initial Dry (Pro)	4 - 8 m	4.4
Reduced Ball Roll after simulated wear 3'000 cycles (5*) Dry	4 - 8 m	5.8
Reduced Ball Roll after simulated wear 3'000 cycles (5*) Wet	4 - 8 m	6.2

Name	Comment	Result
Reduced Ball Roll after simulated wear 3'000 cycles (20*) Dry	4 - 8 m	
Reduced Ball Roll after simulated wear 3'000 cycles (20*) Wet	4 - 8 m	
Reduced Ball Roll after simulated wear 6'000 cycles (5*) Dry	4 - 12 m	6.1
Reduced Ball Roll after simulated wear 6'000 cycles (5*) Wet	4 - 12 m	6.5
Reduced Ball Roll after simulated wear 6'000 cycles (20*) Dry	4 - 12 m	
Reduced Ball Roll after simulated wear 6'000 cycles (20*) Wet	4 - 12 m	
Shock absorption Initial Dry (Quality)	57 - 68 %	65.4
Shock absorption Initial Dry (Pro)	62 - 68 %	65.4
Shock absorption Initial Wet (Quality)	57 - 68 %	66.3
Shock absorption Initial Wet (Pro)	62 - 68 %	66.3
Shock absorption after simulated wear 3'000 cycles (5*)	62 - 68 %	62.0
Shock absorption after simulated wear 3'000 cycles (20*)	62 - 68 %	
Shock absorption after simulated wear 6'000 cycles (5*)	57 - 68 %	61.3
Shock absorption after simulated wear 6'000 cycles (20*)	57 - 68 %	
Shock absorption 50°C	57 - 68 %	67.00
Shock absorption -5°C	57 - 68 %	62.50
Deformation Initial Dry (Quality)	6 - 11 m	9.4
Deformation Initial Dry (Pro)	6 - 10 m	9.4
Deformation Initial Wet (Quality)	6 - 11 m	9.6
Deformation Initial Wet (Pro)	6 - 10 m	9.6
Deformation after simulated wear 3'000 cycles (5*)	6 - 10 m	8.4
Deformation after simulated wear 3'000 cycles (20*)	6 - 10 m	
Deformation after simulated wear 6'000 cycles (5*)	6 - 11 m	8.1

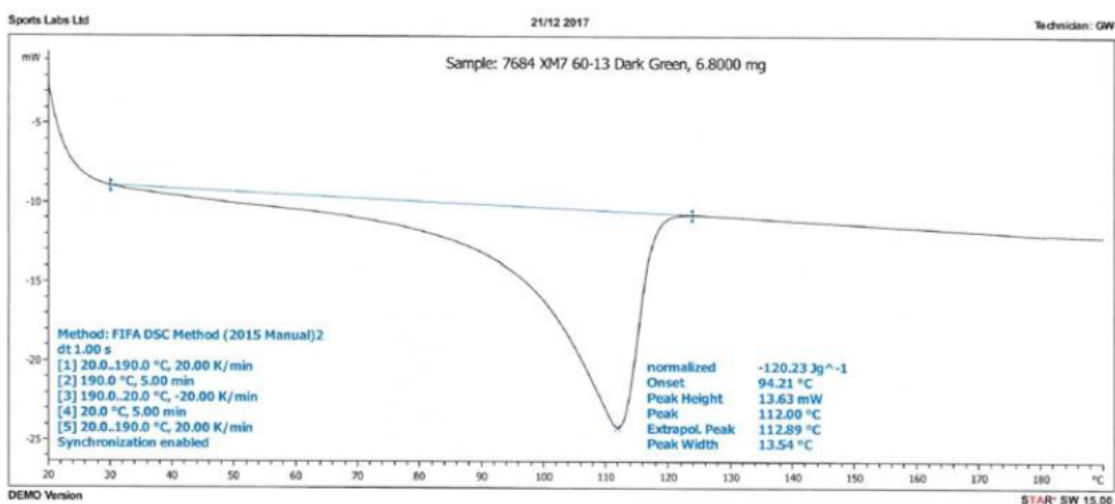
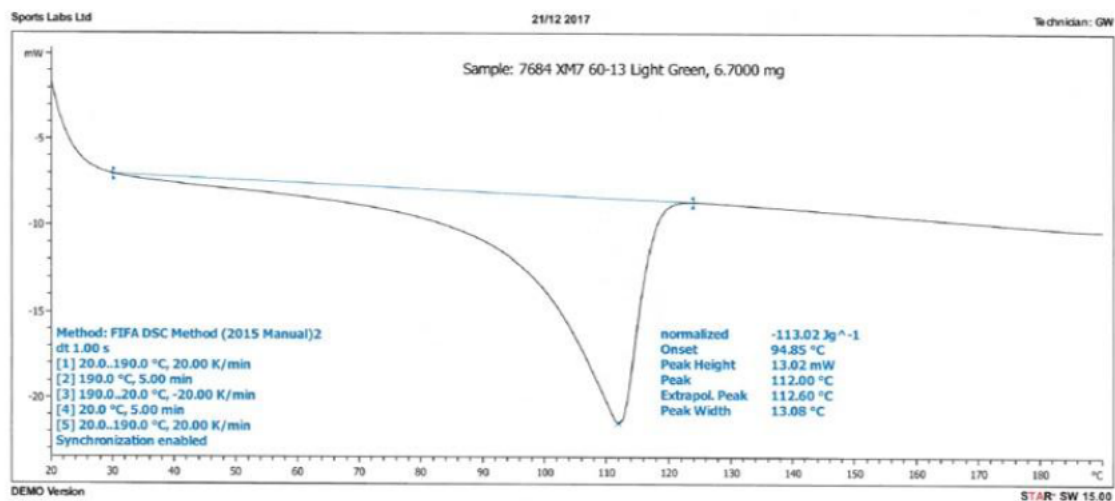
Name	Comment	Result
Deformation after simulated wear 6'000 cycles (20*)	6 - 11 m	
Rotational Resistance Initial Dry (Quality)	27 - 48 Nm	43
Rotational Resistance Initial Dry (Pro)	32 - 43 Nm	43
Rotational Resistance after simulated wear 3'000 cycles (5*)	32 - 43 Nm	43
Rotational Resistance after simulated wear 3'000 cycles (20*)	32 - 43 Nm	
Rotational Resistance after simulated wear 6'000 cycles (5*)	27 - 48 Nm	44
Rotational Resistance after simulated wear 6'000 cycles (20*)	27 - 48 Nm	
Skin / surface friction Dry	0.35 - 0.75 μ	0.71
Skin abrasion Dry	± 30 %	26
Other, detail		Wet Rotational Resistance = 43 Nm
6 – Environmental impact (artificial, light, water)		
Pile yarn 1 Colour change after artificial weathering	$\geq$ Grey scale 3	4 - 5
Pile yarn 2 Colour change after artificial weathering	$\geq$ Grey scale 3	4 - 5
Pile yarn 3 Colour change after artificial weathering	$\geq$ Grey scale 3	
Pile yarn 1 Yarn tensile strength after artificial weathering	Change ≤ 50 %	1 %
Pile yarn 2 Yarn tensile strength after artificial weathering	Change ≤ 50 %	3 %
Pile yarn 3 Yarn tensile strength after artificial weathering	Change ≤ 50 %	
Polymeric infill Colour change after artificial weathering	$\geq$ Grey scale 3	n/a - natural infill
Polymeric infill Visual change in composition after artificial weathering	No change	n/a - natural infill
Complete system Water permeability	> 180 mm/h	1319
Stitched joints Strength un-aged	≥ 1000 N/100mm	2811
Stitched joints Strength water aged	≥ 1000 N/100mm	2592
Bonded joints Strength un-aged	≥ 75 /100mm	113



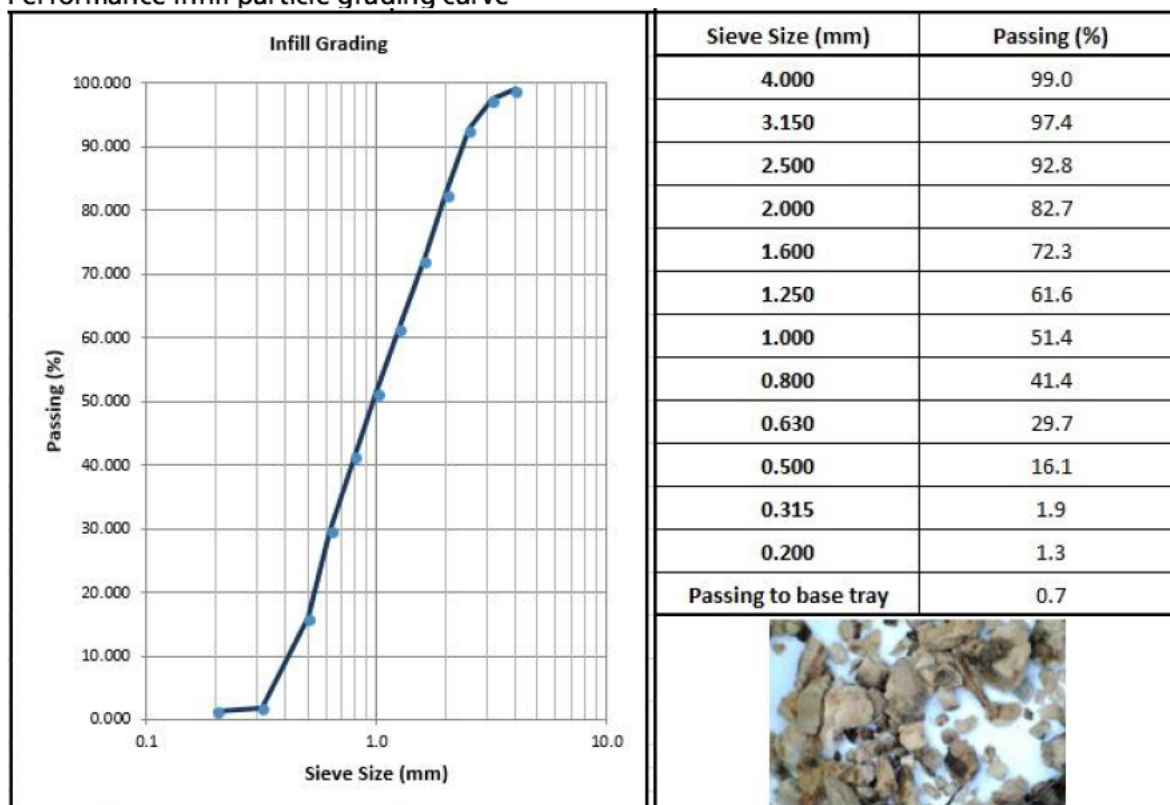
Name	Comment	Result
Bonded joints Strength water aged	$\geq 75/100\text{mm}$	111
Carpet tuft Withdrawal force un-aged	$\geq 30\text{N}$	51
Carpet tuft Withdrawal force water aged	$\geq 30\text{N}$	48
Heat Category	for information	Category 2
Splash Characteristics	for information	< 1.5 %
7 - Miscellaneous (shock pad, sub-base - if part of the system)		
Shock Pad / E-layer tensile strength un-aged	$\geq 0.15 \text{ MPa}$	0.17
Sub-base Composition		
Sub-base Particle size range		
Sub-base Particle shape		
Sub-base Thickness		
Sub-base Compaction & test method		
Other, detail		

2 – Test Images

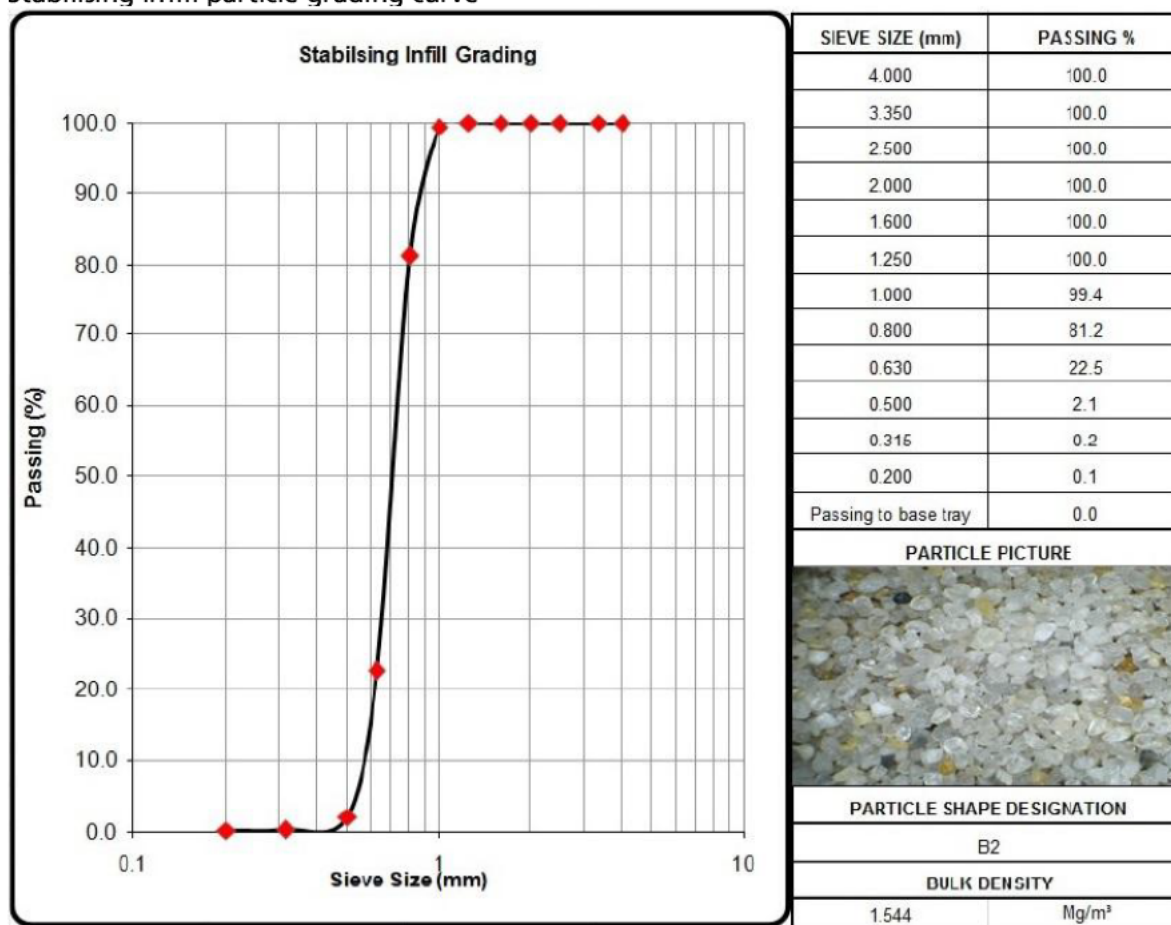
DSC Diff. Scan. Colorimetry scans of pile yarn



Performance infill particle grading curve



Stabilising infill particle grading curve



Simulated wear - Before 1

Pre-Wear



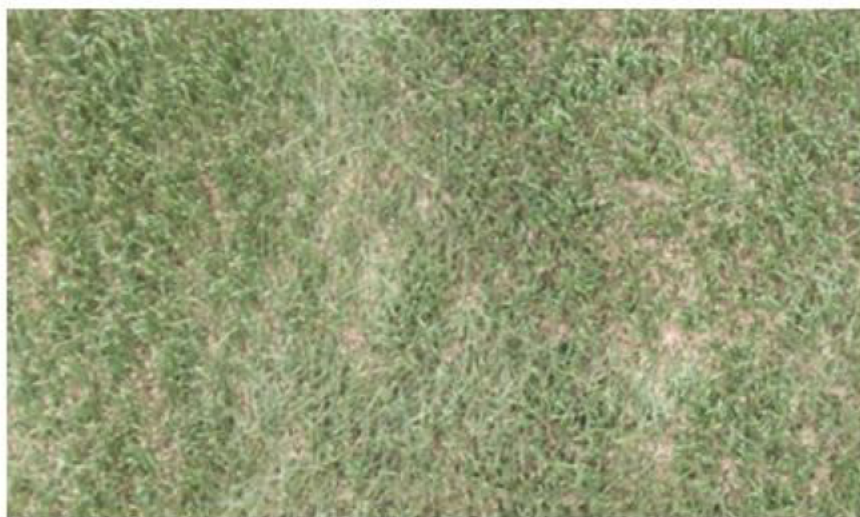
Simulated wear - After 1

3000 Lisport XL Cycles

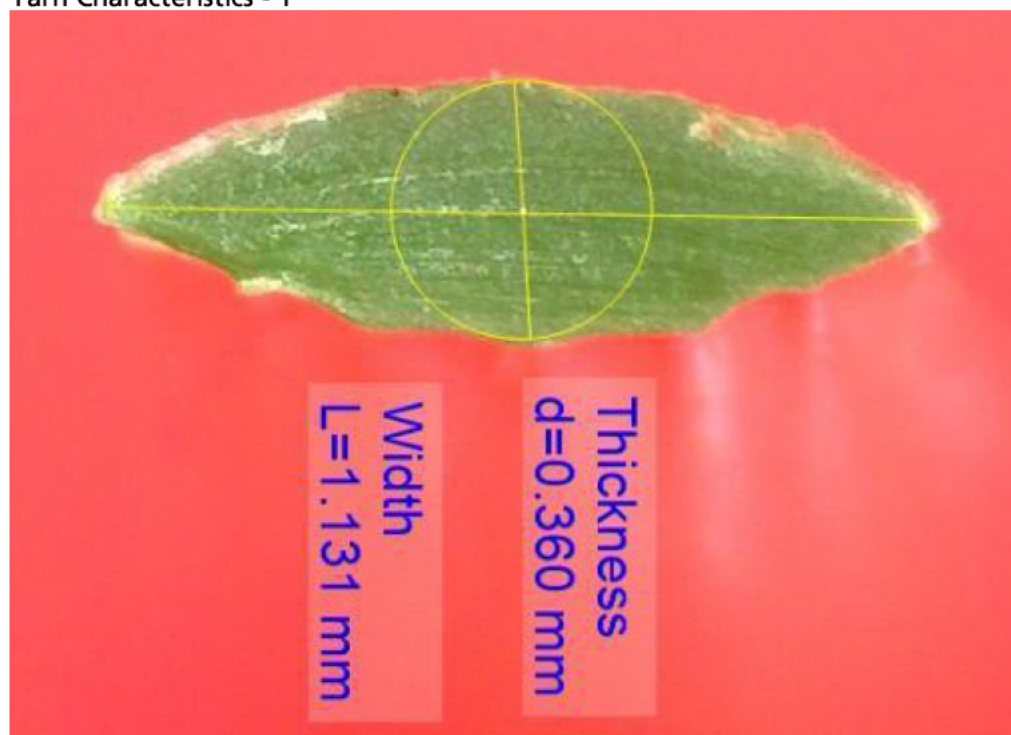


Simulated wear - After 2

6000 Lisport XL Cycles



Yarn Characteristics - 1



Yarn Characteristics - 2

