



## TEST REPORT

CLIENT:	X-Grass	REPORT NUMBER:	54793
	PO Box 579	LAB TEST NUMBER:	2418-1482R
	Rocky Face, GA 30740	DATE:	April 17, 2012
		PAGE:	1 of 2

**Test Material:** 3.5" 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 12, 2012

**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) 8'

Hot, 120°F (49°C) 8'

Cold, 25°F (-6°C) 8'

<b>Critical Fall Height (CFH):</b>	<b>8'</b>
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Prepared and signed by:

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Erle Miles, Jr. VP  
 Testing Services Inc.



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<b>AMBIENT Sample Condition: Dry</b> Temperature: 70°F (23°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	7	7'	7.05	112	620
	2	21.3	7	7'	7.05	120	682
	3	21.3	8	7'	7.05	119	675
	<b>Average</b>			<b>Drops 2, 3</b>		<b>120</b>	<b>679</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.7	6	8'	8.01	124	769
	2	22.8	8	8'	8.08	125	783
	3	22.8	9	8'	8.08	130	810
	<b>Average</b>			<b>Drops 2, 3</b>		<b>128</b>	<b>797</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.1	2	9'	9.03	145	980
2	24.1	8	9'	9.03	148	1024	
3	24.1	8	9'	9.03	148	1027	
<b>Average</b>			<b>Drops 2, 3</b>		<b>148</b>	<b>1026</b>	

<b>HOT Sample Condition: Dry</b> Temperature: 120°F (49°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	7	7'	7.05	115	649
	2	21.3	7	7'	7.05	115	649
	3	21.3	6	7'	7.05	111	624
	<b>Average</b>			<b>Drops 2, 3</b>		<b>113</b>	<b>637</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.8	8	8'	8.08	136	881
	2	22.7	8	8'	8.01	137	871
	3	22.7	6	8'	8.01	132	828
	<b>Average</b>			<b>Drops 2, 3</b>		<b>135</b>	<b>850</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.1	8	9'	9.03	158	1136
2	23.9	4	9'	8.88	152	1069	
3	24.1	8	9'	9.03	158	1143	
<b>Average</b>			<b>Drops 2, 3</b>		<b>155</b>	<b>1106</b>	

<b>COLD Sample Condition: Dry</b> Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	6	7'	7.05	121	723
	2	21.4	6	7'	7.12	122	721
	3	21.4	5	7'	7.12	128	768
	<b>Average</b>			<b>Drops 2, 3</b>		<b>125</b>	<b>745</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.8	5	8'	8.08	128	841
	2	22.8	5	8'	8.08	135	892
	3	22.8	4	8'	8.08	130	852
	<b>Average</b>			<b>Drops 2, 3</b>		<b>133</b>	<b>872</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.0	10	9'	8.95	143	993
2	24.0	7	9'	8.95	146	1028	
3	24.0	8	9'	8.95	154	1094	
<b>Average</b>			<b>Drops 2, 3</b>		<b>150</b>	<b>1061</b>	

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