



TESTING SERVICES, INC.
 817 SHOWALTER AVE. • P.O. BOX 2041
 DALTON, GEORGIA 30722-2041
 PHONE: (706) 226-1400 • FAX: (706) 226-6118



TEST REPORT

CLIENT:	X-Grass	REPORT NUMBER:	51512
	PO Box 579	LAB TEST NUMBER:	2313-7798
	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: 1" 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)	5'
Hot, 120°F (49°C)	4'
Cold, 25°F (-6°C)	4'

Critical Fall Height (CFH):	4'
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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	16.2	2	4'	4.08	135	554	
	2	16.2	3	4'	4.08	136	555	
	3	16.3	1	4'	4.13	155	656	
	Average				Drops 2, 3		146	606
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	18.0	2	5'	5.04	162	779	
	2	18.0	0	5'	5.04	167	805	
	3	18.0	2	5'	5.04	187	933	
	Average				Drops 2, 3		177	869
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	19.7	1	6'	6.03	197	1109	
2	19.7	1	6'	6.03	214	1264		
3	19.7	0	6'	6.03	208	1223		
Average				Drops 2, 3		211	1244	

HOT Sample Condition: Dry Temperature: 120°F (49°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	14.0	7	3'	3.05	100	307	
	2	14.1	6	3'	3.09	111	353	
	3	14.1	6	3'	3.09	120	390	
	Average				Drops 2, 3		116	372
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	16.2	6	4'	4.08	167	703	
	2	16.3	7	4'	4.13	189	837	
	3	16.3	4	4'	4.13	169	726	
	Average				Drops 2, 3		179	782
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	18.0	4	5'	5.04	226	1189	
2	18.1	5	5'	5.09	259	1446		
3	18.1	2	5'	5.09	297	1754		
Average				Drops 2, 3		278	1600	

COLD Sample Condition: Dry Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	14.2	0	3'	3.13	113	395	
	2	14.3	6	3'	3.18	113	392	
	3	14.3	4	3'	3.18	112	395	
	Average				Drops 2, 3		113	394
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	16.3	6	4'	4.13	135	585	
	2	16.3	1	4'	4.13	148	667	
	3	16.3	2	4'	4.13	164	755	
	Average				Drops 2, 3		156	711
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC	
	1	18.0	1	5'	5.04	176	904	
2	18.1	2	5'	5.09	200	1061		
3	18.1	2	5'	5.09	197	1059		
Average				Drops 2, 3		199	1060	

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