One Turf – Tables of Testing

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WORLD RUGBY

Parameter	Test Method	Minimum Value	Maximum Value
Shock Absorption	AAA Version (FIFA Method)	55%	70%
Vertical Deformation		5mm	11mm
Rotational Resistance	EN 15301-1 (football studs)	25Nm	50Nm
Impact Attenuation (HIC)	EN 1177	1.3m	-
Ball Roll (large ball)	FIFA Method	-	12m
Vertical Ball Rebound (large ball)	EN 12235 (absolute)	0.6m	1.0m
Evenness (Surface Regularity)	EN 13606 (3m straight edge)	-	10mm
Slope	Surveyor's Level		1%

Performance Tests

WORLD RUGBY

Parameter	Dry	Wet	Temperature Extremes	After Simulated Wear	Hot Water Immersion	UV Exposure	Laboratory Requirement		
							Min	Max	Units
Shock Absorption	X	X	X	X			57	68	%
Vertical Deformation	X	X	X	X			6	10	Mm
Rotational Resistance	X	X		X			32	43	Nm
Impact Attenuation (HIC)	X	X	X	X			1.3	-	m
Ball Roll (large ball)	X	X		X			-	12	m
Ball Roll (small ball)	X	X		X			5	-	m
Vertical Ball Rebound	X	X		X			0.6	1.0	m
Angled Ball Rebound	X	X		X			45	70	%
Skin/Surface Friction	X						0.3	0.75	
Skin Abrasion	X						-30	30	%
Tensile Strength – Yarn	X					X	30	.	N
Tensile Strength – Joints	X				X		2,500	.	N/100mm
Tensile Strength – Carpet	X						25	.	N/100mm
Tensile Strength – Shock pad	X						25	.	N/mm
Colour Change – Yarn	X					X	3	.	Grey Scale
Colour Change – Infill	X					X	3	.	Grey Scale
Water Permeability		X					500	.	mm/h

Performance Tests

WORLD RUGBY

Parameter	Laboratory ID Test	Field ID Test – On installation	Field ID Test – Subsequent testing
Carpet			
Mass per Unit Area	X	X	
Tufts per Unit Area	X	X	
Tuft Withdrawal Force	X	X	
Pile Height	X	X	X
Total Pile Weight	X	X	
Yarns (per yarn)			
Pile Yarn Characteristic (DSC)	X	X	
Pile Thickness	X	X	X
dTex	X	X	
Infills (per infill)			
Particle Size	X	X	X*
Particle Shape	X	X	X*
Bulk Density	X	X	
Thermogravimetric Analysis (TGA)	X#	X#	
Shock Pad			
Thickness	X	X	
Shock Absorption	X	X	
Vertical Deformation	X	X	

Performed on non-natural infills only
* Only required on performance infills

Identification Tests

WORLD RUGBY

	FIFA	FIH	World Rugby
Certification process in place	X	X	X
Licensee process in place	X	X	X
Certification limited to licensees	X	X	
Accredited Test Institute Process	X	X	X
Lisport XL used for simulated wear	X		X
Lisport used for simulated wear		X	
Large Ball Roll Requirement	X		
Small Ball Roll Requirement		X	
Splash Rating Requirement	X		X
Heat Rating Requirement	X		X
Minimum Pile Height Requirement			X
HIC requirement			X
Energy Restitution Requirement			X

Sport Specific Requirements

WORLD RUGBY