

# FIFA LABORATORY TEST REPORT

TM Football Turf | 2015 01.01.2015

Product	DOMO Varioslide S Pro 50M-13-Naturafill- Domoflex
FIFA Licensee	SPORTS AND LEISURE GROUP NV
Test Institute	Ghent University (ERCAT)

Test Number	114294
External Test Number	21-0740-01
Date of Test	12.06.2017
Test Result	Passed
Quality Level	FIFA Quality & Quality PRO
Test Type	Initial



## Licensee

ſ	Main Address
	Name

Name	SPORTS AND LEISURE GROUP NV
Address	SPORTS AND LEISURE GROUP NV Industriepark West 43
ZIP / City	9100 / ST. NIKLAAS
Website	www.domosportsgrass.com
Contact Email	
Contact Phone	

## Test institute

Main Address

Name	Ghent University (ERCAT)
Address	Department of Textiles Technologiepark 70A
ZIP / City	9052 / ZWIJNAARDE
Website	
Contact Email	
Contact Phone	



## Approval

Test Institute Director	Stijn Rambour		
Signature	Rollos		
Date	18.08.2021		
Test Institute Engineer	Kristof Lannoo		
Signature	Loranoo		
Date	18.08.2021		



## 1 – Test Results

Name	Comment	Result
1 - Summary		
Vertical ball rebound FIFA		Desced
Quality		Passeu
Vertical ball rebound FIFA		Bassad
Quality Pro		Fasseu
Angle ball rebound FIFA		Passed
Quality		
Angle ball rebound FIFA		Passed
Quality Pro		
Reduced ball roll FIFA		Passed
Quality		
Reduced ball roll FIFA		Passed
Quality Pro		
Shock absorption FIFA		Passed
Quality Shock abcorntion EIEA		
Quality Pro		Passed
Deformation FIFA Quality		Passed
Deformation FIFA Quality	1	
Pro		Passed
Rotational resistance FIFA		
Quality		Passed
Rotational resistance FIFA		<b>D</b>
Quality Pro		Passed
Skin / surface friction		Passed
Skin abrasion		Passed
1 - Test Details   Object		
		DOMO Varioslide
Broduct Nama		S Pro 50M 13
		Naturafill
		Domoflex
Product ID		K303.400.T24.LTO
Synthetic Turf System		DOMO Varioslide
Synthetic run System		S Pro 50M 13
Performance infill		Naturafill
Stabilising infill		Silica sand
Shock-pad or elastic layer		Domoflex
Sub-base composition		Rigid engineered
		base
2 - Test Details   Test Institute	1	42.06.2047
Date(s) of test		12.06.2017
Report created by		Kristof Lannoo
Laboratory Test report		21-0740-01
Tort Institute Project		
number		21-0740-01
3 - Product Declaration (Manufact	turer)	
		Sports and leisure
Manufacturer		aroup
Tuft pattern		Straight
Yarn manufacturer   varn 1		Domo
L I Z	1	1



Name	Comment	Result
Product name, code   yarn		S Pro flat
1		5110 1102
Detailed tuft decitex (Dtex)		
[g/10000m]		
Pile yarn profile   yarn 1		see details below
Pile thickness (µ m)   yarn 1		120.0
Pile colour (RAL)   value 1		Field green
yarn I Dile celeur (DAL) Luclue 2 L		
Pile colour (KAL)   value 2		
Pile colour (RAL) Lyalue 3 L		
varn 1		
Pile width (mm) I varn 1		8.00
Number of tufts/m2   varn 1	ISO1773	8190.00
Pile length (mm)   varn 1	ISO 2549	50.00
Pile weight (g/m2)   varn 1	ISO 8543	510.00
Pile varn characterization		25
yarn 1		PE
Pile yarn dtex   yarn 1		5500
Yarn manufacturer   yarn 2		Domo
Product name, code   yarn		SPro coirol
2		SPIO Spiral
Pile yarn profile   yarn 2		see details below
Pile thickness (µ m)   yarn 2		300.0
Pile colour (RAL)   value 1		Dark green
yarn 2		Dark green
Pile colour (RAL)   value 2		
yarn 2		
Pile colour (RAL)   value 3		
yarn 2		1.20
Pile width (mm)   yarn 2	1601772	1.30
Number of tutts/m2   yarn 2	1501773	8190.00
Pile length (mm)   yarn 2	150 2549	50.00
Pile weight (g/m2)   yarn 2	150 8543	510.00
varp 2		PE
Pile varn dtev I varn 2		5500.0
Yarn manufacturer Lyarn 3		Domo
Product name code l varn		Domo
3		S Pro-Spiral
Pile varn profile I varn 3		see details below
Pile thickness (µ m)   varn 3		300.0
Pile colour (RAL)   value 1		
yarn 3		Olive green
Pile colour (RAL)   value 2		
yarn 3		
Pile colour (RAL)   value 3		
yarn 3		
Pile width (mm)   yarn 3		1.30
Number of tufts/m2   yarn 3	ISO1773	8190.00
Pile length (mm)   yarn 3	ISO 2549	50.00
Pile weight (g/m2)   yarn 3	ISO 8543	510.00



Name	Comment	Result
Pile yarn characterization		DE
yarn 3		
Pile yarn dtex   yarn 3		5500.0
Primary backing   Product		D1
name, code		
Primary backing		Carpet backing
Manutacturer		
Re-enforcement scrim		1
Product name, code		
Manufacturer		1
Secondary backing I		
Product name code		5/75
Secondary backing I		
Manufacturer		Eurocompound
Secondary backing   Dry		4000 0
application rate (g/m2)		1000.0
Carpet   Minimum tuft		40
withdrawal force (N)		40
Carpet   Carpet mass per		2800.0
unit area [g/m2]		2000.0
Method of jointing		Bonded joints
Bonded joints   Adhesive		AW alue
brand name		
Bonded joints   Adhesive		DOMO
manutacturer		
Bonded Joints   Application		300
Ronded joints Llointing		
film brand name		LB145
Bonded joints   Jointing		
film manufacturer		DOMO
Stitched seams   Tread		
brand name/product code		
Stitched seams   Tread		
manufacturer		
Stitched seams   Stitch rate		
(stitch per Im)		
Performance Infill   Product		DOMO Naturafill
name, code		
Performance Infill		DOMO
Manutacturer		
Performance Infili		cork
Porformanco Infill		
Material grading		1-2.0mm
Performance Infill   Particle		
shape	prEN 14955	irregular
Performance Infill   Particle		
size range	EN 933-Part 1	1-2.0mm
Performance Infill   Bulk	EN 1007 2	0.120
density (g/cm3)	EN 1097-3	0.120



Name	Comment	Result	
Performance Infill		2.5	
Application rate (kg/m2)		2.5	
Stabilising Infill   Product		DOMO sand 0408	
name, code			
Stabilising Infill		ρομο	
Manufacturer		Domo	
Stabilising Infill   Material		Silica sand	
type			
Stabilising Infill   Material		0.4-1.0mm	
grading			
Stabilising Infill   Particle	prEN 14955	80% round	
shape	•		
Stabilising Infill   Particle	EN 933-Part 1	0.4-1.0mm	
size range			
Stabilising Infill   Bulk	EN 1097-3	1.58	
density (g/cm3)			
Stabilising Infill		15.0	
Application rate (kg/m2)			
Shockpad, E-layer   Product		Domoflex	
name, code			
Shockpad, E-layer		Domo	
		Drofobricated	
Shockpad, E-layer   Type		Prefabricated	
Composition		Cross-linked PE	
Shockpad E-layer   Bulk			
density (a/cm3)			
Shockpad E-laver			
Thickness	EN 1969	11.0	
Shockpad E-layer   Shock			
absorption (%)	FIFA 4a	40.0	
Shockpad F-laver l			
Deformation	FIFA 5a	4.0	
Shockpad, E-layer   Tensile			
strength (MPa)		0.15	
Shockpad, E-layer   Mass			
per unit area (kg/m2)		0.5	
Other, detail			
3 – Test Results   Plaver / Surface Interaction			
Rotational Resistance	27 40 N	20	
Initial   Dry (Quality)	27 - 48 NM	38	
Rotational Resistance	22 42 Nm	29	
Initial   Dry (Pro)	32 - 43 Mm	30	
Rotational Resistance	27 48 Nm	41	
Initial   Wet (Quality)	27 - 40 MIII	41	
Rotational Resistance	32 - 43 Nm	41	
Initial   Wet (Pro)	32 - 43 1111	41	
Rotational Resistance			
after simulated wear	32 - 43 Nm	40	
3'000 cycles (5*)			
Rotational Resistance			
after simulated wear	32 - 43 Nm		
3'000 cvcles (20*)			



Name	Comment	Result
Rotational Resistance		
after simulated wear	27 - 48 Nm	42
6'000 cycles (5*)		
Rotational Resistance		
after simulated wear	27 - 48 Nm	
6'000 cycles (20*)		
3 – Test Results   Product identifica	ation field product	
Performance infill		
Theremographic analysis		
Organic [%] - Product		
Declaration		
Performance infill		
Theremographic analysis		
Inorganic [%] - Product		
Declaration		
Performance infill		
Theremographic analysis		
Elastomer [%] - Product		
Declaration		
4 - Product Identification		
Artificial Turr   Carpet mass		2873
Artificial Turf LTufts por		
unit area [m2]		8422
Artificial Turf   Pilo longht		
above backing [mm]		50.0
Artificial Turf   Pile weight		
[g/m2]		1571
Detailed tuft decitex (Dtex)		1x5466 + 3x1967
[g/10000m]		+3x1968
Artificial Turf   Water		
permeability of carpet		1686
[mm/h]		
Artificial Turf   Free pile		20
height		20
Performance infill   Particle		0 9 2 5
size range [mm]		0.8-2.5
Performance infill   Particle		Δ2
shape		~2
Performance infill   Bulk		0 120
density [g/cm3]		0.120
Performance infill   Infill		30
depth [mm]		
Performance infill		100
I hermographic analysis		100
organic [%]		
Performance Infill		
inerganic [%]		U
Stabilizing infill   Particla		
size range [mm]		0.315-0.8
Stabilising infill   Particlo		
shape		C2
	i i i i i i i i i i i i i i i i i i i	



Name	Comment	Result
Stabilising infill   Bulk		1 44
density [g/cm3]		1.44
	if part of	
Shock pad / E-layer   Shock	supplied	38.0
absorption [%]	system	
Charle mad / E. Javan J	if part of	
Shock pad / E-layer	supplied	7.1
Deformation	system	
	if part of	
Shock pad / E-layer	supplied	10.1
Thickness	system	
Other, detail	-	
5 – Test Results   Ball / Surface inte	raction	
Vertical Ball Rebound	0.6 1m	0.91
Initial   Dry (Quality)	0.6 - Tm	0.81
Vertical Ball Rebound	0.6. 0.8Em	0.91
Initial   Dry (Pro)	0.0 - 0.85m	0.81
Vertical Ball Rebound	0.6 1	0.92
Initial   Wet (Quality)	0.6 - Tm	0.82
Vertical Ball Rebound	0.6.0.05	0.02
Initial   Wet (Pro)	0.6 - 0.85m	0.82
Vertical Ball Rebound		
after simulated wear	0.6 - 0.85m	0.84
3'000 cycles (5*)		
Vertical Ball Rebound		
after simulated wear	0.6 - 1m	0.95
6'000 cycles (5*)		
Vertical Ball Rebound		
after simulated wear	0.6 - 0.85m	
3'000 cycles (20*)		
Vertical Ball Rebound		
after simulated wear	0.6 - 1m	
6'000 cycles (20*)		
Angle Ball Rebound   Dry	45 - 80 %	50
Angle Ball Rebound   Wet	45 - 80 %	71
Reduced Ball Roll   Initial	4 10	
Dry (Quality)	4 - 10 m	5.0
Reduced Ball Roll   Initial	4.8 m	E C
Dry (Pro)	4 - 8 m	5.0
Reduced Ball Roll   after		
simulated wear   3'000	4 - 8 m	7.6
cycles (5*)   Dry		
Reduced Ball Roll   after		
simulated wear   3'000	4 - 8 m	7.9
cycles (5*)   Wet		
Reduced Ball Roll   after		
simulated wear   3'000	4 - 8 m	
cycles (20*)   Dry		
Reduced Ball Roll   after		
simulated wear   3'000	4 - 8 m	
cycles (20*)   Wet		



Name	Comment	Result		
Reduced Ball Roll   after				
simulated wear   6'000	4 - 12 m	7.1		
cycles (5*)   Dry				
Reduced Ball Roll   after				
simulated wear   6'000	4 - 12 m	7.6		
cycles (5*)   Wet				
Reduced Ball Roll   after				
simulated wear   6'000	4 - 12 m			
cycles (20*)  Dry				
Reduced Ball Roll   after				
simulated wear   6'000	4 - 12 m			
cycles (20*)  Wet				
Shock absorption   Initial	57 69 %	67.0		
Dry (Quality)	57 - 68 %	87.0		
Shock absorption   Initial	67 68 %	67.0		
Dry (Pro)	02 - 08 %	87.0		
Shock absorption   Initial	57 - 68 %	68.0		
Wet (Quality)	57 - 08 /8	88.0		
Shock absorption   Initial	62 - 68 %	68.0		
Wet (Pro)	02 - 08 /8	88.0		
Shock absorption   after				
simulated wear   3'000	62 - 68 %	63.0		
cycles (5*)				
Shock absorption   after				
simulated wear   3'000	62 - 68 %			
cycles (20*)				
Shock absorption   after				
simulated wear   6'000	57 - 68 %	58.0		
cycles (5*)				
Shock absorption   after				
simulated wear   6'000	57 - 68 %			
cycles (20*)				
Shock absorption   50°C	57 - 68 %	68.00		
Shock absorption   -5°C	57 - 68 %	67.00		
Other, detail				
5 – Test Results   Player / Surface interaction				
Deformation   Initial   Dry	4 - 11 mm	9.9		
(Quality)				
Deformation   Initial   Dry	4 - 10 mm	9.9		
(Pro)				
Deformation   Initial   Wet	4 - 11 mm	9.8		
(Quality)				
Deformation   Initial   Wet	4 - 10 mm	9.8		
(Pro)				
Deformation   after				
simulated wear   3'000	4 - 10 mm	8.7		
cycles (5*)				
Deformation   after				
simulated wear   3'000	4 - 10 mm			
cycles (20*)				
Deformation   after	4 11	8.4		
simulated wear   6'000	4 - 1 I MM	0.4		
cycles (5^)				



Name	Comment	Result
Deformation   after		
simulated wear   6'000	4 - 11 mm	
cycles (20*)		
Skin / surface friction   Dry	0.35 - 0.75 μ	0.70
Skin / surface friction   Dry	0 35 - 0 75 μ	0.71
3'000 cycles	0.55 0.75 µ	
Skin / surface friction   Dry	0.35 - 0.75 u	0.71
6'000 cycles		
Skin abrasion   Dry	± 30 %	13
Skin abrasion   Dry   3'000	± 30 %	14
cycles		
Skin abrasion   Dry   6'000	± 30 %	14
cycles	light water)	
6 – Environmental Impact (articial)	, light, water)	
after artificial weathering	≥ Grey scale 3	4
Rile varn 21 Colour change I		
after artificial weathering	≥ Grey scale 3	4-5
Pile varn 3   Colour change		
after artificial weathering	≥ Grey scale 3	4-5
Pile varn 1   Peak Breakage		
Force   before artificial		16 10
weathering		
Pile varn 1   Peak Breakage		
Force   after artificial		14.6
weathering		
Pile yarn 1   Peak Breakage		
Force   Green Reference		16 10
value before artificial		10.10
weathering		
Pile yarn 1   Peak Breakage		
Force   Variation after	Change ≤ 25	9 30
weathering from Green	%	5.50
Reference value		
Pile yarn 2   Peak Breakage		16.20
Force   before artificial		16.30
Rile warm 2   Deck Breekane		
Force Lafter artificial		147
weathering		14.7
Pile varn 21 Peak Breakage		
Force   Green Beference		
value before artificial		16.30
weathering		
Pile yarn 2   Peak Breakage		
Force   Variation after	Change ≤ 25	0.00
weathering from Green	%	9.80
Reference value		
Pile yarn 3   Peak Breakage		
Force   before artificial		56.90
weathering		
Pile yarn 3   Peak Breakage		
Force   after artificial		48.9
weathering		



Name	Comment	Result		
Pile yarn 3  Peak Breakage				
Force   Green Reference		56.90		
value before artificial		56.90		
weathering				
Pile yarn 3   Peak Breakage				
Force   Variation after	Change ≤ 25	14 10		
weathering from Green	%	14.10		
Reference value				
Polymeric infill   Colour				
change   after artificial	≥ Grey scale 3	Natural		
weathering				
Polymeric infill   Visual				
change in composition	No change	Natural		
after artificial weathering				
Complete system   Water	> 180 mm/h	1600		
permeability		1000		
Stitched joints   Strength	≥			
un-aged	1000N/100mm			
Stitched joints   Strength	≥			
water aged	1000N/100mm			
Bonded joints   Strength	> 75/100mm	155		
un-aged	275/1001111	221		
Bonded joints   Strength	> 75/100mm	154		
water aged	27371001111	134		
Carpet tuft   Withdrawal	> 40N	54		
force   un-aged		5-		
Carpet tuft   Withdrawal	> 40N	49		
force   water aged				
Heat   Category	for	1-2		
	information			
Splash   Characteristics	for	>1 5%		
	information	71.570		
7 - Miscellaneous (shock pad, sub-base - if part of the system)				
Shock Pad / E-layer   tensile	> 0 15 MPa	0 19		
strength   un-aged	2 0113 1011 0			
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





### Stabilising infill particle grading curve



Simulated wear - Before 1



Simulated wear - After 1



Report - No. 114294



Simulated wear - After 2







### Yarn Characteristics DSC





#### Yarn Characteristics DSC - 2





#### Yarn Characteristics DSC - 3





Stabilising Infill - picture





Performance Infill - picture





Cross-section Yarn 1





Cross-section Yarn 2





Cross-section Yarn 3

