



TESTING SERVICES, INC.
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TEST REPORT

CLIENT:	Blue Sky Turf International	REPORT NUMBER:	49342
	534 Brighton Way	LAB TEST NUMBER:	2163-2708
	Valley Forge, PA 19460	DATE:	September 9, 2010
		PAGE:	1 of 2

Test Material: Ultrafiber G4 DF

Infill: 3.0 lbs/ft² SBR Rubber

Pad: None

Tested Dimension: 18" x 18"

Sub Base: 3" Crushed Rock

Impact Location: Center of Test Material

Date of Receipt: August 2, 2010

Testing Period: August 31 - September 2, 2010

Authorization: Hank Julicher

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. A deviation to this standard was made at the request of the client who instructed TSI to substitute the above listed sub base in place of concrete to comply with the client's installation protocol.

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

Test Equipment: Triax 2000 Surface Impactor
 Date of Last Calibration: 3/4/2010 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

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

Temperature:	
Ambient, 72°F (23°C)	5'
Hot, 120°F (49°C)	6'
Cold, 25°F (-6°C)	7'
Critical Fall Height (CFH):	5'

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	16.4	5	4'	4.18	136	605
	2	16.4	6	4'	4.18	135	576
	3	16.4	3	4'	4.18	132	534
	Average			Drops 2, 3		134	555
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.0	4	5'	5.04	144	711
	2	18.1	3	5'	5.09	147	681
	3	18.1	4	5'	5.09	140	622
	Average			Drops 2, 3		144	652
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.7	2	6'	6.03	178	1031
2	19.7	0	6'	6.03	174	1031	
3	19.7	7	6'	6.03	177	1025	
Average			Drops 2, 3		176	1028	

HOT Sample Condition: Dry Temperature: 120°F (49°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.0	2	5'	5.04	151	754
	2	18.1	4	5'	5.09	162	809
	3	18.1	6	5'	5.09	152	754
	Average			Drops 2, 3		157	782
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.7	2	6'	6.03	167	959
	2	19.7	2	6'	6.03	161	844
	3	19.8	1	6'	6.09	143	697
	Average			Drops 2, 3		152	771
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	0	7'	7.05	181	1200
2	21.3	2	7'	7.05	174	1082	
3	21.3	2	7'	7.05	180	1082	
Average			Drops 2, 3		177	1082	

COLD Sample Condition: Dry Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.8	1	6'	6.09	120	567
	2	19.8	1	6'	6.09	129	616
	3	19.9	5	6'	6.15	122	569
	Average			Drops 2, 3		126	593
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.2	1	7'	6.98	159	887
	2	21.3	0	7'	7.05	161	886
	3	21.3	7	7'	7.05	173	984
	Average			Drops 2, 3		167	935
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.7	8	8'	8.01	140	812
2	22.9	1	8'	8.15	185	1162	
3	22.8	8	8'	8.08	180	1119	
Average			Drops 2, 3		183	1141	