



**TESTING SERVICES, INC.**  
 817 SHOWALTER AVE. • P.O. BOX 2041  
 DALTON, GEORGIA 30722-2041  
 PHONE: (706) 226-1400 • FAX: (706) 226-6118



## TEST REPORT

<b>CLIENT:</b>	River Valley Tire Recycling	<b>REPORT NUMBER:</b>	64827
	24087 AR-164	<b>LAB TEST NUMBER:</b>	2743-4877
	Clarksville, AR 72830	<b>DATE:</b>	August 27, 2015
		<b>PAGE:</b>	1 of 1

**Test System:**

<b>Mulch Identification</b>
½" WeeTread Rubber Mulch @ 4" Compacted depth

**Test Scope:**

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. 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 %).

**Test Method:**

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

**Procedure:**

**Test Surface Preparation:** Tests were conducted on 8/27/15 indoors at TSi Laboratories in an environment of 73°F and 51% R.H. The playground mulch was installed in a wooden box, (44"W x 117"L) in increments of 2", slightly compacted, and repeated, until a total compacted depth of 4" was obtained. A final compaction, to simulate foot traffic, was conducted using a water filled lawn roller.

**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 *Dillion Electronic Force Gauge*, Model BFG 500N, S/N 98-2277-07, calibration certificate # 312349, was used as an interface between a *Dell* Laptop and a certified *Dillon Smart Torque Wrench*, S/N 97-0085-01, calibration certificate # 312340. 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 Data:**

<b>Baseline Straight (Average Work/ft-Force)</b>	<b>4" Compacted ½" WeeTread Rubber Mulch (Average Work/ft-Force)</b>
13.50 lbs	13.96 lbs

<b>Baseline Turning (Average Work/ft-Force)</b>	<b>4" Compacted ½" WeeTread Rubber Mulch (Average Work/ft-Force)</b>
10.24 lbs	8.97 lbs

**Conclusion:**

The above listed material *does not meet* both the straight line and turning propulsion requirements set forth in this test method and therefore fails ADA requirements.

**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 certified independent laboratory by the Synthetic Turf Council.



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## TEST REPORT

CLIENT:	River Valley Tire Recycling	REPORT NUMBER:	64985R
	24087 AR-164	LAB TEST NUMBER:	2748-5075
	Clarksville, AR 72830	DATE:	September 23, 2015
		PAGE:	1 of 1

### Test System:

Mulch Identification
½" WeeTread Rubber Mulch @ 3½" Compacted depth

### Test Scope:

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. 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 %).

### Test Method:

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

### Procedure:

**Test Surface Preparation:** Tests were conducted on 9/21/15 indoors at TSi Laboratories in an environment of 73°F and 48% R.H. The playground mulch was installed in a wooden box, (44"W x 117"L) in increments of 2", compacted, and repeated, until a total compacted depth of 3½" was obtained. A final compaction, to simulate foot traffic, was conducted using a water filled lawn roller.

**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, calibration certificate # 312349, was used as an interface between a *Dell* Laptop and a certified *Dillon Smart Torque Wrench*, S/N 97-0085-01, calibration certificate # 312340. 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 Data:

Baseline Straight (Average Work/ft-Force)	3½" Compacted ½" WeeTread Rubber Mulch (Average Work/ft-Force)
13.50 lbs	12.7 lbs

Baseline Turning (Average Work/ft-Force)	3½" Compacted ½" WeeTread Rubber Mulch (Average Work/ft-Force)
10.24 lbs	8.7 lbs

### Conclusion:

The above listed material *Meets* both the straight line and turning propulsion requirements set forth in this test method and therefore passes ADA requirements.

### Approved By

Erle Miles, Jr. is a duly Licensed Professional Engineer in the State of Georgia, License No. 50586. He is also a member of the Georgia Engineering Council.

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 certified independent laboratory by the Synthetic Turf Council.

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. VISIT OUR WEBSITE AT [www.tsiofdaltong.com](http://www.tsiofdaltong.com)



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## TEST REPORT

<b>CLIENT:</b>	River Valley Tire Recycling	<b>REPORT NUMBER:</b>	64985
	24087 AR-164	<b>LAB TEST NUMBER:</b>	2748-5075
	Clarksville, AR 72830	<b>DATE:</b>	September 16, 2015
		<b>PAGE:</b>	1 of 1

**Test System:**

<b>Mulch Identification</b>
½" WeeTread Rubber Mulch @ 4" Compacted depth

**Test Scope:**

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. 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 %).

**Test Method:**

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

**Procedure:**

**Test Surface Preparation:** Tests were conducted on 9/15/15 indoors at TSi Laboratories in an environment of 67°F and 49% R.H. The playground mulch was installed in a wooden box, (44"W x 117"L) in increments of 2", slightly compacted, and repeated, until a total compacted depth of 4" was obtained. A final compaction, to simulate foot traffic, was conducted using a water filled lawn roller.

**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, calibration certificate # 312349, was used as an interface between a *Dell Laptop* and a certified *Dillon Smart Torque Wrench*, S/N 97-0085-01, calibration certificate # 312340. 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 Data:**

<b>Baseline Straight (Average Work/ft-Force)</b>	<b>4" Compacted ½" WeeTread Rubber Mulch (Average Work/ft-Force)</b>
13.50 lbs	14.276 lbs
<b>Baseline Turning (Average Work/ft-Force)</b>	<b>4" Compacted ½" WeeTread Rubber Mulch (Average Work/ft-Force)</b>
10.24 lbs	8.66 lbs

**Conclusion:**

The above listed material *does not meet* both the straight line and turning propulsion requirements set forth in this test method and therefore fails ADA requirements.

**Approved By:**

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

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 certified independent laboratory by the Synthetic Turf Council.



To verify product certification,  
visit [www.ipema.org](http://www.ipema.org)

TÜV SÜD America Inc.  
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Plymouth, MI 48170

Phone: (734) 455-4841  
Fax: (734) 455-6590  
E-mail: [info@tuvam.com](mailto:info@tuvam.com)  
[www.TUVamerica.com](http://www.TUVamerica.com)



September 29, 2014

West River Valley RSWMD  
24087 Hwy 164  
Clarksville, AR 7283

Tim Lewellyn,

**SUBJECT: IPEMA Surfacing Program Congratulations**

Dear Tim:

You have worked hard to get to this point and on behalf of IPEMA, I would like to congratulate you and your company's effort on achieving IPEMA validation!

The IPEMA administrator will be supplying you the Certification Seal, boilerplate language and IPEMA website login and passwords. Please refer to the appendix B of the application and license agreement for proper use of artwork.

Questions related to RV submittals via the website should be directed to TÜV SÜD America.

Please refer to the IPEMA website at [www.ipema.org](http://www.ipema.org) for a complete listing of organization officials and committee opportunities.

Sincerely,

Certification Program Manager

A handwritten signature in black ink, appearing to read 'David Splane'.

David Splane  
IPEMA Validator

CC: Denise Calabrese, IPEMA Administrator



**TUV SUD America Inc.**  
 Product Safety Services  
 47523 Clipper Drive  
 Plymouth, MI 48170  
 Phone: 734.455.4841

**Impact Attenuation Report – ASTM F1292-13**

Participant: West River Valley RSWMD  
 Main Office Address: 24087 Hwy 164  
Clarksville, AR 72830  
 Phone: 479-754-7475  
 Manufacturing Location ID: Clarksville, AR  
 Commercial Name of product: Playfun Mulch  
 Date of Manufacture: Unknown  
 No. of samples submitted: Approximately 12 cubic feet

TUV Report No.: QI1408840-1  
 Report Date: 9/5/2014  
 Test Date: 9/4/14 & 9/5/14  
 Selection:  Initial:   
 Follow up:  Ref Job:  
 Sample Receipt Date: 9/3/2014  
 Ambient Air Temperature: 22.4°C  
 Humidity: 42.0%

**Test Equipment:**

Triax System 4:	<input checked="" type="checkbox"/>	Environmental Chamber No.:	<u>PLYP00101</u>
Triax System 1:	<input type="checkbox"/>	Calibration Due Date:	<u>6/17/15</u>
Accelerometer ID:	<u>PLYP00121</u>	Environmental Chamber No.:	<u>PLYP00069</u>
Accelerometer Calibration Due Date:	<u>1/22/2015</u>	Calibration Due Date:	<u>8/11/15</u>

**Loose fill Material Sample Description:**

Engineered Wood Fiber:	<input type="checkbox"/>	Un-compacted Depth:	<u>7</u> Inches
Loose Fill Wood:	<input type="checkbox"/>		
Rubber:	<input checked="" type="checkbox"/>	Compacted Depth:	<u>6</u> Inches
Sand:	<input type="checkbox"/>		
Gravel:	<input type="checkbox"/>		
Other:	<input type="checkbox"/>		

**Unitary Sample Description:**

Tiles	<input type="checkbox"/>	Total Thickness:	_____
Poured in Place	<input type="checkbox"/>	Top Layer:	_____
Other	<input type="checkbox"/>	Base Layer:	_____

**Comments:**

**The above described sample was tested at : 12 Ft.**

The results reported herein reflect the performance of the above described samples at the time of testing and at the temperature(s) reported. The results are specific to the described samples. Samples of surfacing materials that do not closely match the described samples will perform differently. The following data sheet provides an accurate representation of the test results.

Sample in compliance with ASTM F1292-13 at the temperature and rating specified? Yes  No

Signature: [Signature] Title: Product Safety Engineer Date: 9/5/2014  
 Reviewed by: [Signature] Title: Regional Manager Date: 9/5/2014

Client: West River Valley RSWMD

TUV Report No.

Q1408840-1

Manufacturer: West River Valley RSWMD

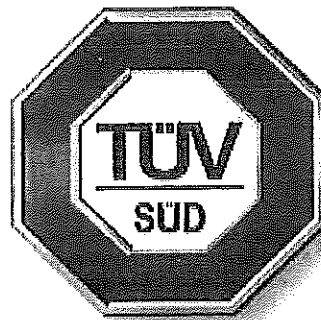
Test Date:

9/4/14 & 9/5/14

Drop	Specified Impact Height (Ft.)	Reference Temperature -6°C, (21.2°F)				Reference Temperature 23°C, (73.4°F)				Reference Temperature 49°C, (120.2°F)			
		G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)
1	12	87	434	27.8	12.014	80	372	27.8	12.014	103	574	27.9	12.101
2	12	95	495	27.9	12.101	98	517	28.0	12.188	116	644	28.1	12.275
3	12	84	411	28.0	12.188	90	445	28.0	12.188	122	701	28.1	12.275
Average		89.5	453			94	481			119	672.5		
Measured Surface Temperature		-6°C	Max. Change from reference + 5°C, (5°F)			23°C	Max. Change from reference ± 3°C, (5°F)			49°C	Max. Change from reference -3°C, (-5°F)		
Sample Condition:		DRY				DRY				DRY			

Drop	One foot over (Ft.)	Reference Temperature -6°C, (21.2°F)				Reference Temperature 23°C, (73.4°F)				Reference Temperature 49°C, (120.2°F)			
		G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)
1					0.000				0.000				0.000
2					0.000				0.000				0.000
3					0.000				0.000				0.000
Average		0	0			0	0			0	0		
Measured Surface Temperature		°C	Max. Change from reference + 5°C, (5°F)			°C	Max. Change from reference ± 3°C, (5°F)			°C	Max. Change from reference -3°C, (-5°F)		
Sample Condition:													

Drop	One foot under (Ft.)	Reference Temperature -6°C, (21.2°F)				Reference Temperature 23°C, (73.4°F)				Reference Temperature 49°C, (120.2°F)			
		G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)
1					0.000				0.000				0.000
2					0.000				0.000				0.000
3					0.000				0.000				0.000
Average		0	0			0	0			0	0		
Measured Surface Temperature		°C	Max. Change from reference + 5°C, (5°F)			°C	Max. Change from reference ± 3°C, (5°F)			°C	Max. Change from reference -3°C, (-5°F)		
Sample Condition:													



America



**TUV SUD America Inc.**  
 Product Safety Services  
 47523 Clipper Drive  
 Plymouth, MI 48170  
 Phone: 734.455.4841

**Impact Attenuation Report – ASTM F1292-13**

Participant: West River Valley RSWMD  
 Main Office Address: 24087 Hwy 164  
Clarksville, AR 72830  
 Phone: 479-754-7475  
 Manufacturing Location ID: Clarksville, AR  
 Commercial Name of product: Playfun Mulch  
 Date of Manufacture: Unknown  
 No. of samples submitted: Approximately 12 cubic feet

TUV Report No.: QI1408840-2  
 Report Date: 9/5/2014  
 Test Date: 9/4/14 & 9/5/14  
 Selection:  Initial:   
 Follow up  Ref Job:  
 Sample Receipt Date: 9/3/2014  
 Ambient Air Temperature: 22.4°C  
 Humidity: 42.0%

**Test Equipment:**

Triax System 4:	<input checked="" type="checkbox"/>	Environmental Chamber No.:	PLYP00101
Triax System 1:	<input type="checkbox"/>	Calibration Due Date:	6/17/15
Accelerometer ID:	PLYP00121	Environmental Chamber No.:	PLYP00069
Accelerometer Calibration Due Date:	1/22/2015	Calibration Due Date:	8/11/15

**Loose fill Material Sample Description:**

Engineered Wood Fiber:	<input type="checkbox"/>	Un-compacted Depth:	<u>5</u> Inches
Loose Fill Wood:	<input type="checkbox"/>		
Rubber:	<input checked="" type="checkbox"/>		
Sand:	<input type="checkbox"/>	Compacted Depth:	<u>4</u> Inches
Gravel:	<input type="checkbox"/>		
Other:	<input type="checkbox"/>		

**Unitary Sample Description:**

Tiles	<input type="checkbox"/>	Total Thickness:	_____
Poured in Place	<input type="checkbox"/>	Top Layer:	_____
Other	<input type="checkbox"/>	Base Layer:	_____

**Comments:**

**The above described sample was tested at : 8 Ft.**

The results reported herein reflect the performance of the above described samples at the time of testing and at the temperature(s) reported. The results are specific to the described samples. Samples of surfacing materials that do not closely match the described samples will perform differently. The following data sheet provides an accurate representation of the test results.

Sample in compliance with ASTM F1292-13 at the temperature and rating specified?      Yes            No     

Signature: [Signature]      Title: Product Safety Engineer      Date: 9/5/2014

Reviewed by: [Signature]      Title: Regional Manager      Date: 9/5/2014



Client: West River Valley RSWMD

TUV Report No.

Q11408840-2

Manufacturer: West River Valley RSWMD

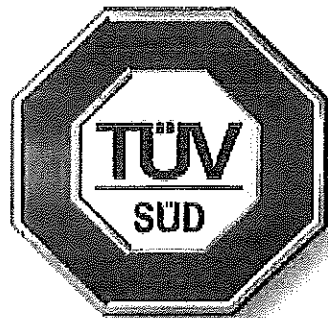
Test Date:

9/4/14 & 9/5/14

Drop	Specified Impact Height (ft.)	Reference Temperature -6°C, (21.2°F)				Reference Temperature 23°C, (73.4°F)				Reference Temperature 49°C, (120.2°F)			
		G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)
1	8	99	456	22.8	8.081	112	560	22.9	8.152	109	533	22.9	8.152
2	8	108	486	22.9	8.152	125	624	22.9	8.152	111	521	22.9	8.152
3	8	110	513	22.9	8.152	134	685	22.9	8.152	150	866	22.9	8.152
Average		109	499.5			129.5	654.5			130.5	693.5		
Measured Surface Temperature		-6°C	Max. Change from reference + 5°C, (5°F)			23°C	Max. Change from reference ± 3°C, (5°F)			49°C	Max. Change from reference -3°C, (-5°F)		
Sample Condition:		DRY				DRY				DRY			

Drop	One foot over (ft.)	Reference Temperature -6°C, (21.2°F)				Reference Temperature 23°C, (73.4°F)				Reference Temperature 49°C, (120.2°F)			
		G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)
1					0.000				0.000				0.000
2					0.000				0.000				0.000
3					0.000				0.000				0.000
Average		0	0			0	0			0	0		
Measured Surface Temperature		°C	Max. Change from reference + 5°C, (5°F)			°C	Max. Change from reference ± 3°C, (5°F)			°C	Max. Change from reference -3°C, (-5°F)		
Sample Condition:													

Drop	One foot under (ft.)	Reference Temperature -6°C, (21.2°F)				Reference Temperature 23°C, (73.4°F)				Reference Temperature 49°C, (120.2°F)			
		G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)
1					0.000				0.000				0.000
2					0.000				0.000				0.000
3					0.000				0.000				0.000
Average		0	0			0	0			0	0		
Measured Surface Temperature		°C	Max. Change from reference + 5°C, (5°F)			°C	Max. Change from reference ± 3°C, (5°F)			°C	Max. Change from reference -3°C, (-5°F)		
Sample Condition:													



America



**TÜV SÜD America Inc. Product Safety Services**  
 47253 Clipper Drive, Plymouth, MI 48170  
 Phone: 734.455.4841 Fax: 734.455.6590

## IPEMA Playground Surfacing Certification Program

### Annual Inspection Report

Inspection Type:

Initial Inspection:

Annual/Subsequent Inspection:

Date of This Inspection: **8/27/2014**

Participant: **West River Valley RSWMD**

Contacts:

Technical Test:

Technical Test: **Stephanie Sheppard**

Corporate: **Frank Baker, Tim Lewellyn**

**Product Type(s) Certified:**

EWF    
 PIP    
 LFR    
 TILE    
 TURF    
 Other

Inspection Results:

Facility Approval

Pass   
 Fail   
 Pending

Validator: *[Signature]*

Participant Rep: *[Signature]*

Date: 8/27/2014

Date: 8-27-2014

**Summary Comments:**

- Need a bound control manual with documented procedures. *Rec 9/22*
- Develop procedure for corrective actions *Rec 9/22*
- Develop installation/maintenance instructions and method of distribution. *Rec 9/22*
- Need certificate of insurance for TUV *Rec 9/22*