



**UAB "ROLANA"**

*Sint Niklaas, Belgium 07.03.2021*

*To attention of: Vilnius City Municipality Administration*

*Hereby I do confirm that our products manufactured at SPORTS AND LEISURE GROUP facilities in Sint Niklaas, Belgium are suitable for playing football in Lithuanian weather conditions for 2,500 hours a year. To meet these criteria the correct maintenance service needs to be followed through the years of use.*

*The proposed system with elastic layer and performance infill meets the requirements of the FIFA Quality standard.*

*Your sincerely*

**Domo® Sports Grass**  
is a brand of Sports &  
Leisure Group NV

Industriepark West 43  
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Belgium

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Sint Niklaas, Belgija 2022-03-07

**UAB „ROLANA“**

**Skirta: Vilniaus miesto savivaldybės administracijai**

Šiuo dokumentu norėčiau patvirtinti, kad „Sports and Leisure Group NV“ gamykloje Sint Niklaas, Belgijoje, pagaminti gaminiai yra tinkami žaisti futbolą Lietuvos oro sąlygomis 2500 valandų per metus. Norint atitikti šiuos kriterijus, reikia laikytis tinkamos techninės priežiūros visus naudojimo metus.

Siūloma sistema su elastiniu sluoksniu ir našumą gerinančiu užpildu atitinka FIFA kokybės standarto reikalavimus.

**Pagarbiai**

**„SPORTS AND LEISURE GROUP“**  
Verslo kryptis „DOMO SPORTS GRASS“  
Industriepark West 43  
B-9100 Sint-Niklaas  
[www.domosportsgrass.com](http://www.domosportsgrass.com)  
/parašas/

## Į „Liežuvėlis“

Įm. k. 302669726  
Vytauto g. 1A, Prienai,  
E. Ožėškienės g. 31, Kaunas  
Pulko g. 12A, 3 a., Alytus

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el. paštas: vertimai@liezuvelis.lt

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2022 m. kovo 16 d.

### Pažyma apie vertimo tikslumą Vertimo patvirtinimas

Prisiimu atsakomybę už vertimo iš anglų kalbos į lietuvių kalbą teisingumą.

Vertimų biuro „Liežuvėlis“ atstovai patvirtina, kad šis dokumentas buvo išverstas patyrusio ir kvalifikuoto vertėjo, ir, kad mūsų manymu, išverstas tekstas atitinka originalaus teksto turinį, prasmę ir stilių bei visais atžvilgiais yra teisingas ir tikras originalaus dokumento vertimas.

Patvirtiname tik vertimo iš anglų kalbos į lietuvių kalbą teisingumą. Mes netvirtiname, kad pateiktas dokumentas yra tikras, taip pat netvirtiname, kad faktai, esantys originaliame dokumente, atitinka tikrovę.





# FIFA LABORATORY TEST REPORT

TM Football Turf | 2015  
01.01.2015

Product	DOMO Duraforce XT 45 SM-16-Coated SBR-Domoflex
FIFA Licensee	SPORTS AND LEISURE GROUP NV
Test Institute	Ghent University (ERCAT)
Test Number	103479
External Test Number	21-0391-02
Date of Test	26.04.2021
Test Result	Passed
Quality Level	FIFA Quality & Quality PRO
Test Type	Initial



## Licensee

### Main Address

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

## Test institute

### Main Address

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



## Approval

Test Institute Director			
Signature			
Date	07.05.2021		

Test Institute Engineer			
Signature			
Date	07.05.2021		



## 1 – Test Results

Name	Comment	Result
<b>1 - Summary</b>		
Vertical ball rebound FIFA Quality		Passed
Vertical ball rebound FIFA Quality Pro		Passed
Angle ball rebound FIFA Quality		Passed
Angle 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
<b>1 - Test Details   Object</b>		
Product Name		Domo Duraforce XT 45 SM/16/Coated SBR/Domoflex
Product ID		
Synthetic Turf System		Domo Duraforce XT 45 SM/16/Coated SBR/Domoflex
Performance infill		coated SBR
Stabilising infill		DOMO sand 0408
Shock-pad or elastic layer		domoflex 10
Sub-base composition		Rigid engineered base
<b>2 - Test Details   Test Institute</b>		
Date(s) of test		26.04.2021
Report created by		Kristof Lannoo
Laboratory Test report number		21-0391-02
Test Institute Project number		21-0391-02
<b>3 – Product Declaration (Manufacturer)</b>		
Manufacturer		Sports & Leisure Group



Name	Comment	Result
Tuft pattern		Straight
Yarn manufacturer   yarn 1		Domo
Product name, code   yarn 1		100% monofilament PE 16000/F6 MN Ultra
Pile yarn profile   yarn 1		Reinforced diamond shape
Pile thickness (µ m)   yarn 1		475.0
Pile colour (RAL)   value 1   yarn 1		6003
Pile colour (RAL)   value 2   yarn 1		6025
Pile colour (RAL)   value 3   yarn 1		
Pile width (mm)   yarn 1		1.35
Number of tufts/m2   yarn 1	ISO1773	10080.00
Pile length (mm)   yarn 1	ISO 2549	45.00
Pile weight (g/m2)   yarn 1	ISO 8543	1545.00
Pile yarn characterization   yarn 1		PE
Pile yarn dtex   yarn 1		16000
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	





Name	Comment	Result
Pile weight (g/m <sup>2</sup> )   yarn 3	ISO 8543	
Pile yarn characterization   yarn 3		
Pile yarn dtex   yarn 3		
Primary backing   Product name, code		D1
Primary backing   Manufacturer		Carpet Backing
Re-enforcement scrim   Product name, code		
Re-enforcement scrim   Manufacturer		
Secondary backing   Product name, code		5/75
Secondary backing   Manufacturer		EOC
Secondary backing   Dry application rate (g/m <sup>2</sup> )		1000.0
Carpet   Minimum tuft withdrawal force (N)		40
Carpet   Carpet mass per unit area [g/m <sup>2</sup> ]		2797.0
Method of jointing		Bonded Joints
Bonded joints   Adhesive brand name		AW Glue
Bonded joints   Adhesive manufacturer		Domo
Bonded joints   Application rate (g/m)		300
Bonded joints   Jointing 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 1m)		
Performance Infill   Product name, code		Domo coated SBR rubber
Performance Infill   Manufacturer		Domo
Performance Infill   Material type		coated SBR rubber
Performance Infill   Material grading		0.8-2.5mm
Performance Infill   Particle shape	prEN 14955	irregular
Performance Infill   Particle size range	EN 933-Part 1	0.8-2.5mm
Performance Infill   Bulk density (g/cm <sup>3</sup> )	EN 1097-3	0.470



Name	Comment	Result
Performance Infill   Application rate (kg/m <sup>2</sup> )		7.0
Stabilising Infill   Product name, code		Domo sand 0408
Stabilising Infill   Manufacturer		Domo
Stabilising Infill   Material type		silica sand
Stabilising Infill   Material grading		0.4-0.8mm
Stabilising Infill   Particle shape	prEN 14955	>80% roundness
Stabilising Infill   Particle size range	EN 933-Part 1	0.4-0.8mm
Stabilising Infill   Bulk density (g/cm <sup>3</sup> )	EN 1097-3	1.58
Stabilising Infill   Application rate (kg/m <sup>2</sup> )		15.0
Shockpad, E-layer   Product name, code		Domoflex 10
Shockpad, E-layer   Manufacturer		Domo
Shockpad, E-layer   Type		prefabricated
Shockpad, E-layer   Composition		closed cell PE
Shockpad, E-layer   Bulk density (g/cm <sup>3</sup> )		0.05
Shockpad, E-layer   Thickness	EN 1969	10.0
Shockpad, E-layer   Shock absorption (%)	FIFA 4a	35.0
Shockpad, E-layer   Deformation	FIFA 5a	5.0
Shockpad, E-layer   Tensile strength (MPa)		0.15
Shockpad, E-layer   Mass per unit area (kg/m <sup>2</sup> )		0.5
Other, detail		
<b>3 – Test Results   Player / Surface Interaction</b>		
Rotational Resistance   Initial   Dry (Quality)	27 - 48 Nm	41
Rotational Resistance   Initial   Dry (Pro)	32 - 43 Nm	40
Rotational Resistance   Initial   Wet (Quality)	27 - 48 Nm	40
Rotational Resistance   Initial   Wet (Pro)	32 - 43 Nm	40
Rotational Resistance   after simulated wear   3'000 cycles (5*)	32 - 43 Nm	42
Rotational Resistance   after simulated wear   3'000 cycles (20*)	32 - 43 Nm	
Rotational Resistance   after simulated wear   6'000 cycles (5*)	27 - 48 Nm	46



Name	Comment	Result
Rotational Resistance   after simulated wear   6'000 cycles (20*)	27 - 48 Nm	
<b>3 – Test Results   Product identification field product</b>		
Performance infill   Thermographic analysis   Elastomer [%] - Product Declaration		
Performance infill   Thermographic analysis   Inorganic [%] - Product Declaration		
Performance infill   Thermographic analysis   Organic [%] - Product Declaration		
<b>4 – Product Identification</b>		
Artificial Turf   Carpet mass per unit area [g/m <sup>2</sup> ]		2792
Artificial Turf   Tufts per unit area [m <sup>2</sup> ]		10133
Artificial Turf   Pile length above backing [mm]		45.0
Artificial Turf   Pile weight [g/m <sup>2</sup> ]		1563
Detailed tuft decitex (Dtex) [g/10000m]		3x2568 + 3x2515
Artificial Turf   Water permeability of carpet [mm/h]		>2000
Artificial Turf   Free pile height		20
Performance infill   Particle size range [mm]		1-3.15
Performance infill   Particle shape		A2
Performance infill   Bulk density [g/cm <sup>3</sup> ]		0.500
Performance infill   Infill depth [mm]		25
Performance infill   Thermographic analysis   organic [%]		63
Performance infill   Thermographic analysis   inorganic [%]		37
Stabilising infill   Particle size range [mm]		0.315-0.8
Stabilising infill   Particle shape		C2
Stabilising infill   Bulk density [g/cm <sup>3</sup> ]		1.48
Shock pad / E-layer   Shock absorption [%]	if part of supplied system	40.0



Name	Comment	Result
Shock pad / E-layer   Deformation	if part of supplied system	5.2
Shock pad / E-layer   Thickness	if part of supplied system	10.1
Other, detail		
<b>5 – Test Results   Ball / Surface interaction</b>		
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	0.79
Vertical Ball Rebound   Initial   Wet (Pro)	0.6 - 0.85m	0.79
Vertical Ball Rebound   after simulated wear   3'000 cycles (5*)	0.6 - 0.85m	0.83
Vertical Ball Rebound   after simulated wear   6'000 cycles (5*)	0.6 - 1m	0.88
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	
Angle Ball Rebound   Dry	45 - 80 %	51
Angle Ball Rebound   Wet	45 - 80 %	70
Reduced Ball Roll   Initial   Dry (Quality)	4 - 10 m	6.6
Reduced Ball Roll   Initial   Dry (Pro)	4 - 8 m	6.6
Reduced Ball Roll   after simulated wear   3'000 cycles (5*)   Dry	4 - 8 m	6.1
Reduced Ball Roll   after simulated wear   3'000 cycles (5*)   Wet	4 - 8 m	6.5
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	6.3
Reduced Ball Roll   after simulated wear   6'000 cycles (5*)   Wet	4 - 12 m	6.3



Name	Comment	Result
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 %	64.0
Shock absorption   Initial   Dry (Pro)	62 - 68 %	64.0
Shock absorption   Initial   Wet (Quality)	57 - 68 %	64.0
Shock absorption   Initial   Wet (Pro)	62 - 68 %	64.0
Shock absorption   after simulated wear   3'000 cycles (5*)	62 - 68 %	63.0
Shock absorption   after simulated wear   3'000 cycles (20*)	62 - 68 %	
Shock absorption   after simulated wear   6'000 cycles (5*)	57 - 68 %	61.0
Shock absorption   after simulated wear   6'000 cycles (20*)	57 - 68 %	
Shock absorption   50°C	57 - 68 %	65.00
Shock absorption   -5°C	57 - 68 %	63.00
Other, detail		
<b>5 – Test Results   Player / Surface interaction</b>		
Deformation   Initial   Dry (Quality)	4 - 11 mm	9.8
Deformation   Initial   Dry (Pro)	4 - 10 mm	9.8
Deformation   Initial   Wet (Quality)	4 - 11 mm	9.9
Deformation   Initial   Wet (Pro)	4 - 10 mm	9.9
Deformation   after simulated wear   3'000 cycles (5*)	4 - 10 mm	9.3
Deformation   after simulated wear   3'000 cycles (20*)	4 - 10 mm	
Deformation   after simulated wear   6'000 cycles (5*)	4 - 11 mm	9.0
Deformation   after simulated wear   6'000 cycles (20*)	4 - 11 mm	
Skin / surface friction   Dry	0.35 - 0.75 µ	0.69
Skin / surface friction   Dry   3'000 cycles	0.35 - 0.75 µ	0.72
Skin / surface friction   Dry   6'000 cycles	0.35 - 0.75 µ	0.72
Skin abrasion   Dry	± 30 %	15
Skin abrasion   Dry   3'000 cycles	± 30 %	16



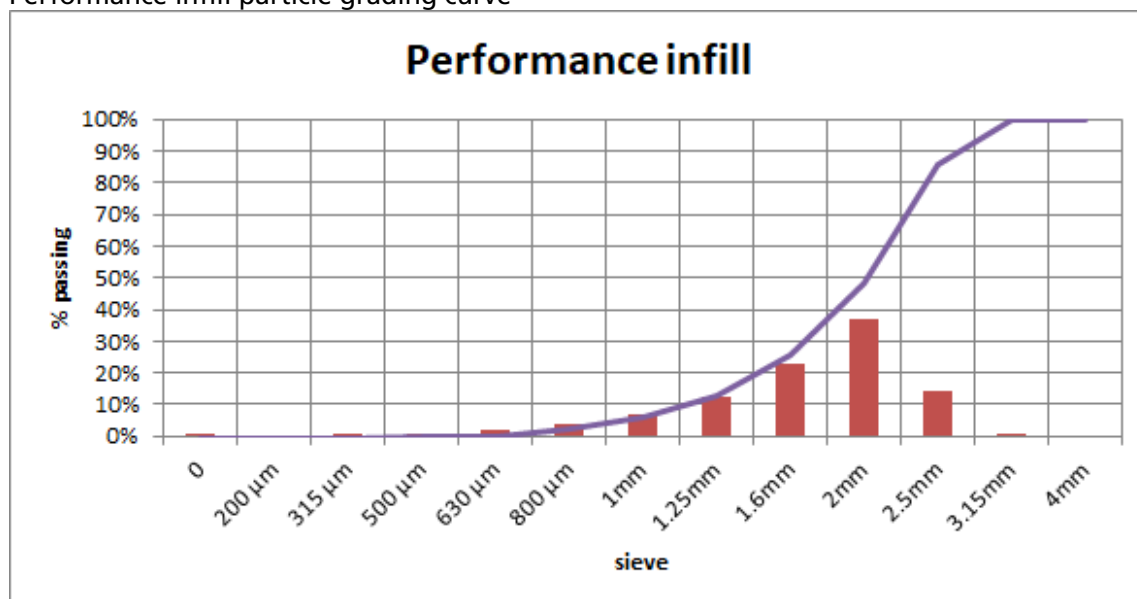
Name	Comment	Result
Skin abrasion   Dry   6'000 cycles	± 30 %	16
<b>6 – Environmental impact (artificial, light, water)</b>		
Pile yarn 1   Colour change   after artificial weathering	≥ Grey scale 3	5
Pile yarn 2   Colour change   after artificial weathering	≥ Grey scale 3	5
Pile yarn 3   Colour change   after artificial weathering	≥ Grey scale 3	
Pile yarn 1   Peak Breakage Force   before artificial weathering		15.20
Pile yarn 1   Peak Breakage Force   after artificial weathering		15.1
Pile yarn 1   Peak Breakage Force   Green Reference value before artificial weathering		15.20
Pile yarn 1   Peak Breakage Force   Variation after weathering from Green Reference value	Change ≤ 25 %	0.70
Pile yarn 2   Peak Breakage Force   before artificial weathering		13.60
Pile yarn 2   Peak Breakage Force   after artificial weathering		14.3
Pile yarn 2   Peak Breakage Force   Green Reference value before artificial weathering		13.60
Pile yarn 2   Peak Breakage Force   Variation after weathering from Green Reference value	Change ≤ 25 %	5.10
Pile yarn 3   Peak Breakage Force   before artificial weathering		0.00
Pile yarn 3   Peak Breakage Force   after artificial weathering		
Pile yarn 3   Peak Breakage Force   Green Reference value before artificial weathering		0.00
Pile yarn 3   Peak Breakage Force   Variation after weathering from Green Reference value	Change ≤ 25 %	0.00
Polymeric infill   Colour change   after artificial weathering	≥ Grey scale 3	4
Polymeric infill   Visual change in composition   after artificial weathering	No change	No change



Name	Comment	Result
Complete system   Water permeability	> 180 mm/h	1280
Stitched joints   Strength   un-aged	≥ 1000N/100mm	
Stitched joints   Strength   water aged	≥ 1000N/100mm	
Bonded joints   Strength   un-aged	≥ 75/100mm	155
Bonded joints   Strength   water aged	≥ 75/100mm	154
Carpet tuft   Withdrawal force   un-aged	≥ 40N	63
Carpet tuft   Withdrawal force   water aged	≥ 40N	69
Heat   Category	for information	2-3
Splash   Characteristics	for information	>1.5
<b>7 - Miscellaneous (shock pad, sub-base - if part of the system)</b>		
Shock Pad / E-layer   tensile strength   un-aged	≥ 0.15 MPa	0.16
Sub-base   Composition		
Sub-base   Particle size range		
Sub-base   Particle shape		
Sub-base   Thickness		
Sub-base   Compaction & test method		
Other, detail		

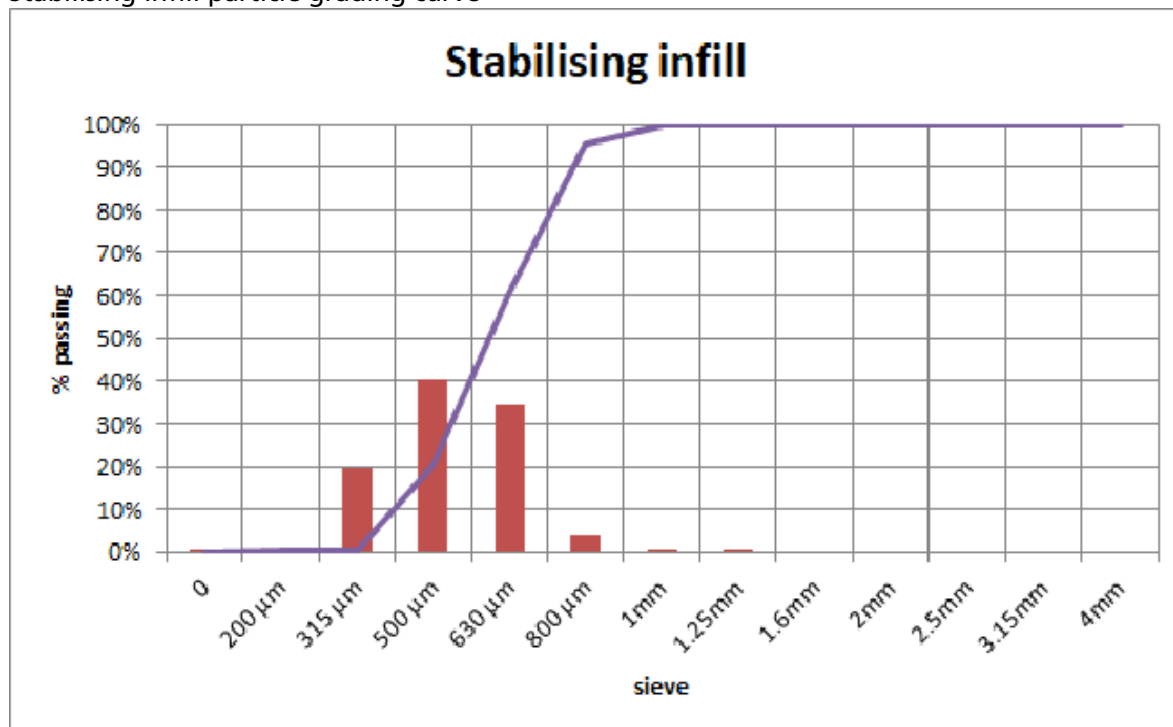
## 2 – Test Images

Performance infill particle grading curve

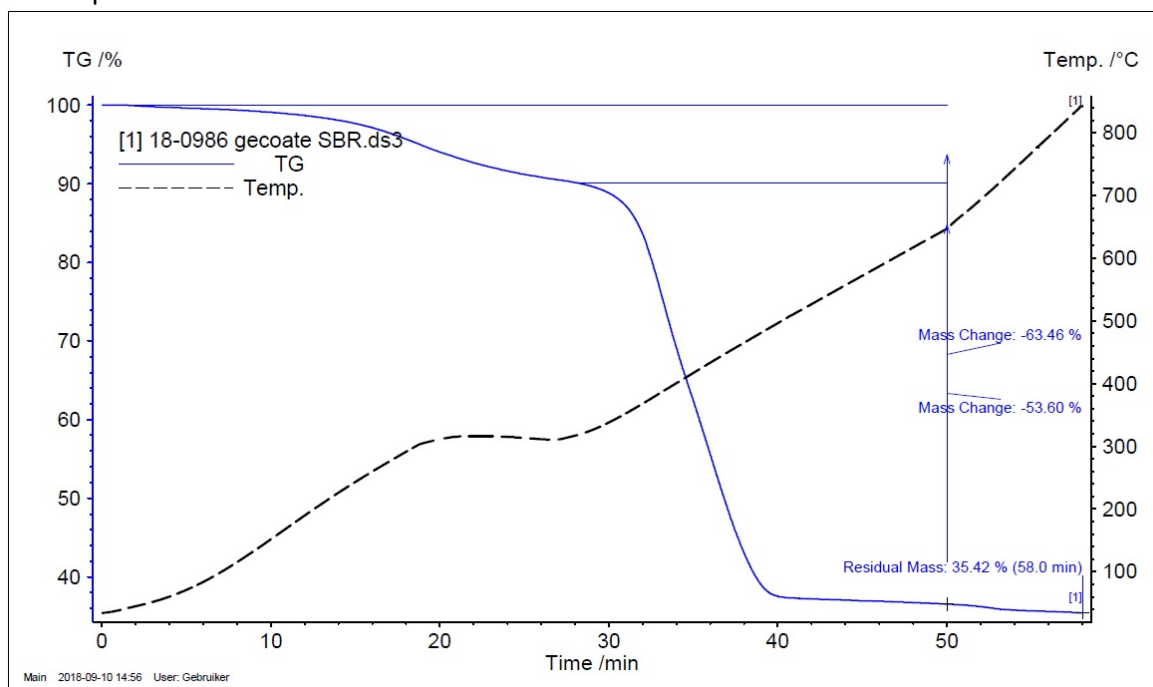




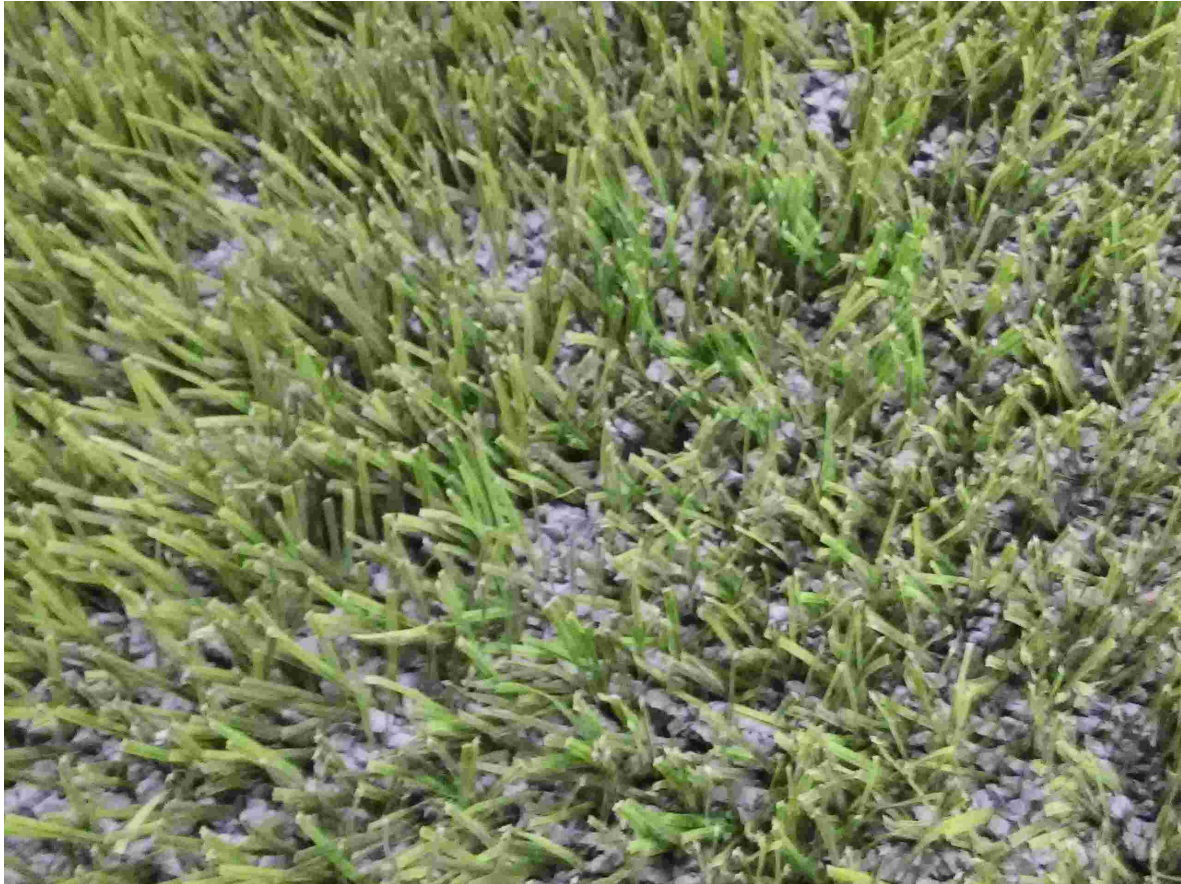
Stabilising infill particle grading curve



## TGA of performance infill



Simulated wear - Before 1





Simulated wear - After 1





Simulated wear - After 2



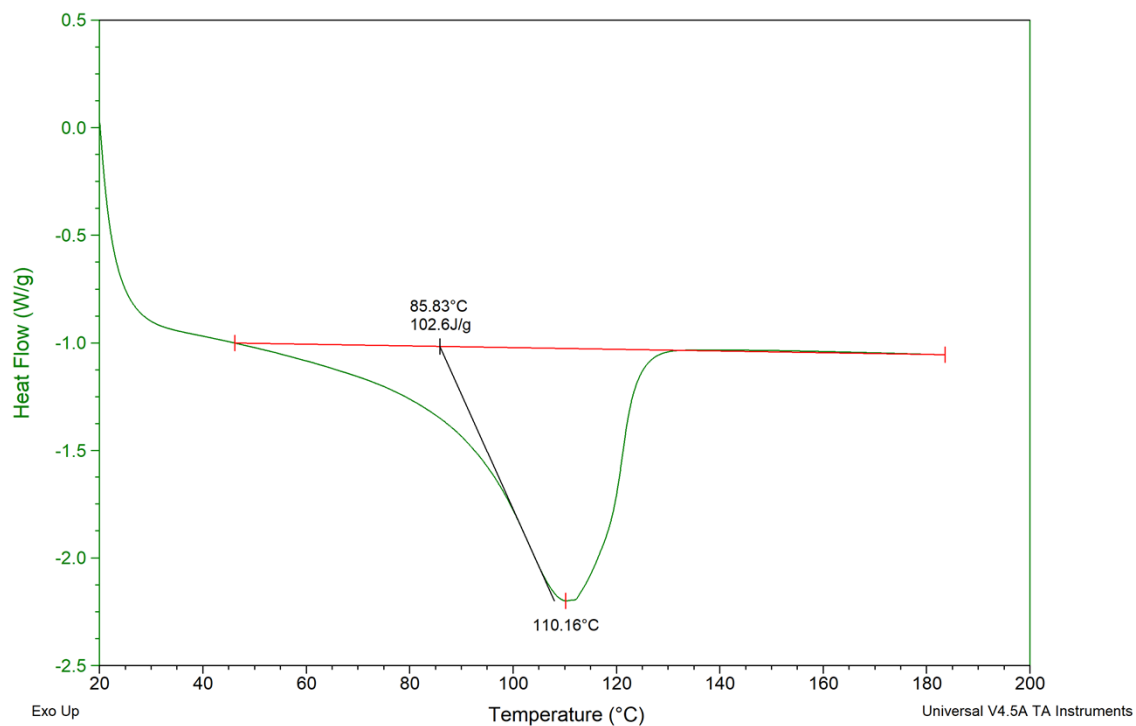


## Yarn Characteristics DSC

Sample: 21-0344 Duraforce XT Dark Green  
Size: 8.0900 mg  
Method: methode kunstgras FIFA

DSC

File: V:\...Duraforce XT Dark Green.001  
Operator: SDB  
Run Date: 29-Apr-2021 04:52  
Instrument: DSC Q2000 V24.11 Build 124



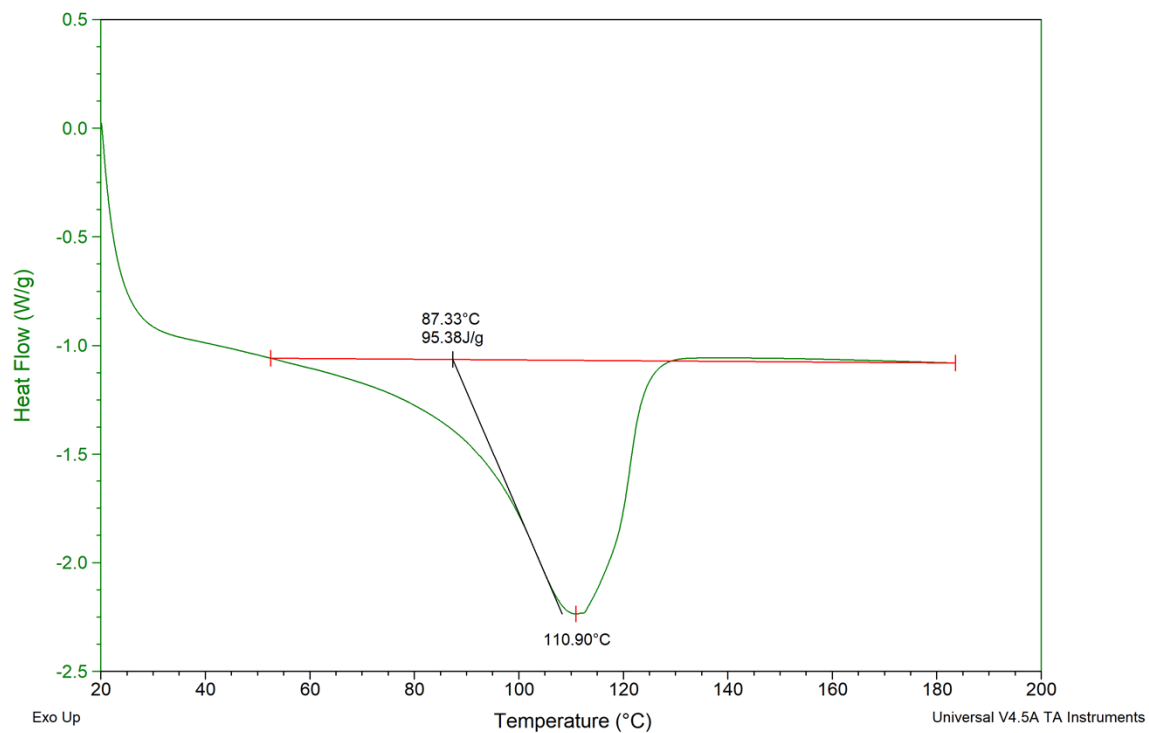


## Yarn Characteristics DSC - 2

Sample: 21-0344 Duraforce XT Light Green  
Size: 7.7200 mg  
Method: methode kunstgras FIFA

DSC

File: V:\...\Duraforce XT Light Green.001  
Operator: SDB  
Run Date: 29-Apr-2021 04:09  
Instrument: DSC Q2000 V24.11 Build 124

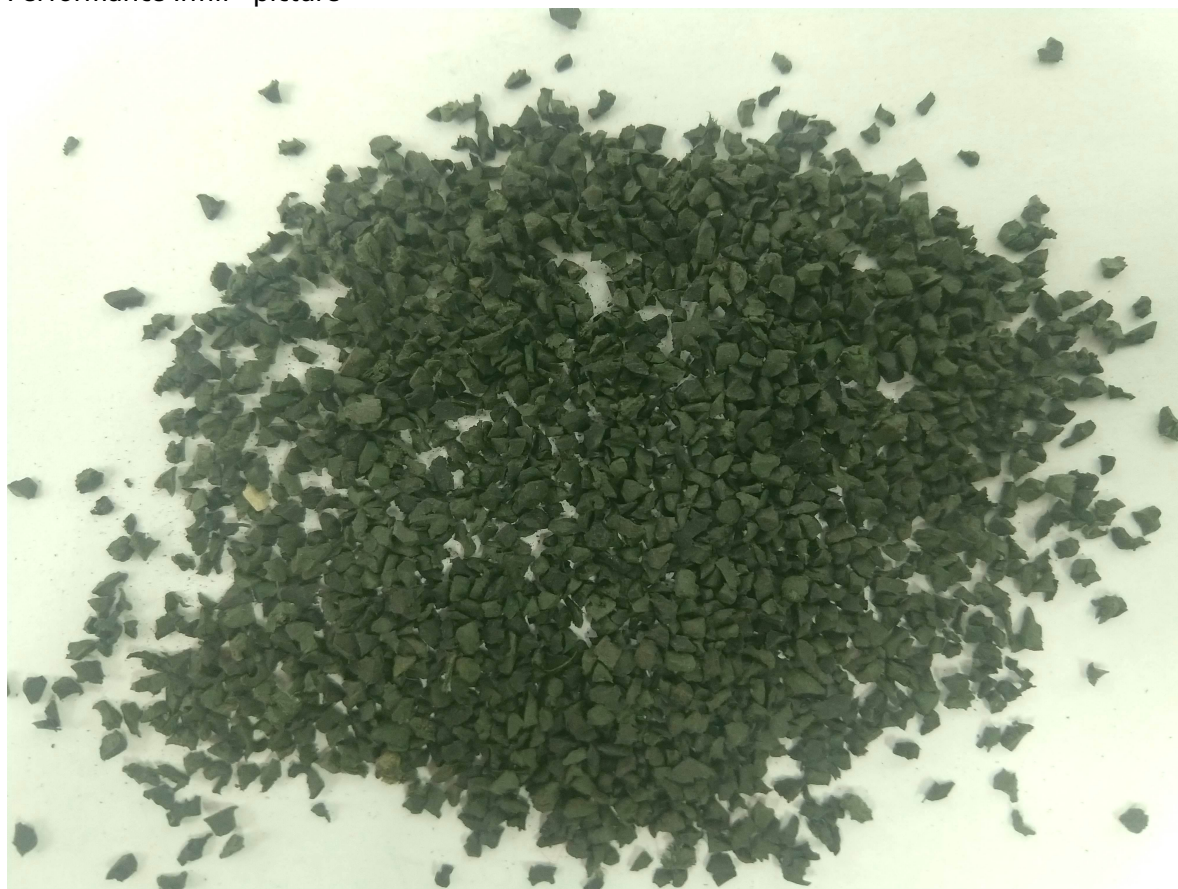


Stabilising Infill - picture

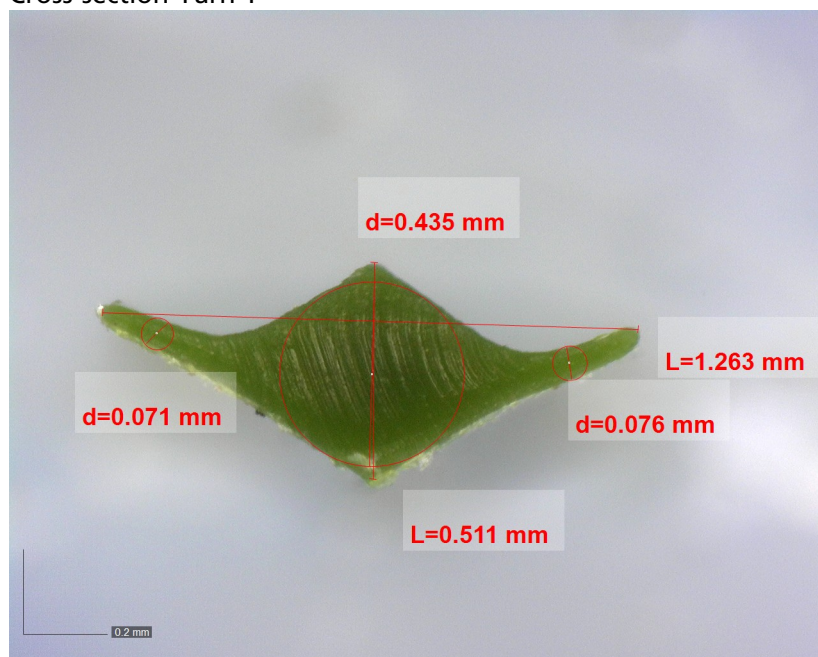




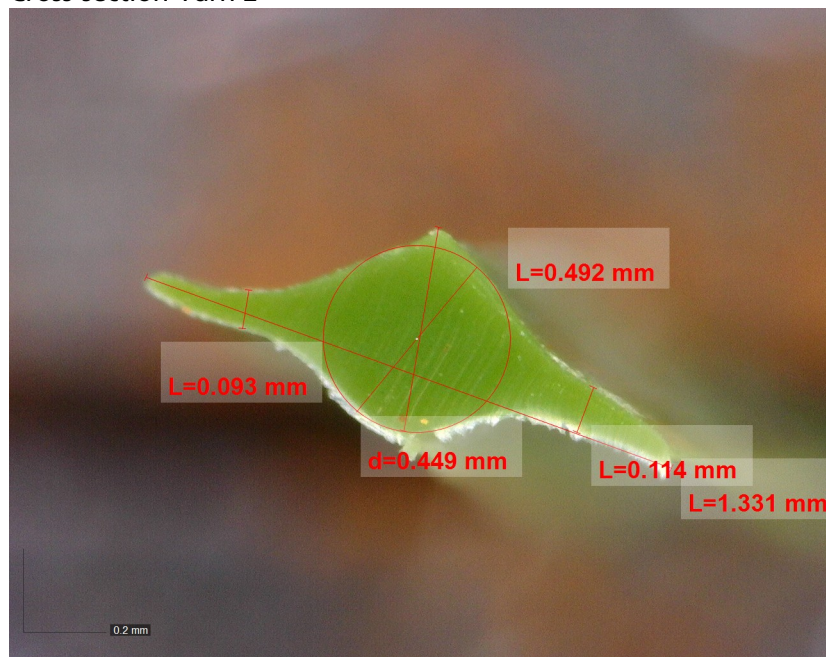
Performance Infill - picture



Cross-section Yarn 1



Cross-section Yarn 2





# FIFA LABORATORINIO BANDYMO ATASKAITA

TM Futbolo veja | 2015  
2015-01-01

Produktas	DOMO Duraforce XT 45 SM-16-Coated SBR-Domoflex
FIFA licencija	SPORTS AND LEISURE GROUP NV
Bandymo institutas	Ghent Universitetas (ERCAT)
Bandymo numeris	103479
Išorinis bandymo numeris	21-0391 -02
Bandymo data	2021-04-26
Bandymo rezultatas	Išlaikyta
Kokybės lygis	FIFA kokybė ir PRO kokybė
Bandymo tipas	Pradinis



## Licencijos turėtojas

Pagrindinis adresas

Vardas, pavardė	SPORTS AND LEISURE GROUP NV
Adresas	SPORTS AND LEISURE GROUP NV Industriepark West 43
Pašto kodas / Miestas	9100 / ST. NIKLAAS
Internetinis puslapis	www.domosportsgrass.com
El. pašto adresas	
Telefono nr.	

## Test institutas

MPagrindinis adresas

Vardas, pavardė	Ghent Universitetas (ERCAT)
Adresas	Tekstilės departamentas Technologiepark 70A
Pašto kodas / Miestas	9052 / ZWIJNAARDE
Internetinis puslapis	
El. pašto adresas	
Telefono nr.	

## Patvirtinimas

Bandymo instituto direktorius			
Parašas			
Data	2021-05-07		

Bandymo instituto inžinierius			
Parašas			
Data	2021-05-07		