



TESTING SERVICES, INC.
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TEST REPORT

CLIENT:	Robertson Industries	REPORT NUMBER:	47837A
	4401 E. Baseline Road Suite 105	LAB TEST NUMBER:	2143-2023
	Phoenix, AZ 85042	DATE:	April 23, 2010
		PAGE:	1 of 2

Product Description: 2" Supreme

Tested Dimension: 18" x 18" X 2"

Sub Base: Concrete

Impact Location: Center of Test Material

Date of Receipt: March 15, 2010

Testing Period: 4/6/2010-4/14/2010

Authorization: Steve Scaturro

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: 3/24/2010 by Alpha Automation

Sample Pre-Condition: 50±10 RH, 7sF±5F for a minimum of 24 hrs prior to testing

Sample Conditioning: 8 hrs @ each reference temperatures prior to testing

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

Ambient, 72°F (23°C)	4'
Hot, 120°F (49°C)	4'
Cold, 25°F (-6°C)	5'

Critical Fall Height (CFH):	4'
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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	14.0	4	3'	3.05	100	344
	2	14.2	7	3'	3.13	104	370
	3	14.1	4	3'	3.09	107	384
	Average			Drops 2, 3		106	377
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	16.1	3	4'	4.03	133	589
	2	16.2	2	4'	4.08	146	677
	3	16.2	5	4'	4.08	142	659
	Average			Drops 2, 3		144	668
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.1	4	5'	5.09	181	1029
2	18.1	3	5'	5.09	176	995	
3	18.1	5	5'	5.09	182	1043	
Average			Drops 2, 3		179	1019	

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	8	3'	3.05	105	376
	2	14.0	6	3'	3.05	110	400
	3	14.0	5	3'	3.05	111	403
	Average			Drops 2, 3		111	402
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	16.2	6	4'	4.08	145	678
	2	16.3	6	4'	4.13	151	712
	3	16.3	7	4'	4.13	151	718
	Average			Drops 2, 3		151	715
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.0	7	5'	5.04	171	972
2	18.1	3	5'	5.09	181	1060	
3	18.2	6	5'	5.15	182	1049	
Average			Drops 2, 3		182	1055	

COLD Sample Condition: Dry Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	16.3	1	4'	4.13	140	638
	2	16.3	4	4'	4.13	141	645
	3	16.3	6	4'	4.13	143	662
	Average			Drops 2, 3		142	654
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	18.1	5	5'	5.09	165	899
	2	18.2	5	5'	5.15	175	966
	3	18.1	3	5'	5.09	174	954
	Average			Drops 2, 3		175	960
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	19.7	1	6'	6.03	189	1186
2	19.8	4	6'	6.09	202	1312	
3	19.8	4	6'	6.09	208	1361	
Average			Drops 2, 3		205	1337	