



TESTING SERVICES, INC.
 817 SHOWALTER AVE. • PO. BOX 2641
 DALTON, GEORGIA 30727-2641
 PHONE: (706) 226-1400 • FAX: (706) 226-6118

TEST REPORT

CLIENT: International Mulch Company
 3585 Tree Court Industrial Blvd
 St Louis MO 63122

TEST REPORT: 27309

LAB NUMBER: 1512-8776

DATE: May 18, 2004

INTRODUCTION: Mr. Tim Miller, representing the client, submitted *Cypress Chunks*, for testing to ASTM F1951. The Cypress Chunks were installed by TSi in a wooden box (44" W x 117"L x 6" Thick).

TEST METHOD: ASTM F 1951-99, *Standard Specification for Determination of Accessibility of Surface 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: **Sample Surface Preparation:** Tests were conducted on 5/17/04 indoors at 78F and 85% R.H.

Wheelchair/Operator: The wheelchair used in these tests was manufactured by *Invacare*, 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 32 pounds and the operator's weight was 166 pounds for a total of 198 pounds. His weight 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 *Micron 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 curve. The adapters and accessories needed to attach the instrumentation were fabricated locally.

TEST RESULTS:

Baseline Straight Propulsion	16.04 lbs. Average Work/ft (Force)	A
IMC System Straight Propulsion	15.96 lbs. Average Work/ft (Force)	B
Baseline Turning Propulsion	10.52 lbs. Average Work/ft (Force)	C
IMC System Turning Propulsion	9.59 lbs. Average Work/ft (Force)	D

CONCLUSION: The system met or exceeded the requirements.

Testing Services Inc

Erle Miles, President

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