



TUV SUD America Inc.

Product Safety Services

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IPEMA Surfacing Material Report – ASTM F1292-13

Participant: Hanover Specialties
Main Office Address: 35 Feldland St.
Bohemia, NY 11716
Phone: (631) 231-1130
Manufacturing Location ID: Bohemia, NY
Commercial Name of product: V10 Playground Surface - 4in.
Date of Manufacture: Unknown
No. of samples submitted: 3 - 18in. X 18in. PIP Tiles

TUV Report No.: QI1402651-1
Report Date: 3/17/2014
Test Date: 3/14/2014
Selection: Initial:
Follow up Ref Job:
Sample Receipt Date: 3/6/2014
Ambient Air Temperature: 22.0°C
Humidity: 20.0%

Test Equipment:

Triax System 1: Environmental Chamber No.: PLYP00101
Triax System 2: Calibration Due Date: 7/31/14
Accelerometer ID: PLYP00089 Environmental Chamber No.: PLYP00069
Accelerometer Calibration Due Date: 6/27/2014 Calibration Due Date: 7/31/14

Loose fill Material Sample Description:

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

Unitary Sample Description:

Tiles Total Thickness: 4.0in.
Poured in Place Top Layer: Variable (see Comments)
Other Base Layer: Variable (see Comments)

Comments:

The layers of the provided samples varied. As found, the layer thicknesses are as follows:
23C Sample - 1.5in. top layer; 2.5in. base layer
49C Sample - 1.25in. top layer; 2.75in. base layer
-6C Sample - 1.0in. top layer; 3.0in. base layer

The maximum critical fall height, of the above described 9 Ft. sample, was determined to be:

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: Timothy Franklin Date: 3/17/14

Reviewed by: [Signature] Date: 3/17/2014

Client: Hanover Specialties

TUV Report No.

QI1402651-1Manufacturer: Hanover Specialties

Test Date:

3/14/2014

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	9	133	933	24.2	9.104	123	938	24.1	9.029	115	741	24.1	9.029
2	9	139	989	24.2	9.104	121	900	24.2	9.104	117	751	24.2	9.104
3	9	137	957	24.2	9.104	121	892	24.2	9.104	118	761	24.2	9.104
Average		138	973			121	896			117.5	756		
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	10	151	1162	25.3	9.951	127	1014	25.3	9.951	127	899	25.4	10.030
2	10	153	1184	25.5	10.109	130	1041	25.4	10.030	132	943	25.3	9.951
3	10	153	1178	25.5	10.109	128	1008	25.4	10.030	130	932	25.5	10.109
Average		153	1181			129	1024.5			131	937.5		
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 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	8	118	742	22.8	8.081	116	843	22.7	8.011	106	629	22.7	8.011
2	8	127	812	22.7	8.011	116	818	22.8	8.081	111	673	22.9	8.152
3	8	127	802	22.9	8.152	117	829	22.9	8.152	113	703	22.8	8.081
Average		127	807			116.5	823.5			112	688		
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			



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