



TUV SUD America Inc.

Product Safety Services

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Surfacing Material Report - Least Favorable Impact Location – ASTM F1292-13

Client: Rubbercycle, LLC
 Manufacturer: Rubbercycle, LLC
 Manufacturing Location: Lakewood, NJ
 Phone: (732) 363-0600
 Commercial Name of Product: Synthetic Turf
 Date of Manufacture: Unknown
 No. of samples submitted: 3 - 30in. X 30in. Systems

Project No.: 72120577-3
 Report Date: 9/28/2016
 Test Date: 9/28/2016
 Initial Test
 Follow up Test **Ref Job:**
 Sample Receipt Date: 9/23/2016
 Ambient Air Temperature: 22.0°C
 Humidity: 37.0%

Test Equipment:

Alpha Automation, Triax, TUV System 5: <input checked="" type="checkbox"/>	Environmental Chamber No.:	PLYP00069
Alpha Automation, Triax, TUV System 4: <input type="checkbox"/>	Calibration Due Date:	9/26/2017
Accelerometer ID: PLYP00144	Environmental Chamber No.:	PLYP00101
Accelerometer Calibration Date: 2/16/2016	Calibration Due Date:	9/26/2017

Unitary Sample Layer Description:

Total Thickness: 4.25in.
 Top Layer: 1.25in.
 Base Layer: 3.00in.

Determine Least Favorable Impact Location: The highest percentage (%), of maximum allowable value, based on g-max or HIC, as tested at the locations indicated on Page 2.

Least Favorable Impact Location was determined at:	Impact Location:	Reference Temperature:
	<u>Corner</u>	<u>23°C</u>

Comments:

- 1.) Samples tested in laboratory environment, overlying poured concrete floor.
- 2.) Calculate the average g-max and HIC scores by averaging results from the second and third impacts.
- 3.) After Least Favorable Impact Location is determined at 23°C, remaining testing will be completed at temperatures 49°C and -6°C at that location.
- 4.) System: 1.25in. pile Synthetic Turf, overlying 3.00in. rubber mat filled with loose fill rubber mulch. Turf infilled with 2.5lbs. per square foot of sand (15.6lbs.). Total system depth/thickness of 4.25in.

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. Compliance with this Standard does not constitute product certification.

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

Signature: Timothy Fouchia Title: Project Coordinator Date: 9/28/2016

Reviewed by: [Signature] Title: Regional Manager Date: 9/28/2016

Client: **Rubberecycle, LLC**Project No.: **72120577-3**Manufacturer: **Rubberecycle, LLC**Test Date: **9/28/2016****Impact Location: Center of Sample**

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				0.000	76	430	27.8	12.014				0.000	
2	12				0.000	89	441	27.8	12.014				0.000	
3	12				0.000	88	378	27.8	12.014				0.000	
Average		0	0			88.5	409.5			0	0			
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						
Percentage (%) of maximum allowable values (g-max and HIC):						g-max:	44.3%	HIC:	41.0%					

Impact Location: Corner of Sample

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	85	519	27.8	12.014	89	464	27.8	12.014	123	492	27.8	12.014	
2	12	73	369	27.7	11.928	149	610	27.8	12.014	154	656	27.8	12.014	
3	12	76	359	27.7	11.928	156	622	27.8	12.014	159	711	27.7	11.928	
Average		74.5	364			152.5	616			156.5	683.5			
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						
Percentage (%) of maximum allowable values (g-max and HIC):						g-max:	76.3%	HIC:	61.6%					

Impact Location: Seam of Sample

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				0.000	87	534	27.8	12.014				0.000	
2	12				0.000	90	455	27.8	12.014				0.000	
3	12				0.000	87	422	27.8	12.014				0.000	
Average		0	0			88.5	438.5			0	0			
Measured Surface Temperature		°C	Max. Change from reference + 5°C, (5°F)				23°C	Max. Change from reference ± 3°C, (±5°F)				°C	Max. Change from reference -3°C, (-5°F)	
Sample Condition:		DRY						DRY						
Percentage (%) of maximum allowable values (g-max and HIC):						g-max:	44.3%	HIC:	43.9%					



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