



TESTING SERVICES, INC.
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TEST REPORT

CLIENT:	X-Grass	REPORT NUMBER:	51513
	PO Box 579	LAB TEST NUMBER:	2313-7799
	Rocky Face, GA 30740	DATE:	April 12, 2011
		PAGE:	1 of 2

Test Material: 50 oz/yd2 Xgrass Turf

Infill: 3.0 lbs/ft² Xgrass STF

Pad: 2" Playground Pad

Tested Dimension: 18" x 18"

Sub Base: Concrete

Impact Location: Center of Test Material

Date of Receipt: April 4, 2011

Testing Period: April 6--11, 2011

Authorization: Lynette Ogle

Test Procedure: The submitted sample was evaluated for Shock Absorbing Properties in Accordance with the procedures outlined in ASTM F 1292-09; Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.

Missile: Hemispherical (Triaxial Accelerometer): Total Drop Assembly Weight (46g) 10 lbs

Test Equipment: Triax 2000 Surface Impactor
 Date of Last Calibration: 3/21/2011 by Alpha Automation

Sample Pre-Condition: 50±10 RH, 70F±5F for a minimum of 24 hrs prior to testing

Sample Conditioning: 8 hrs @ each reference temperatures prior to testing

Temperature: Maximum Drop Height That Gives a Gmax of 200 or Less and A HIC of 1000 or less

Ambient, 72°F (23°C) 8'

Hot, 120°F (49°C) 7'

Cold, 25°F (-6°C) 8'

Critical Fall Height (CFH):	7'
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Reference Gmax Curves Included

Prepared and signed by:

 Erle Miles, Jr. VP
 Testing Services Inc.



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AMBIENT Sample Condition: Dry Temperature: 70°F (23°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	21.3	3	7'	7.05	107	575	
	2	21.3	0	7'	7.05	115	634	
	3	21.3	0	7'	7.05	117	646	
	Average				Drops 2, 3		116	640
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	22.8	3	8'	8.08	119	695	
	2	22.8	4	8'	8.08	129	778	
	3	22.8	4	8'	8.08	131	790	
	Average				Drops 2, 3		130	784
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	24.1	5	9'	9.03	141	982	
2	24.1	0	9'	9.03	148	1026		
3	24.1	2	9'	9.03	155	1083		
Average				Drops 2, 3		152	1055	

HOT Sample Condition: Dry Temperature: 120°F (49°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	19.7	4	6'	6.03	97	452	
	2	19.7	2	6'	6.03	108	517	
	3	19.7	0	6'	6.03	113	554	
	Average				Drops 2, 3		111	536
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	21.3	1	7'	7.05	120	646	
	2	21.3	2	7'	7.05	132	744	
	3	21.4	5	7'	7.12	133	757	
	Average				Drops 2, 3		133	751
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	22.8	1	8'	8.08	146	865	
2	22.8	4	8'	8.08	168	1038		
3	22.8	3	8'	8.08	180	1161		
Average				Drops 2, 3		174	1100	

COLD Sample Condition: Dry Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	21.3	1	7'	7.05	111	609	
	2	21.3	4	7'	7.05	122	699	
	3	21.3	3	7'	7.05	127	734	
	Average				Drops 2, 3		125	717
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	22.7	7	8'	8.01	118	703	
	2	22.8	5	8'	8.08	122	754	
	3	22.7	5	8'	8.01	136	871	
	Average				Drops 2, 3		129	813
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	24.1	6	9'	9.03	146	1019	
2	24.1	7	9'	9.03	140	1003		
3	24.1	7	9'	9.03	156	1123		
Average				Drops 2, 3		148	1063	