



TÜV SÜD America Inc.
Product Safety Services
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IPEMA Impact Attenuation Report – ASTM F1292-13

Participant: <u>Hanover Specialties</u>	Project No.: <u>72109128</u>
Main Office Address: <u>35 Feldland St</u>	Report Date: <u>9/28/2015</u>
<u>Bohemia, NY 11716</u>	Test Date: <u>9/22-23/2015</u>
Phone: <u>631 231 1300</u>	Selection: <input type="checkbox"/> Initial: <input type="checkbox"/>
Manufacturing Location ID: <u>Bohemia, NY</u>	Quote <input checked="" type="checkbox"/> Ref Job: <u>TF341630249614.0</u>
Commercial Name of product: <u>Bondflex - 3.5in.</u>	Sample Receipt Date: <u>9/18/2015</u>
Date of Manufacture: <u>Unknown</u>	Ambient Air Temperature: <u>22.1°C</u>
No. of samples submitted: <u>3: 18 x 18 x 3.5in PIP samples</u>	Humidity: <u>35.0%</u>

Test Equipment:

Triax System 4: <input checked="" type="checkbox"/>	Environmental Chamber No.: <u>PLYP00101</u>
Triax System 1: <input type="checkbox"/>	Calibration Due Date: <u>6/22/16</u>
Accelerometer ID: <u>PLYP00144</u>	Environmental Chamber No.: <u>PLYP00069</u>
Accelerometer Calibration Due Date: <u>3/11/2016</u>	Calibration Due Date: <u>6/22/16</u>

Loose Fill Material Sample Description:

Engineered Wood Fiber: <input type="checkbox"/>	Un-compacted Depth: _____	Inches
Loose Fill Wood: <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 type="checkbox"/>	Total Thickness: <u>3.5 in.</u>
Poured in Place: <input checked="" type="checkbox"/>	Top Layer: <u>0.5 in.</u>
Loose Fill Base: <input checked="" type="checkbox"/>	Loose Fill Base Layer: <u>3 in.</u>

Comments:

2 part samples assembled and provided by customer. Loose fill rubber base layer not compacted.

Determined Maximum Critical Fall Height : 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 F1292-13 at the temperature and rating specified? Yes No

Signature:
 Reviewed by:

Title: Project Coordinator Date: 9/28/2015
 Title: Regional MGR. Date: 10/2/15

Client: Hanover Specialties

Project No.: 72109128

Manufacturer: Hanover Specialties

Test Date: 9/22-23/2015

Drop	Determined Maximum Critical Fall 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	8	121	612	22.8	8.081	129	693	22.8	8.081	115	586	22.8	8.081
2	8	131	711	22.8	8.081	135	738	22.8	8.081	114	569	22.8	8.081
3	8	150	860	22.8	8.081	140	786	22.8	8.081	120	628	22.8	8.081
Average		140.5	785.5			137.5	762			117	598.5		
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 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	9	130	659	24.2	9.104	132	768	24.2	9.104	135	837	24.2	9.104
2	9	167	1064	24.2	9.104	139	812	24.2	9.104	127	730	24.1	9.029
3	9	173	1109	24.3	9.180	151	924	24.2	9.104	126	720	24.1	9.029
Average		170	1086.5			145	868			126.5	725		
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	7	112	485	21.2	6.987	110	513	21.3	7.053	111	531	21.3	7.053
2	7	112	471	21.3	7.053	117	557	21.3	7.053	110	521	21.4	7.119
3	7	130	649	21.3	7.053	121	596	21.4	7.119	112	535	21.4	7.119
Average		121	560			119	576.5			111	528		
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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