



# Detroit Testing Laboratory, Inc.

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## TEST REPORT

**Ever-Green Landscape Nursery and Supply, Inc.**  
**2762 North Center Point Road**  
**Cedar Rapids, IA 52411**

<b>DTL REPORT NO</b>	6028008
<b>REPORT DATE</b>	3/20/06
<b>RECEIVE DATE</b>	2/15/06

**ATTN: Mr. Dale Peterson**

### SAMPLE DESCRIPTION

Ever-Green Landscape Nursery and Supply, Inc. submitted approximately 40 cubic feet of loose-fill wood material for testing, identified as "Playmate Play Area Wood Chips".

### WORK REQUESTED/TEST SPECIFICATIONS

1. Wheelchair work measurement method - straight propulsion with no material on a flat surface with a grade of 7.1%.
2. Wheelchair work measurement method - straight propulsion with material and no grade.
3. Wheelchair work measurement method - turning 90° with no material on a flat surface with a grade of 7.1%.
4. Wheelchair work measurement method -turning 90° with material and no grade.

### REFERENCE DOCUMENTS

ASTM F1951 -99 - Determination of Accessibility of Surface Systems Under and Around Playground Equipment

### CONCLUSION

The average work force per Newton meter values measured lower when propelling the wheelchair over a eight (8) inch compacted depth of material than when propelling the wheelchair over a flat surface with a grade of 7.1%. The material, Playmate Play Area Wood Chips, met the requirements of ASTM F1951-99.

Page 1 of 3

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QCF1090 5/16/03

**TEST RESULTS**

Playmate Play Area Wood Chips were installed at an initial depth of four (4) inches, leveled, then tamped, using a ten (10) inch x ten (10) inch hand tamper. This process was repeated until a depth of eight (8) inches was achieved. The sample material was evaluated by propelling the wheelchair with four (4) even pushes across the material 5.65 feet within eight (8) seconds. This procedure was repeated five (5) times for each test (straight and 90° turn propulsions).

Wheelchair Rider Weight = 176 Lbs.

Total Weight (Rider and Wheelchair Combined) = 211 Lbs.

Run#	No Material work per Newton meter, (N•m)	With Material work per Newton meter, (N•m)
Straight Run 1	13.534	10.493
Straight Run 2	13.443	9.954
Straight Run 3	13.508	9.585
Straight Run 4	13.252	10.040
Straight Run 5	13.433	9.180
<b>Average</b>	<b>13.461</b>	<b>9.860</b>
Turn Run 1	13.587	11.457
Turn Run 2	13.649	11.373
Turn Run 3	13.445	11.031
Turn Run 4	13.236	10.257
Turn Run 5	13.259	10.677
<b>Average</b>	<b>13.430</b>	<b>11.027</b>

ASTM 1951-99 Work per meter average was determined discarding the high and low work per Newton meter values and averaging the remaining three trials.

Average work per Newton meter straight, no material, grade of 7.1% = 13.461 N•m  
 Average work per Newton meter straight with material = 9.860 N•m  
 Average work per Newton meter turn, no material, grade of 7.1% = 13.430 N•m  
 Average work per Newton meter turn with material = 11.027 N•m

**REQUIREMENTS**

The average work per Newton meter values for straight propulsion and for turning with material should be less than the average of work per meter for straight and turning on flat surface with a grade of 7.1 % .

## TEST EQUIPMENT

### **Detroit Testing Laboratory, Inc.'s calibration system meets the requirements of ISO 17025:1999.**

- DTL Wheelchair Accessibility Fixture
- Lebow Strain Gauge Reaction Torque Sensor, Model 2110-110-500, ID No. 09715-Z, Calibrated to 5/31/06
- Daytronics Signal Conditioner, Model 3370, ID No. 09357, Calibrated to 5/31/06
- Quickie Wheelchair, Model Q2, No Calibration Required
- GSE 620 Weight Indicator, ID No. 02259, Calibrated to 8/5/06
- Mitutoyo Digital Protractor, Model Pro 360, ID No. 09696, Calibrated to 5/02/06
- 10-inch x 10-inch Hand Tamper, Heat Treated Steel, No Calibration Required

## SAMPLE DISPOSITION

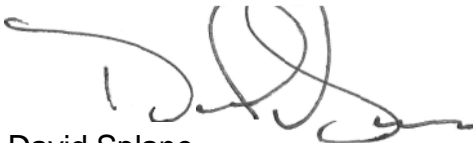
The sample material will be retained for thirty (30) days, then disposed of at the discretion of DTL unless otherwise requested by Ever-Green Landscape Nursery and Supply, Inc.

Reported by:

### **DETROIT TESTING LABORATORY, INC.**



Tim Lockstein,  
Certification Technician



David Splane  
Certification Program Coordinator

DS/KGS/dd

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