



**TUV SUD America Inc.**

**Product Safety Services**

47523 Clipper Drive  
Plymouth, MI 48170

Phone: 734.455.4841

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

Participant: XGrass Inc  
Main Office Address: PO Box 579  
Rocky Face, GA 30740  
Phone: 706 272 0140  
Manufacturing Location ID: Dalton, GA  
Commercial Name of product: XGrass Prime 53 oz (12 ft system)  
Date of Manufacture: Unknown  
No. of samples submitted: 3 Turf tile systems

TUV Report No.: QI1407999-3, Rev. 1  
Report Date: 9/9/14  
Test Date: 8/11/14 & 8/12/14  
Selection:  Initial:   
Follow up  Ref Job:  
Sample Receipt Date: 7/9/2014  
Ambient Air Temperature: 22°C  
Humidity: 44.0%  
Initial report date: 8/12/2014

**Test Equipment:**

Triax System 4:  Environmental Chamber No.: PLYP00101  
Triax System 1:  Calibration Due Date: 6/17/15  
Accelerometer ID: PLYP00121 Environmental Chamber No.: PLYP00069  
Accelerometer Calibration Due Date: 1/22/2015 Calibration Due Date: 6/17/15

**Loose fill Material Sample Description:**

Engineered Wood Fiber:  Un-compacted Depth: 4.5 Inches  
Loose Fill Wood:   
Rubber:   
Sand:  Compacted Depth: 4 Inches  
Stone / Aggregate:   
Other:

**Unitary Sample Description:**

Turf Tile System  Total Thickness: 6.55 in.  
Poured in Place  Turf Layer: 1.55 in.  
Other  Pad Layer: 5 in.

**Comments:**

XGrass Prime 53oz turf tiles embedded with with 3 lbs/sq ft Envirofill silica, overlying four; 1.125 inch foam panels, (1.25 in. measured), overlying 4 in. compacted 3/4 in. stone /patio paver stone dust aggregate blend. Report, revision 1, editorial.


**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: 

Title: Project Coordinator Date: 9/9/14

Reviewed by: 

Title: Regional mgr. Date: 9/9/2014

Client: **XGrass Inc**

TUV Report No.

**QI1407999-3, Rev. 1**

Manufacturer: **XGrass Inc**

Test Date:

**8/11/14 & 8/12/14**

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	123	913	27.8	12.014	88	582	27.9	12.101	85	529	27.9	12.101
2	12	135	1040	27.9	12.101	93	584	27.9	12.101	93	598	27.9	12.101
3	12	136	1059	27.9	12.101	98	622	27.9	12.101	97	658	27.9	12.101
Average		135.5	1049.5			95.5	603			95	628		
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**