



RUGBY TURF PRODUCT TEST REPORT FOR REGULATION 22

FieldTurf XM7 60-15 ProPlay 20 Purefill

Fieldturf Inc.

Tested by



Manufacturer



Test details

Test	
Test date	04/07/2018
Technician Name	Sean Ramsay
Report Date	04/07/2018
Base Type	Concrete

Product	
Manufacturer Name	Fieldturf Inc.
Carpet Name	FieldTurf XM7 60-15
Pile Height	60
Shockpad Name	Proplay Sport 20
Product Name	FieldTurf XM7 60-15 ProPlay 20 Purefill

Infill		
Material	Supplier	Application Rate (kg/m3)
Silica Sand	Various	22
Purefill	Various	6

Shockpad	
Manufacturer Name	
Shockpad Name	Proplay Sport 20
Thickness	20
Mass per unit area (kg / m2)	3

Accredited Test Institute	
Institute Name	Sports Labs
Institute Director	Richard Nixon
ATI Reference Number	18769/8975
Contact Details	info@sportslabs.co.uk / +44 845 602 6354

Fieldturf Inc. FieldTurf XM7 60-15 ProPlay 20 Purefill has been found to satisfy the product test requirements of World Rugby Regulation 22, the Performance Specification for Rugby Turf (2016 Performance Specification) and the World Rugby Laws of the Game – Law 1 for use on Outdoor and Indoor venues.

Performance Testing

Shock Absorption (%)				
Requirement	57% - 68%			
Test	Result	Max	Min	Test Status
Preconditioned – Dry	65%	66%	65%	Pass
Preconditioned – Wet	66%	67%	66%	Pass
After simulated wear	61%	63%	59%	Pass
@ -5°C	63%			Pass
@ +50°C	67%			Pass

Vertical Deformation (mm)				
Requirement	6mm - 10mm			
Test	Result	Max	Min	Test Status
Preconditioned – Dry	9.42	9.50	9.30	Pass
Preconditioned – Wet	9.62	9.85	9.35	Pass
After simulated wear	8.05	8.15	7.90	Pass
@ -5°C	8.40			Pass
@ +50°C	9.70			Pass

Energy Restitution (%)				
Requirement	22% - 48%			
Test	Result	Max	Min	Test Status
Preconditioned – Dry	32%	32%	32%	Pass
Preconditioned – Wet	31%	33%	30%	Pass
After simulated wear	38%	39%	36%	Pass
@ -5°C	36%			Pass
@ +50°C	31%			Pass

Vertical Ball Rebound (m)				
Requirement	0.6m - 1m			
Test	Result	Max	Min	Test Status
Preconditioned – Dry	0.79			Pass
Preconditioned – Wet	0.69			Pass
After simulated wear	97%			Pass

Angled Ball Rebound (%)				
Requirement	45% - 80%			
Test	Result	Max	Min	Test Status
Preconditioned – Dry	50%			Pass
Preconditioned – Wet	63%			Pass

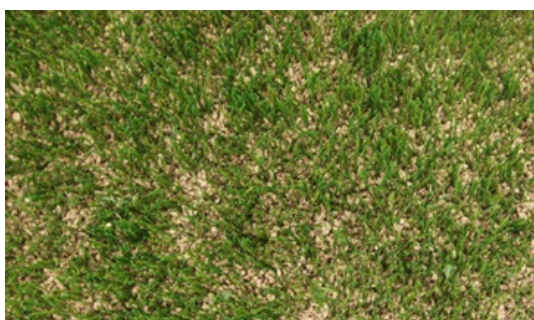
Rotational Resistance (Nm)				
Requirement	32Nm - 43Nm			
Test	Result	Max	Min	Test Status
Preconditioned – Dry	43.00			Pass
Preconditioned – Wet	42.60			Pass
After simulated wear	43.00			Pass

Impact Attenuation (m)				
Requirement	≥1.3m (Single drop ≤1,000 HIC)			
Test	Result	Max	Min	Test Status
Preconditioned – Dry	1.35			Pass
Preconditioned – Wet	1.38			Pass
After simulated wear	1.32			Pass
@ -5°C	949.00			Pass
@ +50°C	838.00			Pass

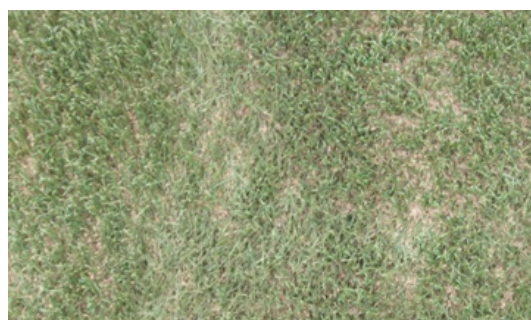
Ratings	
Test	Result
Splash	Normal
Heat	2

Identification Tests

Rugby Turf - Carpet				
Test	Result	Declaration	Permitted Variance	Test Status
Pile length (mm)	60	60	≥ 60 m	Pass
Mass per unit area (kg/m ²)	2,936	2,831	$\pm 10\%$	Pass
Tufts/Knots per unit area (m ⁻²)	9,361	9,449	$\pm 10\%$	Pass
Tuft withdrawal force (N)	51	40	$\geq 90\%$	Pass
Total pile weight (kg/m ²)	1,574	1,691	$\pm 10\%$	Pass
Water permeability (mm/hr)	1,319	-	≥ 500 mm/hr	Pass



Pre-wear carpet



Post-wear carpet



Pre-wear closeup



Post-wear closeup

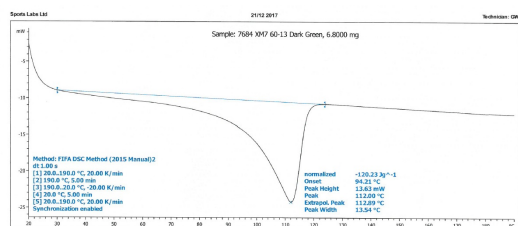


Pre-wear yarn closeup

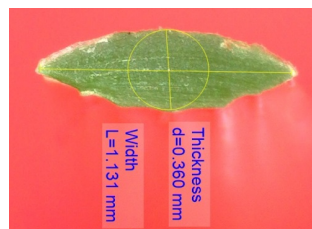


Post-wear yarn closeup

Yarn 01 - field green - Diamond				
Test	Result	Declaration	Permitted Variance	Test Status
Thickness – Cross Section (nm)	360	360	≥ 90%	Pass
Thickness – Width (mm)	1.1	1	≥ 90%	Pass
Thickness - Depth (mm)	0.36	0.36	≥ 90%	Pass
dTex (dTex)	7,356	7,600	± 10%	Pass
DSC - Peak 01 (°C)	112	113	± 3°C	Pass
DSC - Peak 02 (°C)	0	0	± 3°C	Pass

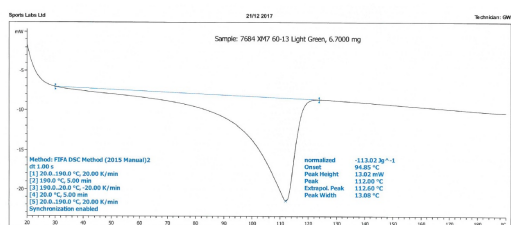


Yarn 1 DSC

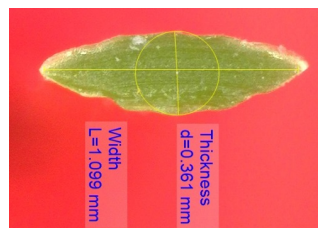


Yarn 1 cross section

Yarn 02 - olive green - Diamond				
Test	Result	Declaration	Permitted Variance	Test Status
Thickness – Cross Section (nm)	361	360	≥ 90%	Pass
Thickness – Width (mm)	1.1	1	≥ 90%	Pass
Thickness - Depth (mm)	0.36	0.36	≥ 90%	Pass
dTex (dTex)	5,696	5,700	± 10%	Pass
DSC - Peak 01 (°C)	112	113	± 3°C	Pass
DSC - Peak 02 (°C)	0	0	± 3°C	Pass



Yarn 2 DSC

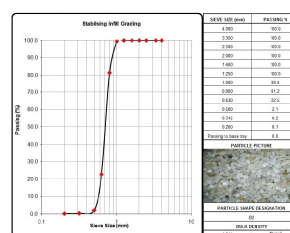


Yarn 2 cross section

Infill 01 - Silica Sand - Beige - Stabilising				
Test	Result	Declaration	Permitted Variance	Test Status
Shape	B2 - Irregular - Medium sphericity	C1 - Round - High sphericity	Same shape	Pass
Size	0.5 - 1	0.315 - 1	± 1 Sieve Size	Pass
Bulk Density	1.54	1.4	± 15%	Pass
% Organic	0	0	± 10%	N/a



Infill 1



Shockpad				
Test	Result	Declaration	Permitted Variance	Test Status
Thickness	20	20	$\geq 90\%$	Pass
Shock Absorption	0.6	0.55	$\pm 5\%$	N/a
Deformation	6	6.4	$\pm 10\%$	Pass
Energy Restitution	0.59	-	-	N/a
Mass per unit area	3	3	$\pm 10\%$	Pass
Tensile strength	0.17	-	$\geq 0.15\text{Nm}$	Pass



Shockpad

Laboratory Tests

Skin Interaction Tests

Test	Result	Requirement	Test Status
Skin/Surface Friction	0.71	0.35 - 0.75 μ	Pass
Skin Abrasion	2,600%	$\pm$ 30%	Pass

Unaged Carpet Strength Tests

Test	Result	Requirement	Test Status
Parallel to Stitching	35	25 N/mm	Pass
Perpendicular to Stitching	30	25 N/mm	Pass

Unaged Joint Strength

Test	Result	Requirement	Test Status
Stitched	0	2500 N/100mm	N/a
Bonded	2,811	2500 N/100mm	N/a
Peel	113	25 N/mm	N/a

Aged Joint Strength

Test	Result	Requirement	Test Status
Stitched	0	2500 N/100mm	N/a
Bonded	2,592	2500 N/100mm	N/a
Peel	111	25 N/mm	N/a

Unaged Tensile Strength

Test	Result	Requirement	Test Status
Yarn 01	14	$\geq$ 8N (mono), $\geq$ 30 (fibb)	Pass
Yarn 02	14.2	$\geq$ 8N (mono), $\geq$ 30 (fibb)	Pass
Yarn 03	0	$\geq$ 8N (mono), $\geq$ 30 (fibb)	N/a

Aged Strength Tests

Test	Result	Requirement	Test Status
Yarn 01	13.6	>50% of unaged	Pass
Yarn 02	14.4	>50% of unaged	Pass
Yarn 03	0	>50% of unaged	N/a

Comments