



TUV SUD America Inc.

Product Safety Services

47523 Clipper Drive

Plymouth, MI 48170

Phone: 734.455.4841

**Surfacing Material Report – ASTM F1292-09**

Client: RB Rubber Products, Inc.  
Manufacturer: RB Rubber Products, Inc.  
Manufacturing Location: McMinnville, OR  
Commercial Name of product: 3.5 Inch Interlocking Playground Tile  
with EPDM  
Date of Manufacture: Unknown  
No. of samples submitted: 4

TUV Report No.: QI1105916-1  
Report Date: 7/21/2011  
Test Date: 7/20, & 7/21/2011  
Initial Test   
Follow up Test  Ref Job:  
Sample Selection   
Selection Date: N/A  
Sample Receipt Date: 7/7/2011  
Ambient Air Temperature: 23.1

**Test Equipment:**

Triax 2000 Accelerometer Calibration Due Date: 1/2012  
Temperature Probe Calibration Due: 1/2012

Environmental Chamber No.: PLYP00101  
Calibration Due Date: 8/11  
Environmental Chamber No.: PLYP00069  
Calibration Due Date: 8/11

**Loose fill Material Sample Description:**

Loose Fill Wood:  Un-compacted Depth: \_\_\_\_\_ Inches  
Engineered Wood Fiber:   
Rubber:   
Sand:  Compacted Depth: \_\_\_\_\_ Inches  
Gravel:   
Other:

**Unitary Sample Description:**

Tiles  Thickness: 3.5 Inch  
Poured in Place  Thickness: \_\_\_\_\_  
Other  Thickness: \_\_\_\_\_

**Comments:**

- 1. Determine the worst location on the tile to be impacted (Center, & Seam) based on Peak g-Max/HIC values.
- 2. All testing will be performed at the above determined worst case impact location per tile.

**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 F1292-09 at the temperature and rating specified? Yes  No

Signature:

Date: 7/26/2011

Reviewed by:

Date: 7/26/2011

Client: **RB Rubber Products, Inc.**

TUV Report No. **QI1105916-1**

Manufacturer: **RB Rubber Products, Inc.**

Test Date: **7/20, & 7/21/0211**

**Determine Worst Case Location (1 ambient drop: Center, Corner, Seam of Tile)**

Location	Height (ft)	Peak g-Max	HIC	Velocity (ft/s)
Center	8	109	601	22.5
Seam	8	106	585	22.4

Location tested:

**Center**

Drop	Specified Drop 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	8	121	724	22.6	117	638	22.4	107	620	22.6
2	8	128	774	22.6	111	633	22.4	115	645	22.7
3	8	126	745	22.6	113	630	22.4	114	664	22.6
Average		127	759.5		112	631.5		114.5	654.5	
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 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	N/A									
2										
3										
Average		0	0		0	0		0	0	
Measured Surface Temperature		°C	Max. Change from reference +5°C		°C	Max. Change from reference +3°C		°C	Max. Change from reference -3°C	
Sample Condition:										

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	N/A									
2										
3										
Average		0	0		0	0		0	0	
Measured Surface Temperature		°C	Max. Change from reference +5°C		°C	Max. Change from reference ±3°C		°C	Max. Change from reference -3°C	
Sample Condition:										



**America**



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

**Surfacing Material Report – ASTM F1292-09**

Client: **RB Rubber Products, Inc.**  
 Manufacturer: **RB Rubber Products, Inc.**  
 Manufacturing Location: **McMinnville, OR**  
 Commercial Name of product: **3.5 Inch Interlocking Playground Tile**  
   **- Solid SBR**  
 Date of Manufacture: **Unknown**  
 No. of samples submitted: 4

TUV Report No.: **QI1105916-2**  
 Report Date: **7/21/2011**  
 Test Date: **7/20, & 7/21/2011**  
 Initial Test   
 Follow up Test  **Ref Job:**  
 Sample Selection   
 Selection Date: **N/A**  
 Sample Receipt Date: **7/7/2011**  
 Ambient Air Temperature: **23.1**

**Test Equipment:**

Triax 2000 Accelerometer Calibration Due Date: <u>1/2012</u>	Environmental Chamber No.: <u>PLYP00101</u>
Temperature Probe Calibration Due: <u>1/2012</u>	Calibration Due Date: <u>8/2011</u>
	Environmental Chamber No.: <u>PLYP00069</u>
	Calibration Due Date: <u>8/2011</u>

**Loose fill Material Sample Description:**

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

**Unitary Sample Description:**

Tiles <input checked="" type="checkbox"/>	Thickness: <b>3.5 Inch</b>
Poured in Place <input type="checkbox"/>	Thickness: _____
Other <input type="checkbox"/>	Thickness: _____

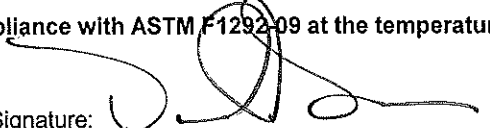
**Comments:**

- Determine the worst location on the tile to be impacted (Center, & Seam) based on Peak g-Max/HIC values.
- All testing will be performed at the above determined worst case impact location per tile.

**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 F1292-09 at the temperature and rating specified?                      Yes                       No

Signature: 

Date: 7/26/2011

Reviewed by: 

Date: 7/26/11

Client: **RB Rubber Products, Inc.**

TUV Report No. **QI1105916-2**

Manufacturer: **RB Rubber Products, Inc.**

Test Date: **7/20, & 7/21/0211**

**Determine Worst Case Location (1 ambient drop: Center, Corner, Seam of Tile)**

Location	Height (ft)	Peak g-Max	HIC	Velocity (ft/s)
Center	8	115	696	22.6
Seam	8	114	692	22.5

**Location tested:**

**Center**

Drop	Specified Drop 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	8	110	594	22.5	122	737	22.5	105	577	22.6
2	8	117	639	22.6	122	746	22.6	112	619	22.6
3	8	115	634		125	761	22.6	118	652	22.6
Average		116	636.5		123.5	753.5		115	635.5	
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 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	N/A									
2										
3										
Average		0	0		0	0		0	0	
Measured Surface Temperature		°C	Max. Change from reference +5°C		°C	Max. Change from reference ±3°C		°C	Max. Change from reference -3°C	
Sample Condition:										

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	N/A									
2										
3										
Average		0	0		0	0		0	0	
Measured Surface Temperature		°C	Max. Change from reference +5°C		°C	Max. Change from reference +3°C		°C	Max. Change from reference -3°C	
Sample Condition:										



**America**



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**Surfacing Material Report – ASTM F1292-09**

Client: RB Rubber Products, Inc.  
Manufacturer: RB Rubber Products, Inc.  
Manufacturing Location: McMinnville, OR  
Commercial Name of product: 2.5 Inch Interlocking Playground Tile  
with EPDM  
Date of Manufacture: Unknown  
No. of samples submitted: 4

TUV Report No.: QI1105916-3  
Report Date: 7/21/2011  
Test Date: 7/20, & 7/21/2011  
Initial Test   
Follow up Test  Ref Job:  
Sample Selection   
Selection Date: N/A  
Sample Receipt Date: 7/7/2011  
Ambient Air Temperature: 23.1

**Test Equipment:**

Triax 2000 Accelerometer Calibration Due Date: 1/2012  
Temperature Probe Calibration Due: 1/2012

Environmental Chamber No.: PLYP00101  
Calibration Due Date: 8/2011  
Environmental Chamber No.: PLYP00069  
Calibration Due Date: 8/2011

**Loose fill Material Sample Description:**

Loose Fill Wood:  Un-compacted Depth: \_\_\_\_\_ Inches  
Engineered Wood Fiber:   
Rubber:   
Sand:  Compacted Depth: \_\_\_\_\_ Inches  
Gravel:   
Other:

**Unitary Sample Description:**

Tiles  Thickness: 2.5 Inch  
Poured in Place  Thickness: \_\_\_\_\_  
Other  Thickness: \_\_\_\_\_

**Comments:**

- 1. Determine the worst location on the tile to be impacted (Center, & Seam) based on Peak g-Max/HIC values.
- 2. All testing will be performed at the above determined worst case impact location per tile.

**The above described sample was tested at :     6     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 F1292-09 at the temperature and rating specified?     Yes      No

Signature: [Signature]

Date: 7/26/2011

Reviewed by: [Signature]

Date: 7/24/11

Client: **RB Rubber Products, Inc.**

TUV Report No. **QI1105916-3**

Manufacturer: **RB Rubber Products, Inc.**

Test Date: **7/20, & 7/21/0211**

**Determine Worst Case Location (1 ambient drop: Center, Corner, Seam of Tile)**

Location	Height (ft)	Peak g-Max	HIC	Velocity (ft/s)
Center	6	133	667	19.5
Seam	6	131	667	19.5

Location tested:

**Center**

Drop	Specified Drop 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	6	126	627	19.7	137	690	19.5	137	697	19.6
2	6	136	698	19.7	152	807	19.6	150	778	19.7
3	6	139	718	19.7	154	822	19.6	144	738	19.7
Average		137.5	708		153	814.5		147	758	
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	N/A									
2										
3										
Average		0	0		0	0		0	0	
Measured Surface Temperature		°C	Max. Change from reference + 5°C		°C	Max. Change from reference + 3°C		°C	Max. Change from reference -3°C	
Sample Condition:										

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	N/A									
2										
3										
Average		0	0		0	0		0	0	
Measured Surface Temperature		°C	Max. Change from reference + 5°C		°C	Max. Change from reference ± 3°C		°C	Max. Change from reference -3°C	
Sample Condition:										



America



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**Surfacing Material Report – ASTM F1292-09**

Client: **RB Rubber Products, Inc.**  
 Manufacturer: **RB Rubber Products, Inc.**  
 Manufacturing Location: **McMinnville, OR**  
 Commercial Name of product: **2.5 Inch Interlocking Playground Tile**  
   **- Solid SBR**  
 Date of Manufacture: **Unknown**  
 No. of samples submitted: 4

TUV Report No.: **Q11105916-4**  
 Report Date: **7/21/2011**  
 Test Date: **7/20, & 7/21/2011**  
 Initial Test   
 Follow up Test  Ref Job:  
 Sample Selection   
 Selection Date: **N/A**  
 Sample Receipt Date: **7/7/2011**  
 Ambient Air Temperature: **23.1**

**Test Equipment:**

Triax 2000 Accelerometer Calibration Due Date: 1/2012  
 Temperature Probe Calibration Due: 1/2012

Environmental Chamber No.: PLYP00101  
 Calibration Due Date: 8/2011  
 Environmental Chamber No.: PLYP00069  
 Calibration Due Date: 8/2011

**Loose fill Material Sample Description:**

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

Un-compacted Depth: \_\_\_\_\_ Inches  
 Compacted Depth: \_\_\_\_\_ Inches

**Unitary Sample Description:**

Tiles  Thickness: **2.5 Inch**  
 Poured in Place  Thickness:  
 Other  Thickness:

**Comments:**

- Determine the worst location on the tile to be impacted (Center, & Seam) based on Peak g-Max/HIC values.
- All testing will be performed at the above determined worst case impact location per tile.

**The above described sample was tested at :     6     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 F1292-09 at the temperature and rating specified?     Yes      No

Signature:

Date: 7/26/2011

Reviewed by:

Date: 7/26/2011

Client: **RB Rubber Products, Inc.**

TUV Report No. **QI1105916-4**

Manufacturer: **RB Rubber Products, Inc.**

Test Date: **7/20, & 7/21/0211**

**Determine Worst Case Location (1 ambient drop: Center, Corner, Seam of Tile)**

Location	Height (ft)	Peak g-Max	HIC	Velocity (ft/s)
Center	6	130	674	19.6
Seam	6	131	671	19.6

Location tested:

**Center**

Drop	Specified Drop 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	6	121	590	19.7	143	768	19.6	142	722	19.7
2	6	134	667	19.7	149	797	19.6	148	755	19.7
3	6	137	678	19.7	151	811	19.7	167	916	19.7
Average		135.5	672.5		150	804		157.5	835.5	
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 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	N/A									
2										
3										
Average		0	0		0	0		0	0	
Measured Surface Temperature		°C	Max. Change from reference + 5°C		°C	Max. Change from reference + 3°C		°C	Max. Change from reference -3°C	
Sample Condition:										

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	N/A									
2										
3										
Average		0	0		0	0		0	0	
Measured Surface Temperature		°C	Max. Change from reference + 5°C		°C	Max. Change from reference ± 3°C		°C	Max. Change from reference -3°C	
Sample Condition:										



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