



## TEST REPORT

**RUBBERECYCLE, LLC  
1985 RUTGERS UNIVERSITY BLVD.  
LAKEWOOD, NJ 08701**

**DTL REPORT NO 6128012-1  
REPORT DATE 4/6/2007  
RECEIVE DATE 3/13/2007**

**ATTN: Mr. Keith Sacks**

### SAMPLE DESCRIPTION

Rubberecycle, LLC submitted approximately twelve, (12), cubic feet of loose fill rubber material, identified by Rubbeercycle, LLC as Playsafer. Testing was performed on 3/26/07 and 3/29/07.

### WORK REQUESTED/TEST SPECIFICATIONS

To determine the maximum critical fall height of a three, (3), inch compacted depth Playsafer loose fill rubber material at temperatures  $-6^{\circ}$  C,  $23^{\circ}$  C and  $49^{\circ}$  C per ASTM F1292-04.

### REFERENCE DOCUMENTS

ASTM F1292-04 – Impact Attenuation of Surface Systems Under and Around Playground Equipment

### CONCLUSION

The maximum critical fall height of a three, (3), inch compacted depth Playsafer loose fill rubber material was determined at seven, (7), feet.

The material depth indicated (3 inch compacted Playsafer), met HIC, (Head Impact Criteria), and G-Max requirements at the critical fall height indicated per ASTM F1292-04. The results reported herein reflect the performance of this playground surface system at the time of testing and at the temperatures indicated. Performance will vary with temperature, moisture content and other factors.

## TEST RESULTS

Sample material, (Playsafer), was tested to determine the maximum critical fall height of a three, (3), inch compacted depth at temperatures  $-6^{\circ}$  C,  $23^{\circ}$  C and  $49^{\circ}$  C. An impact test consists of three (3) impacts at the same impact site, at each height. Calculate the average HIC and G-Max values using the second and third impacts.

For impact data reduction, please refer to Attachment A, (2 pages).

## REQUIREMENTS

ASTM F1292-04, using an average of the last two (2) of three (3) impacts. No value shall exceed 200 G-Max or 1000 HIC.

## TEST EQUIPMENT

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

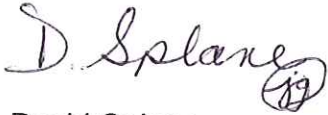
- Triax 2000 Surface Impact Tester, Serial No.: 30-7901, Verified prior to use
- Dytran Tri-axial accelerometer, Model 3014M2, Serial No.: 1361, DTL ID No.: 11509, Calibrated to 8/31/2007
- Omega Digital Thermometer, Model HHII, ID No. 10633, Calibrated to 2/2008.
- Omega Penetration Probe, Thermocouple Type K, Model No. 88311, ID No. 10634, Calibrated to 2/2008.
- Thermotron Environmental Chamber, ID No. EC106, Calibrated to 5/31/2007.
- Thermotron Environmental Chamber, ID No. EC002, Calibrated to 8/1/2007

**SAMPLE DISPOSITION**

Sample material will be retained by DTL for fifteen (15) days, then disposed of at the discretion of DTL unless otherwise requested by Rubbecycle, LLC .

Reported by:

**DETROIT TESTING LABORATORY, INC.**



David Splane  
Certification Program Coordinator



Keith Shelton  
Certification Program Manager

DS/KGS

Enclosure: Terms and Conditions



# DETROIT TESTING LABORATORY, INC.

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## IPEMA SURFACING MATERIAL REPORT – ASTM F1292-04

Client: Rubberecycle, LLC  
 Manufacturer: Rubberecycle, LLC  
 Manufacturing Location: Lakewood, NJ  
 Commercial Name of product: Playsafer, (Loose Fill Rubber)

Date of Manufacture: Unknown  
 No. of samples submitted: 12 Cu. Ft.

DTL Report No.: 6128012-1  
 Report Date: 4/6/2007  
 Test Date: 3/26/07 & 3/29/07  
 Initial Test   
 Follow up Test  Ref Job:  
 Sample Selection   
 Selection Date: N/A  
 Sample Receipt Date: 3/13/2007  
 Ambient Air Temperature: 23 °C

### Test Equipment:

DTL Guided Wire Tower Accelerometer Calibration Due Date: N/A  
 Triax 2000 Accelerometer Calibration Due Date: 8/31/2007  
 Temperature Probe Calibration Due: Feb., 2008

Environmental Chamber No.: EC106  
 Calibration Due Date: 5/31/2007  
 Environmental Chamber No.: EC002  
 Calibration Due Date: 8/1/2007

### Loose fill Material Sample Description:

Loose Fill Wood:   
 Engineered Wood Fiber:   
 Loose fFill Rubber   
 Sand:   
 Gravel:   
 Other:

Un-compacted Depth: 4 Inches

Compacted Depth: 3 Inches

### Unitary Sample Description:

Tiles   
 Poured in Place   
 Other

Thickness:  
 Thickness:  
 Thickness:

### Comments:

The Maximum Critical Fall Height of a three, (3), inch compacted depth Playsafer, loose fill rubber, was determined

at:

7

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 F1292-04 at the temperature and rating specified?

Yes

No

Signature: D. Splone

Date: 4/13/07

Reviewed by: Scott C. Smith

Date: 4/13/07

Client: Rubberecycle, LLCDTL Report No. 6128012-1Manufacturer: Rubberecycle, LLCTest Date: 3/26/07 & 3/29/07

Drop	Maximum Critical Fall Height - (Ft.)	Reference Temperature -6°C			Reference Temperature 23°C			Reference Temperature 49°C		
		g-Max	HIC	Velocity (ft/s)	g-Max	HIC	Velocity (ft/s)	g-Max	HIC	Velocity (ft/s)
1	7	98	449	21.6	125	632	21.7	164	918	21.7
2	7	117	593	21.7	116	538	21.6	143	700	21.7
3	7	107	498	21.6	193	1092	21.7	195	1114	21.7
Average		112	545.5		154.5	815		169	907	
Measured Surface Temperature		-6°C	Max. Change from reference + 5°C		23°C	Max. Change from reference ± 3°C		49°C	Max. Change from reference -3°C	
Sample Condition:		DRY			DRY			DRY		

Drop	One foot over (Ft.)	Reference Temperature -6°C			Reference Temperature 23°C			Reference Temperature 49°C		
		g-Max	HIC	Velocity (ft/s)	g-Max	HIC	Velocity (ft/s)	g-Max	HIC	Velocity (ft/s)
1	8	138	847	23.0	152	835	22.9	220	1495	23.1
2	8	119	624	22.9	137	684	22.8	167	911	23.1
3	8	155	974	23.1	220	1384	23.0	303	2300	23.2
Average		137	799		178.5	1034		235	1605.5	
Measured Surface Temperature		-6°C	Max. Change from reference + 5°C		23°C	Max. Change from reference ± 3°C		49°C	Max. Change from reference -3°C	
Sample Condition:		DRY			DRY			DRY		

Drop	One foot under (Ft.)	Reference Temperature -6°C			Reference Temperature 23°C			Reference Temperature 49°C		
		g-Max	HIC	Velocity (ft/s)	g-Max	HIC	Velocity (ft/s)	g-Max	HIC	Velocity (ft/s)
1	6	95	402	20.2	96	430	20.0	119	605	20.2
2	6	86	321	20.2	89	349	19.9	108	502	20.3
3	6	123	608	20.4	178	906	20.1	108	485	20.3
Average		104.5	464.5		133.5	627.5		108	493.5	
Measured Surface Temperature		-6°C	Max. Change from reference + 5°C		23°C	Max. Change from reference ± 3°C		49°C	Max. Change from reference -3°C	
Sample Condition:		DRY			DRY			DRY		



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