



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:	Robertson Industries	REPORT NUMBER:	47836A
	4401 E. Baseline Road Suite 105	LAB TEST NUMBER:	2143-2022
	Phoenix, AZ 85042	DATE:	April 23, 2010
		PAGE:	1 of 2

Product Description: 4.0" TT Classic

Tested Dimension: 18" x 18" X 4"

Sub Base: Concrete

Impact Location: Center of Test Material

Date of Receipt: March 15, 2010

Testing Period: 3/31/2010-4/1/2010

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) 9'

Hot, 120°F (49°C) 9'

Cold, 25°F (-6°C) 9'

Critical Fall Height (CFH):	9'
------------------------------------	-----------

Reference Gmax Curves Included

Prepared and signed by:

 Erle Miles, Jr. VP
 Testing Services Inc.



TEST REPORT

CLIENT:	Robertson Industries	REPORT NUMBER:	47836A
	4401 E. Baseline Road Suite 105	LAB TEST NUMBER:	2143-2022
	Phoenix, AZ 85042	DATE:	April 23, 2010
		PAGE:	Page 2 of 2

AMBIENT Sample Condition: Dry Temperature: 70°F (23°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.8	3	8'	8.08	121	766
	2	22.8	0	8'	8.08	121	770
	3	22.8	1	8'	8.08	123	785
	Average			Drops 2, 3		122	778
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.1	1	9'	9.03	130	909
	2	24.2	2	9'	9.10	134	959
	3	24.2	1	9'	9.10	135	964
	Average			Drops 2, 3		135	962
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	25.3	3	10'	9.95	141	1059
2	25.4	7	10'	10.03	142	1061	
3	25.4	2	10'	10.03	148	1154	
Average			Drops 2, 3		145	1108	

HOT Sample Condition: Dry Temperature: 120°F (49°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.8	3	8'	8.08	122	773
	2	22.8	2	8'	8.08	126	821
	3	22.8	4	8'	8.08	123	777
	Average			Drops 2, 3		125	799
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.0	5	9'	8.95	122	798
	2	24.1	3	9'	9.03	132	907
	3	24.0	5	9'	8.95	130	882
	Average			Drops 2, 3		131	895
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	25.3	4	10'	9.95	142	1082
2	25.3	4	10'	9.95	136	999	
3	25.3	1	10'	9.95	144	1096	
Average			Drops 2, 3		140	1048	

COLD Sample Condition: Dry Temperature: 25°F (-6°C)	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	22.7	3	8'	8.01	122	802
	2	22.7	1	8'	8.01	124	817
	3	22.7	2	8'	8.01	124	804
	Average			Drops 2, 3		124	811
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	24.0	3	9'	8.95	134	956
	2	24.0	4	9'	8.95	134	948
	3	24.0	5	9'	8.95	136	953
	Average			Drops 2, 3		135	951
	Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
	1	25.3	4	10'	9.95	141	1068
2	25.3	0	10'	9.95	143	1109	
3	25.3	4	10'	9.95	144	1100	
Average			Drops 2, 3		144	1105	