



**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:	54351
	PO Box 579	LAB TEST NUMBER:	2418-1456
	Rocky Face, GA 30740	DATE:	February 22, 2012
		PAGE:	1 of 2

**Test Material:** 2.5" Poured-In-Place (0.50" Top Cap + 2.0" Buffings)

**Tested Dimension:** 18" x 18"

**Sub Base:** Concrete

**Impact Location:** Center of Test Material

**Date of Receipt:** February 8, 2012

**Testing Period:** February 10--21, 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: 3/21/2011 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

<u>Temperature:</u>	<u>Maximum Drop Height That Gives a Gmax of 200 or Less and A HIC of 1000 or less</u>
Ambient, 72°F (23°C)	6'
Hot, 120°F (49°C)	6'
Cold, 25°F (-6°C)	6'

<b>Critical Fall Height (CFH):</b>	<b>6'</b>
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Reference Gmax Curves Included

Prepared and signed by:

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 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	18.1	5	5'	5.09	127	641
	2	18.0	7	5'	5.04	127	654
	3	18.1	6	5'	5.09	133	698
	<b>Average</b>			<b>Drops 2, 3</b>		<b>130</b>	<b>676</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.8	8	6'	6.09	143	837
	2	19.8	6	6'	6.09	144	832
	3	19.8	9	6'	6.09	151	894
	<b>Average</b>			<b>Drops 2, 3</b>		<b>148</b>	<b>863</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	6	7'	7.05	167	1132
2	21.3	8	7'	7.05	166	1125	
3	21.3	6	7'	7.05	175	1210	
<b>Average</b>			<b>Drops 2, 3</b>		<b>171</b>	<b>1168</b>	

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	5	5'	5.04	125	657
	2	18.1	7	5'	5.09	125	664
	3	18.1	5	5'	5.09	129	690
	<b>Average</b>			<b>Drops 2, 3</b>		<b>127</b>	<b>677</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.8	7	6'	6.09	149	928
	2	19.7	6	6'	6.03	152	958
	3	19.8	7	6'	6.09	149	925
	<b>Average</b>			<b>Drops 2, 3</b>		<b>151</b>	<b>942</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	7	7'	7.05	182	1329
2	21.3	9	7'	7.05	186	1378	
3	21.3	8	7'	7.05	189	1407	
<b>Average</b>			<b>Drops 2, 3</b>		<b>188</b>	<b>1393</b>	

COLD Sample Condition: Dry Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.0	4	5'	5.04	136	711
	2	18.0	3	5'	5.04	135	701
	3	18.1	8	5'	5.09	135	692
	<b>Average</b>			<b>Drops 2, 3</b>		<b>135</b>	<b>697</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.8	8	6'	6.09	149	875
	2	19.8	5	6'	6.09	151	907
	3	19.8	4	6'	6.09	144	821
	<b>Average</b>			<b>Drops 2, 3</b>		<b>148</b>	<b>864</b>
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	4	7'	7.05	174	1142
2	21.3	6	7'	7.05	175	1150	
3	21.3	6	7'	7.05	179	1205	
<b>Average</b>			<b>Drops 2, 3</b>		<b>177</b>	<b>1178</b>	

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