

FIFA INSTALLATION TEST REPORT

Test manual 2015
01.01.2015

Name	Estadio La Florida
Products	LigaTurf RS+ CoolPlus WorldCup Edition 240 S ACS 65 SBR
FIFA Licensee	Polytan GmbH
Test Institute	Labosport Ltd

Test Number	44808
External Test Number	18035LSSA
Date of Test	18.03.2018
Test Result	Passed
Quality Level	FIFA Quality PRO
Test Type	Initial

Licensee

Main Address

Name	Polytan GmbH
Address	Gewerbering 3
ZIP / City	86666 / BURGHEIM
Website	www.polytan.de

Contact Email	info@polytan.com
Contact Phone	+49/843287 0
Contact Mobile	

Test institute

Main Address


Name	Labosport Ltd
Address	Unit 3 Aerial Way, Hucknall Business Park Watnall Road
ZIP / City	NG15 6DW / HUCKNALL, NOTTINGHAM
Website	
Contact Email	
Contact Phone	
Contact Mobile	

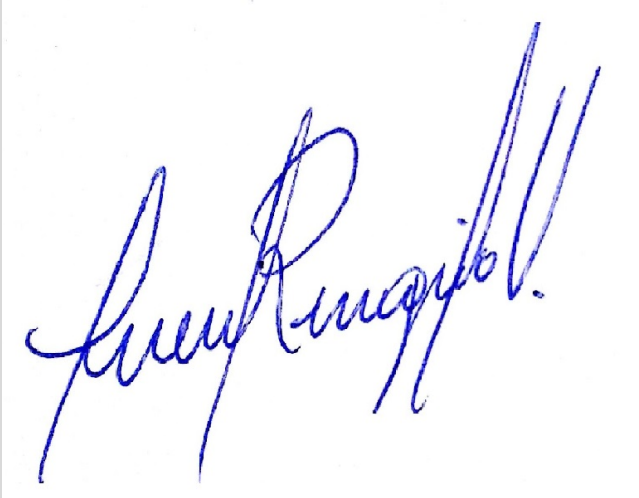
Applicant

Main Address

Name / Club	- Audax Italiano
Address	Enrique Olivares, 1303, la Florida
ZIP / City	/ Santiago de Chile
Website	

Approval

Test Institute Director	Colin Young
Signature	
Date	04.04.2018

Test Institute Engineer	David Rengifo
Signature	
Date	02.04.2018

1 – Test Results

Name	Comment	Result
1 - Summary		
Product Identification field product		Passed
Product Identification line product		Passed
Vertical ball rebound		Passed
Ball Roll		Passed
Shock absorbency		Passed
Rotational resistance		Passed
Deformation		Passed
Regularity		Passed
Sprinkler system on site (if available)		
Maintenance equipment		Passed
2 - Test Details Maintenance		
Date of maintenance training by licensee		24.02.2018
Participants names (ground staff)		Resinsa
Tractor Unit	Must be YES	Yes
Drag Brush	Must be YES	Yes
Drag Mat	Must be YES	Yes
Ball Roll Ramp	Must be YES	Yes
Maintenance logbook	Must be YES	Yes
Maintenance Manual	Must be YES	Yes
Other, detail		
Top up infill material	Must be YES	Yes
Maintenance contract available (if no equipment on site)	Must be YES	Yes
Sprinkler system on site (if available)		
a) Sprinklers within playing field / run-offs	Must be Yes	No
b) If a) YES: additional shock absorbtion/deformation test OK	Must be YES	No
2 - Test Details Object		
Date of installation		23.02.2018
Product Name Field		LIGATURF RS+ COOLPLUS WORLD CUP EDITION 240 S ACS 6
Product ID		LT RS + CP WCE ACS 65 SBR
Product Name Lines		Polytan LigaTurf RS+ White CoolPlus 240 S ACS 65 S
Product ID		
Installer		Resinsa
Synthetic Turf System		LigaTurfs RS + CoolPlus WorldCup Edition 240 18/4
Performance infill		SBR
Stabilising infill		Silica sand
Shock-pad or elastic layer		

Name	Comment	Result
Sub-base composition		
Field dimension length [m]	min. 100 / max.110	105
Field dimension width [m]	min. 64 / max. 75	68
2 - Test Details Technicians, weather conditions		
Date(s) of test		18.03.2018
FIFA accredited Engineer on site		David Rengifo
Other Test Engineer on site		
Test Institute Project number		LSUK.15-0631
Surface condition Day 1	Dry or Wet	Dry
Surface temperature °C (min.) Day 1		25.00
Surface temperature °C (max.) Day 1		30.00
Ambient temperature °C (min.) Day 1		14.00
Ambient temperature °C (max.) Day 1		31.00
Humidity %RH (min.) Day 1		28.00
Humidity %RH (max.) Day 1		31.00
Maximum wind speed m/s Ball Roll		0.40
Maximum wind speed m/s Ball Rebound		0.40
Surface condition Day 2	Dry or Wet	
Surface temperature °C (min.) Day 2		
Surface temperature °C (max.) Day 2		
Ambient temperature °C (min.) Day 2		
Ambient temperature °C (max.) Day 2		
Humidity %RH (min.) Day 2		
Humidity %RH (max.) Day 2		
3 – Test Results Ball / Surface Interaction		
Vertical Rebound 1	0.6 – 0.85 m	0.84
Vertical Rebound 2	0.6 – 0.85 m	0.84
Vertical Rebound 3	0.6 – 0.85 m	0.83
Vertical Rebound 4	0.6 – 0.85 m	0.85
Vertical Rebound 5	0.6 – 0.85 m	0.85
Vertical Rebound 6	0.6 – 0.85 m	0.84
Consistency 1	± 5%	0.00
Consistency 2	± 5%	0.00
Consistency 3	± 5%	1.00
Consistency 4	± 5%	1.00
Consistency 5	± 5%	0.00
Consistency 6	± 5%	1.00
Ball roll 1	4.0 – 10.0 m	5.90
Ball roll 2	4.0 – 10.0 m	6.70
Ball roll 3	4.0 – 10.0 m	6.30

Name	Comment	Result
Ball roll 4	4.0 – 10.0 m	6.40
Ball roll 5	4.0 – 10.0 m	6.50
Ball roll 6	4.0 – 10.0 m	7.00
Consistency 1	± 10%	9.00
Consistency 2	± 10%	4.00
Consistency 3	± 10%	3.00
Consistency 4	± 10%	1.00
Consistency 5	± 10%	1.00
Consistency 6	± 10%	8.00
3 – Test Results Player / Surface Interaction		
Rotational resistance 1	30-45Nm	44.00
Rotational resistance 2	30-45Nm	44.00
Rotational resistance 3	30-45Nm	42.00
Rotational resistance 4	30-45Nm	42.00
Rotational resistance 5	30-45Nm	45.00
Rotational resistance 6	30-45Nm	43.00
Consistency 1	± 6%	2.00
Consistency 2	± 6%	2.00
Consistency 3	± 6%	3.00
Consistency 4	± 6%	3.00
Consistency 5	± 6%	4.00
Consistency 6	± 6%	1.00
Shock absorption A	60 – 70%	63.60
Shock absorption B	60 – 70%	60.50
Shock absorption C	60 – 70%	61.80
Shock absorption D	60 – 70%	60.10
Shock absorption E	60 – 70%	64.70
Shock absorption F	60 – 70%	61.20
Shock absorption G	60 – 70%	61.10
Shock absorption H	60 – 70%	61.30
Shock absorption I	60 – 70%	60.00
Shock absorption J	60 – 70%	61.10
Shock absorption K	60 – 70%	60.00
Shock absorption L	60 – 70%	62.00
Shock absorption M	60 – 70%	61.30
Shock absorption N	60 – 70%	61.10
Shock absorption O	60 – 70%	62.90
Shock absorption P	60 – 70%	61.10
Shock absorption Q	60 – 70%	61.80
Shock absorption R	60 – 70%	60.30
Shock absorption S	60 – 70%	64.30
Consistency A	± 5%	3.00
Consistency B	± 5%	2.00
Consistency C	± 5%	0.00
Consistency D	± 5%	2.00
Consistency E	± 5%	5.00
Consistency F	± 5%	1.00
Consistency G	± 5%	1.00
Consistency H	± 5%	0.00

Name	Comment	Result
Consistency I	± 5%	3.00
Consistency J	± 5%	1.00
Consistency K	± 5%	3.00
Consistency L	± 5%	1.00
Consistency M	± 5%	0.00
Consistency N	± 5%	1.00
Consistency O	± 5%	2.00
Consistency P	± 5%	1.00
Consistency Q	± 5%	0.00
Consistency R	± 5%	2.00
Consistency S	± 5%	4.00
Deformation A	4.0 – 10.0 mm	8.00
Deformation B	4.0 – 10.0 mm	8.00
Deformation C	4.0 – 10.0 mm	8.00
Deformation D	4.0 – 10.0 mm	8.00
Deformation E	4.0 – 10.0 mm	9.00
Deformation F	4.0 – 10.0 mm	8.50
Deformation G	4.0 – 10.0 mm	8.00
Deformation H	4.0 – 10.0 mm	8.00
Deformation I	4.0 – 10.0 mm	8.00
Deformation J	4.0 – 10.0 mm	8.00
Deformation K	4.0 – 10.0 mm	8.00
Deformation L	4.0 – 10.0 mm	8.50
Deformation M	4.0 – 10.0 mm	8.00
Deformation N	4.0 – 10.0 mm	8.00
Deformation O	4.0 – 10.0 mm	8.50
Deformation P	4.0 – 10.0 mm	8.00
Deformation Q	4.0 – 10.0 mm	8.00
Deformation R	4.0 – 10.0 mm	8.00
Deformation S	4.0 – 10.0 mm	9.00
Consistency A	± 10%	2.00
Consistency B	± 10%	2.00
Consistency C	± 10%	2.00
Consistency D	± 10%	2.00

Name	Comment	Result
Consistency E	± 10%	10.00
Consistency F	± 10%	4.00
Consistency G	± 10%	2.00
Consistency H	± 10%	2.00
Consistency I	± 10%	2.00
Consistency J	± 10%	2.00
Consistency K	± 10%	2.00
Consistency L	± 10%	4.00
Consistency M	± 10%	2.00
Consistency N	± 10%	2.00
Consistency O	± 10%	4.00
Consistency P	± 10%	2.00
Consistency Q	± 10%	2.00
Consistency R	± 10%	2.00
Consistency S	± 10%	10.00
3 – Test Results Product identification field product		
Carpet mass Sample on site		2404
Carpet mass Product Declaration		2310.0
Carpet mass Variation	≤ ± 10%	4
Tufts / m ² Sample on site		9789
Tufts / m ² Product Declaration		9650.0
Tufts / m ² Variation	≤ ± 10%	1
Tuft withdrawal force [N] Sample on site		52
Tuft withdrawal force [N] Product Declaration		40.0
Tuft withdrawal force [N] Variation	≥ 90%	172
Pile length above backing Sample on site yarn 1		40
Pile length above backing Product Declaration yarn 1		40.0
Pile length above backing Variation yarn 1	≤ ± 5%	0
Pile length above backing Sample on site yarn 2		
Pile length above backing Product Declaration yarn 2		
Pile length above backing Variation yarn 2	≤ ± 5%	
Pile length above backing Sample on site yarn 3		
Pile length above backing Product Declaration yarn 3		
Pile length above backing Variation yarn 3	≤ ± 5%	
Pile weight above backing [g/m ²] Sample on site yarn 1		1230
Pile weight above backing [g/m ²] Product Declaration yarn 1		1120.0
Pile weight above backing [g/m ²] Variation yarn 1	≤ ± 10%	10

Name	Comment	Result
Pile weight above backing [g/m ²] Sample on site yarn 2		
Pile weight above backing [g/m ²] Product Declaration yarn 2		
Pile weight above backing [g/m ²] Variation yarn 2	≤ ± 10%	
Pile weight above backing [g/m ²] Sample on site yarn 3		
Pile weight above backing [g/m ²] Product Declaration yarn 3		
Pile weight above backing [g/m ²] Variation yarn 3	≤ ± 10%	
Pile yarn dtex [g/10000m] Sample on site yarn 1		14175
Pile yarn dtex [g/10000m] Product Declaration yarn 1		13000.0
Pile yarn dtex [g/10000m] Variation yarn 1	≤ ± 10%	9
Pile yarn dtex [g/10000m] Sample on site yarn 2		
Pile yarn dtex [g/10000m] Product Declaration yarn 2		
Pile yarn dtex [g/10000m] Variation yarn 2	≤ ± 10%	
Pile yarn dtex [g/10000m] Sample on site yarn 3		
Pile yarn dtex [g/10000m] Product Declaration yarn 3		
Pile yarn dtex [g/10000m] Variation yarn 3	≤ ± 10%	
Pile yarn characteristics Sample on site yarn 1		PE
Pile yarn characteristics Product Declaration yarn 1		PE
Pile yarn characteristics Variation yarn 1	Same polymer	Yes
Pile yarn characteristics Sample on site yarn 2		
Pile yarn characteristics Product Declaration yarn 2		
Pile yarn characteristics Variation yarn 2	Same polymer	No
Pile yarn characteristics Sample on site yarn 3		
Pile yarn characteristics Product Declaration yarn 3		
Pile yarn characteristics Variation yarn 3	Same polymer	No
Yarn Thickness Sample on site yarn 1		380
Yarn Thickness Product Declaration yarn 1		360.0
Yarn Thickness Variation yarn 1	≥ 90%	105
Yarn Thickness Sample on site yarn 2		

Name	Comment	Result
Yarn Thickness Product Declaration yarn 2		
Yarn Thickness Variation yarn 2	≥ 90%	
Yarn Thickness Sample on site yarn 3		
Yarn Thickness Product Declaration yarn 3		
Yarn Thickness Variation yarn 3	≥ 90%	
Water permeability of carpet [mm/h] Sample on site	≥ 180 mm/h	2000
Water permeability of carpet [mm/h] Lab result	≥ 180 mm/h	2000
Water permeability of carpet [mm/h] Variation	> 75 % of lab result	100
UV stabilizer yarn sample retained		No
Performance infill Particle size range Sample on site		1.0 - 3.15
Performance infill Particle size range Product Declaration		0.8 - 2.5
Performance infill Particle size range Variation	±one sieve; 60 %	one sieve
Performance infill Particle shape Sample on site		Angular
Performance infill Particle shape Product Declaration		Angular
Performance infill Particle shape Variation	Similar shape	Yes
Performance infill Bulk density [g/cm ³] Sample on site		0.440
Performance infill Bulk density [g/cm ³] Product Declaration		0.410
Performance infill Bulk density [g/cm ³] Variation	≤ ± 15%	7.00
Stabilizing infill Particle size range Sample on site		0.2 - 0.8
Stabilizing infill Particle size range Product Declaration		0.2 - 0.8
Stabilizing infill Particle size range Variation	±one sieve; 60 %	one sieve
Stabilizing infill Particle shape Sample on site		Round
Stabilizing infill Particle shape Product Declaration		Round
Stabilizing infill Particle shape Variation	Similar shape	Yes
Stabilizing infill Bulk density [g/cm ³] Sample on site		1.56
Stabilizing infill Bulk density [g/cm ³] Product Declaration		1.50
Stabilizing infill Bulk density [g/cm ³] Variation	≤ ± 15%	4
3 – Test Results Product identification line product		
Carpet mass Sample on site		2526
Carpet mass Product Declaration		2310.0

Name	Comment	Result
Carpet mass Variation	$\leq \pm 10\%$	9
Tufts / m ² Sample on site		10505
Tufts / m ² Product Declaration		9650.0
Tufts / m ² Variation	$\leq \pm 10\%$	9
Tuft withdrawal force [N] Sample on site		48
Tuft withdrawal force [N] Product Declaration		40.0
Tuft withdrawal force [N] Variation	$\geq 90\%$	121
Pile length above backing Sample on site yarn 1		41
Pile length above backing Product Declaration yarn 1		40.0
Pile length above backing Variation yarn 1	$\leq \pm 5\%$	3
Pile length above backing Sample on site yarn 2		
Pile length above backing Product Declaration yarn 2		
Pile length above backing Variation yarn 2	$\leq \pm 5\%$	
Pile length above backing Sample on site yarn 3		
Pile length above backing Product Declaration yarn 3		
Pile length above backing Variation yarn 3	$\leq \pm 5\%$	
Pile weight above backing [g/m ²] Sample on site yarn 1		1237
Pile weight above backing [g/m ²] Product Declaration yarn 1		1120.0
Pile weight above backing [g/m ²] Variation yarn 1	$\leq \pm 10\%$	10
Pile weight above backing [g/m ²] Sample on site yarn 2		
Pile weight above backing [g/m ²] Product Declaration yarn 2		
Pile weight above backing [g/m ²] Variation yarn 2	$\leq \pm 10\%$	
Pile weight above backing [g/m ²] Sample on site yarn 3		
Pile weight above backing [g/m ²] Product Declaration yarn 3		
Pile weight above backing [g/m ²] Variation yarn 3	$\leq \pm 10\%$	
Pile yarn dtex [g/10000m] Sample on site yarn 1		13191
Pile yarn dtex [g/10000m] Product Declaration yarn 1		13000.0
Pile yarn dtex [g/10000m] Variation yarn 1	$\leq \pm 10\%$	1
Pile yarn dtex [g/10000m] Sample on site yarn 2		

Name	Comment	Result
Pile yarn dtex [g/10000m] Product Declaration yarn 2		
Pile yarn dtex [g/10000m] Variation yarn 2	$\leq \pm 10\%$	
Pile yarn dtex [g/10000m] Sample on site yarn 3		
Pile yarn dtex [g/10000m] Product Declaration yarn 3		
Pile yarn dtex [g/10000m] Variation yarn 3	$\leq \pm 10\%$	
Pile yarn characteristics Sample on site yarn 1		PE
Pile yarn characteristics Product Declaration yarn 1		PE
Pile yarn characteristics Variation yarn 1	Same polymer	Yes
Pile yarn characteristics Sample on site yarn 2		
Pile yarn characteristics Product Declaration yarn 2		
Pile yarn characteristics Variation yarn 2	Same polymer	
Pile yarn characteristics Sample on site yarn 3		
Pile yarn characteristics Product Declaration yarn 3		
Pile yarn characteristics Variation yarn 3	Same polymer	
Yarn Thickness Sample on site yarn 1		380
Yarn Thickness Product Declaration yarn 1		360.0
Yarn Thickness Variation yarn 1	$\geq 90\%$	105
Yarn Thickness Sample on site yarn 2		
Yarn Thickness Product Declaration yarn 2		
Yarn Thickness Variation yarn 2	$\geq 90\%$	
Yarn Thickness Sample on site yarn 3		
Yarn Thickness Product Declaration yarn 3		
Yarn Thickness Variation yarn 3	$\geq 90\%$	
Water permeability of carpet [mm/h] Sample on site	≥ 180 mm/h	2000
Water permeability of carpet [mm/h] Lab result	≥ 180 mm/h	2000
Water permeability of carpet [mm/h] Variation	$> 75\%$ of lab result	100
UV stabilizer yarn sample retained	Same	No
3 – Test Results Shock pad / Elastic layer		
Shock absorption [%] Product Declaration		58.0
Shock absorption [%] Value 1		56
Shock absorption [%] Variation	$\pm 5\%$	4
Shock absorption [%] Value 2		57

Name	Comment	Result
Shock absorption [%] Variation	± 5%	2
Shock absorption [%] Value 3		59
Shock absorption [%] Variation	± 5%	1
Shock absorption [%] Value 4		58
Shock absorption [%] Variation	± 5%	1
Thickness [%] Product Declaration		25.0
Thickness [%] Value 1		24
Thickness [%] Correlation Result/Declaration	≥ 90%	96
Thickness [%] Value 2		26
Thickness [%] Correlation Result/Declaration	≥ 90%	104
Thickness [%] Value 3		27
Thickness [%] Correlation Result/Declaration	≥ 90%	108
Thickness [%] Value 4		24
Thickness [%] Correlation Result/Declaration	≥ 90%	96
3 – Test Results Field characteristics		
Infill depth A	mm	24.00
Infill depth B	mm	22.00
Infill depth C	mm	23.00
Infill depth D	mm	22.00
Infill depth E	mm	24.00
Infill depth F	mm	25.00
Infill depth G	mm	24.00
Infill depth H	mm	25.00
Infill depth I	mm	25.00
Infill depth J	mm	24.00
Infill depth K	mm	23.00
Infill depth L	mm	24.00
Infill depth M	mm	24.00
Infill depth N	mm	23.00
Infill depth O	mm	23.00
Infill depth P	mm	23.00
Infill depth Q	mm	24.00
Infill depth R	mm	23.00
Infill depth S	mm	25.00
Free pile height A	mm	16.00
Free pile height B	mm	18.00
Free pile height C	mm	17.00
Free pile height D	mm	18.00
Free pile height E	mm	16.00
Free pile height F	mm	15.00
Free pile height G	mm	16.00
Free pile height H	mm	15.00
Free pile height I	mm	15.00
Free pile height J	mm	16.00
Free pile height K	mm	17.00
Free pile height L	mm	16.00
Free pile height M	mm	16.00
Free pile height N	mm	17.00

Name	Comment	Result
Free pile height O	mm	17.00
Free pile height P	mm	17.00
Free pile height Q	mm	16.00
Free pile height R	mm	17.00
Free pile height S	mm	15.00
Other, detail		

2 – Test Images

Maintenance equipment - tractor unit



Maintenance equipment - Drag brush or drag mat



Maintenance equipment - Ball roll ramp



Maintenance equipment - Other



Annexes to report - Sub-base check



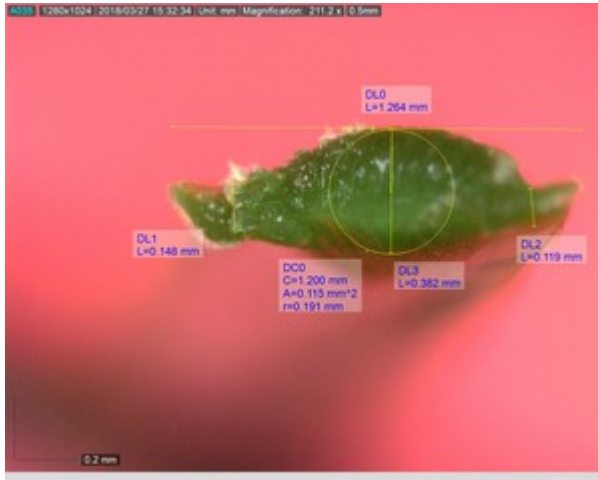
Annexes to report - Photo of field from centre



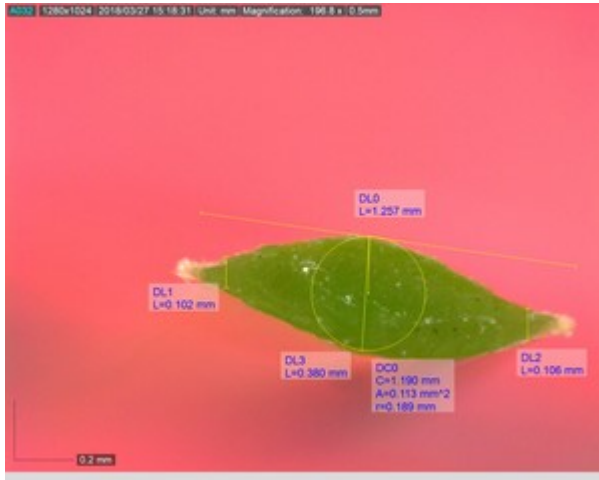
Annexes to report - Photo of field from corner



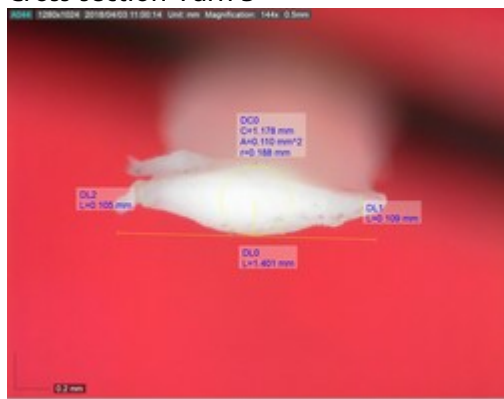
Cross-section Yarn 1



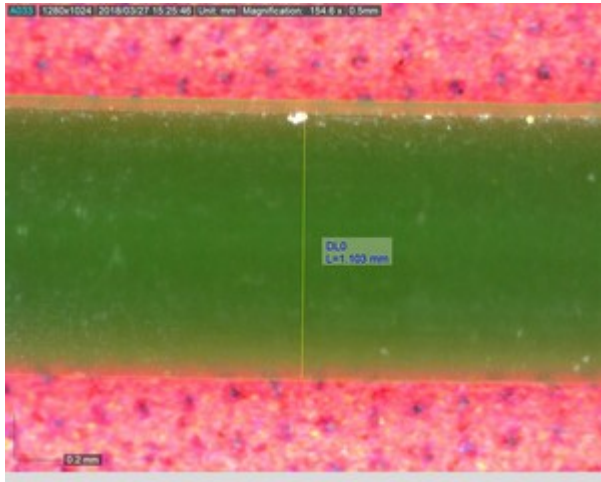
Cross-section Yarn 2



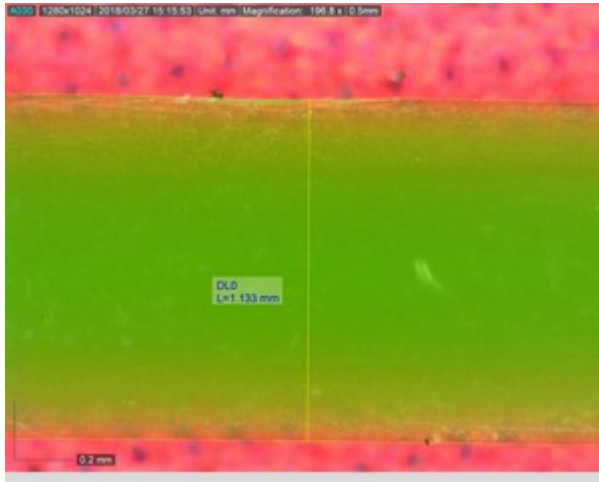
Cross-section Yarn 3



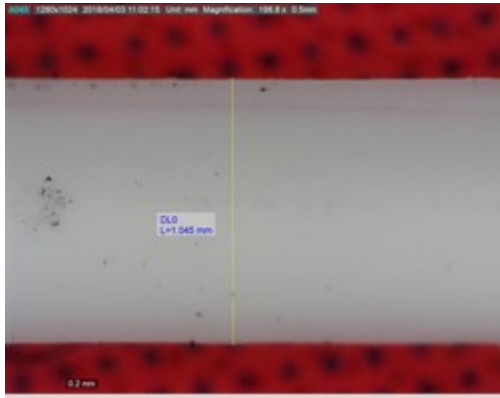
Side A Yarn 1



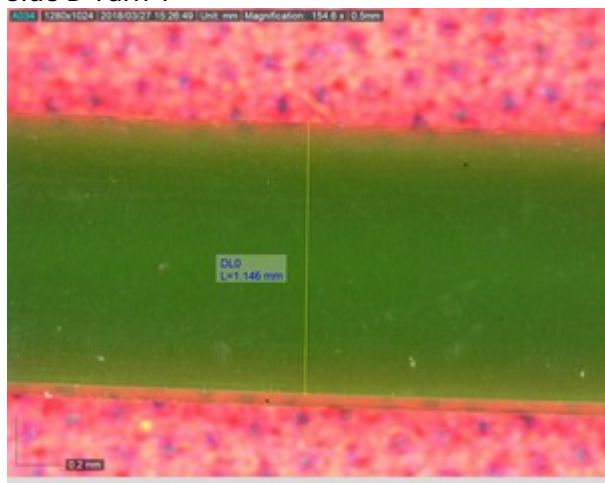
Side A Yarn 2



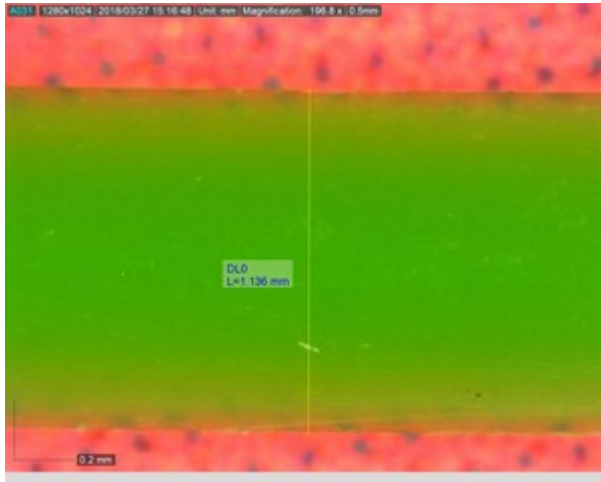
Side A Yarn 3



Side B Yarn 1



Side B Yarn 2



Side B Yarn 3

