



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:	54352
	PO Box 579	LAB TEST NUMBER:	2418-1458
	Rocky Face, GA 30740	DATE:	February 22, 2012
		PAGE:	1 of 2

Test Material: 3.5" Poured-In-Place (0.50" Top Cap + 3.0" 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)	8'
Hot, 120°F (49°C)	8'
Cold, 25°F (-6°C)	8'

Critical Fall Height (CFH):	8'
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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	21.3	7	7'	7.05	121	730
	2	21.3	6	7'	7.05	121	736
	3	21.3	7	7'	7.05	121	740
	Average			Drops 2, 3		121	738
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.7	2	8'	8.01	133	855
	2	22.8	8	8'	8.08	134	904
	3	22.8	5	8'	8.08	136	932
	Average			Drops 2, 3		135	918
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.1	2	9'	9.03	143	1042
2	24.1	3	9'	9.03	142	1017	
3	24.1	6	9'	9.03	141	1009	
Average			Drops 2, 3		142	1013	

HOT Sample Condition: Dry Temperature: 120°F (49°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	8	7'	7.05	116	711
	2	21.3	5	7'	7.05	116	714
	3	21.3	7	7'	7.05	122	756
	Average			Drops 2, 3		119	735
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.8	10	8'	8.08	134	845
	2	22.8	4	8'	8.08	132	853
	3	22.7	4	8'	8.01	136	906
	Average			Drops 2, 3		134	880
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.1	5	9'	9.03	146	1058
2	24.0	2	9'	8.95	149	1111	
3	24.1	5	9'	9.03	150	1110	
Average			Drops 2, 3		150	1111	

COLD Sample Condition: Dry Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	21.3	9	7'	7.05	128	773
	2	21.3	7	7'	7.05	126	749
	3	21.3	6	7'	7.05	129	784
	Average			Drops 2, 3		128	767
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.8	4	8'	8.08	143	993
	2	22.8	0	8'	8.08	143	964
	3	22.7	4	8'	8.01	139	926
	Average			Drops 2, 3		141	945
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.1	2	9'	9.03	164	1273
2	24.1	4	9'	9.03	159	1198	
3	24.1	3	9'	9.03	164	1258	
Average			Drops 2, 3		162	1228	

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