

**TESTING SERVICES, INC.**

817 SHOWALTER AVE., PO BOX 2041
 DALTON, GA 30722-2041
 PHONE: (706)226-1400 FAX: (706)226-6118

Client: Airfield Systems
 8028 North May Avenue Suite 201
 Oklahoma City, OK 73120

Test: ASTM F1292: Impact Attenuation of Surface Systems in and Around
 Playground Equipment

Turf ID	ATS Turf 69sl/st	Top
Infill	None	
Underlayment:	4 oz Filter Fabric	
Pad System:	1 1/8" Polygreen Foam	
Grid:	Air Drain	
Sub Base:	Concrete	Bottom

Conditions: Ambient, 75°F 57% RH Report #: 62197 Page # 2 of 4
 Date Tested: 6-Oct-14 Fall Height: 5' Lab # 2653-1302

Drop Area:**Center of Assembly**

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	17.9	2	5'	4.98	154	769
2	17.9	5	5'	4.98	163	829
3	18.0	4	5'	5.04	164	847
Average			Drops 2, 3		164	838

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	17.8	6	5'	4.92	146	687
2	17.9	10	5'	4.98	171	859
3	17.9	7	5'	4.98	180	931
Average			Drops 2, 3		176	895

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	17.8	5	5'	4.92	144	659
2	17.8	6	5'	4.92	167	822
3	17.9	8	5'	4.98	174	878
Average			Drops 2, 3		171	850

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	17.8	7	5'	4.92	144	685
2	17.9	1	5'	4.98	163	839
3	17.9	7	5'	4.98	175	930
Average			Drops 2, 3		169	885

Overall gmax (4 Locations, Three Drops Each Location in Same Spot) 170

Overall HIC (4 Locations, Three Drops Each Location in Same Spot) 867

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND ARE NOT NECESSARILY INDICATIVE OF THE QUALITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. THESE LETTERS AND REPORTS ARE FOR THE USE ONLY OF THE CLIENT TO WHOM THEY ARE ADDRESSED AND THEIR COMMUNICATION TO ANY OTHERS OR THE USE OF THE NAME TESTING SERVICES, INC. MUST RECEIVE OUR PRIOR WRITTEN APPROVAL. THE REPORTS AND LETTERS, AND OUR NAME, OUR SEALS, OR OUR INSIGNIA ARE NOT UNDER ANY CIRCUMSTANCES TO BE USED IN ADVERTISING TO THE GENERAL PUBLIC.

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 Playground Equipment

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Infill	None	
Underlayment:	4 oz Filter Fabric	
Pad System:	1 1/8" Polygreen Foam	
Grid:	Air Drain	
Sub Base:	Concrete	Bottom

Conditions: Cold Min 8hrs @ 20°F Report #: 62197 Page # 3 of 4
 Date Tested: 7-Oct-14 Fall Height: 5' Lab # 2653-1302

Drop Area:

Center of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	17.9	5	5'	4.98	146	684
2	18.0	7	5'	5.04	175	897
3	18.0	4	5'	5.04	179	920
Average			Drops 2, 3		177	909

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	18.0	5	5'	5.04	155	745
2	18.0	6	5'	5.04	148	722
3	17.9	7	5'	4.98	157	779
Average			Drops 2, 3		153	751

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	18.0	0	5'	5.04	132	626
2	18.0	2	5'	5.04	156	807
3	18.0	4	5'	5.04	156	806
Average			Drops 2, 3		156	807

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	18.0	5	5'	5.04	143	708
2	18.0	6	5'	5.04	147	724
3	18.1	2	5'	5.09	171	924
Average			Drops 2, 3		159	824

Overall gmax (4 Locations, Three Drops Each Location in Same Spot) 161

Overall HIC (4 Locations, Three Drops Each Location in Same Spot) 822

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Infill	None	
Underlayment:	4 oz Filter Fabric	
Pad System:	1 1/8" Polygreen Foam	
Grid:	Air Drain	
Sub Base:	Concrete	Bottom

Conditions: Hot Min 8 hrs @ 120°F Report #: 62197 Page # 4 of 4
 Date Tested: 8-Oct-14 Fall Height: 5' Lab # 2653-1302

Drop Area:

Center of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	17.9	8	5'	4.98	154	774
2	18.0	8	5'	5.04	158	810
3	18.0	1	5'	5.04	159	812
Average			Drops 2, 3		159	811

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	17.9	8	5'	4.98	148	746
2	18.0	3	5'	5.04	137	677
3	18.0	9	5'	5.04	169	844
Average			Drops 2, 3		153	761

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	17.9	7	5'	4.98	168	844
2	18.0	6	5'	5.04	173	893
3	18.0	2	5'	5.04	163	858
Average			Drops 2, 3		168	876

Quadrant of Assembly

Drop #	Velocity ft/sec	Angle	Drop Ht/Actual	Drop Ht/Theoretical	Gmax	HIC
1	18.0	7	5'	5.04	166	840
2	18.0	7	5'	5.04	168	881
3	18.0	4	5'	5.04	152	762
Average			Drops 2, 3		160	822

Overall gmax (4 Locations, Three Drops Each Location in Same Spot) 160

Overall HIC (4 Locations, Three Drops Each Location in Same Spot) 817

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