



TEST REPORT

CLIENT:	X-Grass	REPORT NUMBER:	54335R
	PO Box 579	LAB TEST NUMBER:	2418-1479R
	Rocky Face, GA 30740	DATE:	June 27, 2012
		PAGE:	1 of 2

Test Material: 2.0" Bonded Rubber

Tested Dimension: 18" x 18"

Sub Base: Concrete

Impact Location: Center of Test Material

Date of Receipt: February 9, 2012

Testing Period: April 4, 2012 - Cold Temp; June 21-22, 2012 - Ambient & Hot Temp

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: 3/13/2012 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)	4'
Cold, 25°F (-6°C)	5'

Critical Fall Height (CFH):	4'
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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	6	4'	4.08	133	602
	2	16.2	8	4'	4.08	135	618
	3	16.2	5	4'	4.08	137	631
	Average			Drops 2, 3		136	625
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.0	4	5'	5.04	165	935
	2	18.1	5	5'	5.09	164	923
	3	18.1	6	5'	5.09	168	957
	Average			Drops 2, 3		166	940
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.8	6	6'	6.09	193	1240
2	19.8	4	6'	6.09	206	1380	
3	19.8	6	6'	6.09	203	1345	
Average			Drops 2, 3		205	1363	

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	5	3'	3.05	102	369
	2	14.1	7	3'	3.09	104	374
	3	14.0	7	3'	3.05	103	373
	Average			Drops 2, 3		104	374
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	16.2	5	4'	4.08	132	595
	2	16.2	3	4'	4.08	137	648
	3	16.2	7	4'	4.08	141	678
	Average			Drops 2, 3		139	663
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.0	6	5'	5.04	177	1027
2	18.1	10	5'	5.09	172	979	
3	18.1	8	5'	5.09	184	1075	
Average			Drops 2, 3		178	1027	

COLD Sample Condition: Dry Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	16.2	4	4'	4.08	130	569
	2	16.2	1	4'	4.08	130	582
	3	16.2	8	4'	4.08	133	590
	Average			Drops 2, 3		132	586
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.1	3	5'	5.09	154	838
	2	18.1	6	5'	5.09	155	852
	3	18.1	9	5'	5.09	151	811
	Average			Drops 2, 3		153	832
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.8	6	6'	6.09	186	1181
2	19.8	5	6'	6.09	186	1214	
3	19.8	7	6'	6.09	190	1219	
Average			Drops 2, 3		188	1217	

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