

TSI TESTING SERVICES, INC.
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DALTON, GEORGIA 30722-2041
PHONE: (706) 226-1400 • FAX: (706) 226-6118



TEST REPORT

CLIENT:	SGW & Tile Tech Inc.	REPORT NUMBER:	64573
	1317 W. Royal Lane	LAB TEST NUMBER:	2732-4476
	Dallas, TX 75261	DATE:	August 3, 2015
		PAGE:	1 of 1

Test Material:

Turf Identification	Infill System	Sub Base
Everglade Fescue	2.5 lbs/ft ² 20/40 Silica Sand	2" Aggregate

INTRODUCTION:

Testing Services Inc was instructed by the client, to perform ADA wheelchair accessibility for the above described material being used under and around playground equipment.

TEST METHOD:

ASTM F1951: Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment

REQUIREMENT:

A surface in place shall have average work per foot (work per meter) values for straight propulsion and for turning *less* than the average work per foot (work per meter) values for straight propulsion and for turning, respectively, on a hard, smooth, surface with a grade of 1:14 (7.1 %).

PROCEDURE:

Test Surface Preparation: Tests were conducted on 7/31/15 indoors at TSi Laboratories in an environment of 76°F and 55% R.H. The synthetic turf was installed over the above identified sub-base in a wooden box (44"W x 117"L). The system, prior to testing, was slightly compacted using a water-filled lawn roller to simulate foot traffic.

Wheelchair/Operator: The wheelchair used in these tests was manufactured by *Invcare*, Model Action Xtra, serial Number 98J84142. This wheelchair is totally adjustable, a necessity for these tests. The pneumatic tires were inflated to 60 psi on the rear and 32 psi on the front. The weight of the wheelchair was 24.25 pounds and the operator's weight was 165 pounds for a total of 189 pounds. The operator's distribution was adjusted to 60% on the rear wheels and 40 % on the front.

Torque Measuring System: A certified *Dillon Electronic Force Gauge*, Model BFG 500N, S/N 98-2277-07 was used as an interface between a *Dell* Laptop and a certified *Dillon Smart Torque Wrench*, S/N 97-0085-01. Software, also from Dillon, logged the load vs. time and integrated the area under the resulting curves. The adapters and accessories needed to attach the instrumentation were fabricated locally. This total package added 10 pounds to the total weight bringing the total to 199 pounds.

TEST RESULTS:

(Average Work/ft-Force)

Baseline Straight (Average Work/ft-Force)	Everglade Fescue w/infill System (Average Work/ft-Force)
13.50 lbs	8.38 lbs
Baseline Turning (Average Work/ft-Force)	Everglade Fescue w/infill System (Average Work/ft-Force)
10.24 lbs	5.97 lbs

Conclusion:

The above listed material *meets/exceeds* both the straight line and turning propulsion requirements set forth in this test method and therefore, passes the standard.

Approved By:

Erle Miles, Jr V.P., Testing Services Inc

TSi Accreditation:

Our laboratory is accredited with US Dept of Commerce, National Institute of Standards and Technology: ISO/IEC 17025:2005. TSi is a recognized certified laboratory by the Synthetic Turf Council

Uncertainty:

We undertake all assignments for our clients on a best effort basis. Our findings and judgments are based on the information to us using the latest test methods available.

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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TEST REPORT

CLIENT:

Company:	SGW & Tile Tech Inc.	Report Number:	72540
Address:	1400 N. Daly Street	Lab Test Number:	2977-4917
	Anaheim, CA 92806	Test Completion Date:	12/11/2017
		Report Date:	12/15/2017
		Page:	1 of 1
Requested By:	Jack Lee		

TEST MATERIAL:

Material Type:	Synthetic Turf	Date Received:	12/6/2017
Material Condition:	EXCELLENT: XXX GOOD: POOR: REJECTED:		
Product Name:	Pet Turf		
Infill System:	1.5 lbs/ft ² Silica Sand		
Sub base:	2" Aggregate		

TESTING METHODS REQUESTED:

Testing Services, Inc was instructed by the client to perform the following testing..	
Standard: ASTM F1951	Test Method: Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment

SAMPLING PLAN:

Sampling Date:	12/8/2017
<ul style="list-style-type: none"> • Specimen sampling is performed in the sampling department at TSI. • The sampling size of specimens is determined by the test method requirements. • In the event a specific sampling size is not called for, a determination will be made based on previous testing experience, and approved for use by an authorized manager. • All samples are subjected to the outside environmental conditions of temperature and relative humidity. • Sample requiring pre-determined exposure to specified environmental conditions based on a specific test method, take place in the departments in which they are tested 	

DEVIATION FROM TEST METHOD:

State reason for any Deviation from, Additions to, or Exclusions From Test Method.	
None	

REQUIREMENT:

A surface in place shall have average work per foot (work per meter) values for straight propulsion and for turning *less* than the average work per foot (work per meter) values for straight propulsion and for turning, respectively, on a hard, smooth, surface with a grade of 1:14 (7.1 %).

PROCEDURE:

Test Surface Preparation: Tests were conducted on 12/11/2017 indoors at TSI Laboratories in an environment of 63°F and 23% R.H. The synthetic turf was infilled with the above listed infill and installed over a 2" thick layer of Aggregate sub-base in a wooden box (44"W x 117"L). The system, prior to testing, was slightly compacted using a Brinly 18" X 24" water-filled lawn roller, filled with 28 gallons of water, applying 270 lbs to simulate foot traffic.

Wheelchair/Operator: The wheelchair used in these tests was manufactured by *Invcare*, Model Action Xtra, Serial Number 98J84142. This wheelchair is totally adjustable, a necessity for these tests. The pneumatic tires were inflated to 60 psi on the rear and 32 psi on the front. The weight of the wheelchair was 24.25 pounds and the operator's weight was 165 pounds for a total of 189 pounds. The operator's distribution was adjusted to 60% on the rear wheels and 40 % on the front.

Torque Measuring System: A certified *Mecmesin Advanced Force Gauge*, Model 500N, was used as an interface between a *Dell* Laptop and a calibrated *Smart Torque Wrench*, S/N 97-0085-01. Emperor Lite Software, from *Mecmesin*, logged the load vs. time and integrated the area under the resulting curves. The adapters and accessories needed to attach the instrumentation were fabricated locally. This total package added 10 pounds to the total weight bringing the total to 199 pounds.

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