



**CLIENT:** WM POLYMERS LLC  
1880 PERTH AMBOY AVE  
WHITING, NJ 08759  
United States

Attn: Bill McGrath III

<b>Test Report No: 4092365PP01</b>	<b>Date: 02 February 2017</b>
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**SAMPLE ID:** Play Flecks 1.5" System  
**DATE OF RECEIPT:** 13 January 2017  
**TESTING PERIOD:** 30 January - 02 February 2017  
**TEST REQUESTED:** The submitted sample was evaluated for Impact Attenuation in accordance with the procedures outlined in ASTM F1292-13, "Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment".

**TEST RESULTS:** See Pages 3-6

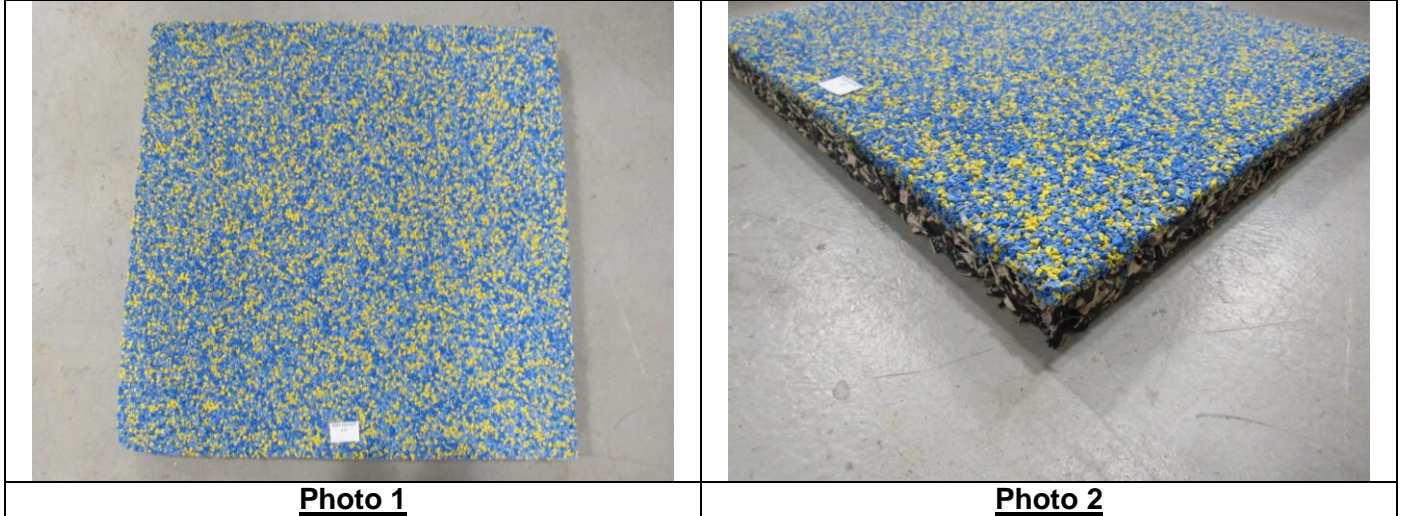
**PREPARED BY:** **SIGNED FOR AND ON BEHALF OF**  
**SGS NORTH AMERICA INC.,**

**Kyle Buttigieg, Lab Technician**  
**Packaging & Materials**

**Frank Savino, Lab Manager**  
**Packaging & Materials**

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CLIENT: WM Polymers LLC



**Sample ID:** Play Flecks 1.5" System

**Sample Dimensions:** 18" x 18" x 1.5"

**Sample Condition:** Received dry and subjected to temperature conditioning as indicated.

**Test Procedure:** ASTM F1292-09, IMPACT ATTENUATION.

**Missile:** Hemispherical Impacting Surface; Total Drop Assembly Weight 4.6 kg (10.1 pounds)

**Test Equipment:** GHI CAT Helmet Test System

**Accelerometer Calibration:** February 2016



CLIENT: WM Polymers LLC

**Test Results Summary**

<b><u>Temperature</u></b>	<b><u>"G" Max of 200 or Less and an HIC of 1000 or Less</u></b>
Ambient, 23°C (73°F)	4 feet
Cold, -6°C (25°F)	4 feet
Hot, 49°C (120°F)	4 feet
<b>Critical Fall Height</b>	<b>4 feet</b>

**PERFORMANCE CRITERION:** The performance criterion used to determine conformance with the requirements of this specification shall be: a g-max score not exceeding 200g and a HIC score not exceeding 1000 for each temperature condition.

**Note:** The results reported herein reflect the performance of the described sample at the time of testing and at the temperatures reported. The results are specific to the described sample. Samples of surfacing materials that do not closely match the described sample will perform differently.



CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**  
 ASTM F1292-09

Ambient, 23°C (73°F)

Impact Location: Body of Tile

Temperature Condition:		Ambient, 23°C (73°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	3	120	324
2	3	151	459
3	3	128	399
<b>Avg. (2 &amp; 3 Only)</b>	3	140	429
Temperature Condition:		Ambient, 23°C (73°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	4	153	600
2	4	171	533
3	4	167	655
<b>Avg. (2 &amp; 3 Only)</b>	4	169	594
Temperature Condition:		Ambient, 23°C (73°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	5	217	1200
2	5	220	1386
3	5	242	1193
<b>Avg. (2 &amp; 3 Only)</b>	5	231	1290

**COMMENT:** Para: 12.3.1 Surface Temperature, After the third impact: Ambient, 23°C (73°F)



CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**

ASTM F1292-09

Cold, -4°C (25°F)

Impact Location: Body of Tile

Temperature Condition:		Cold, -4°C (25°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	3	124	353
2	3	125	437
3	3	126	352
<b>Avg. (2 &amp; 3 Only)</b>	3	126	395
Temperature Condition:		Cold, -4°C (25°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	4	180	574
2	4	170	733
3	4	174	818
<b>Avg. (2 &amp; 3 Only)</b>	4	172	776
Temperature Condition:		Cold, -4°C (25°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	5	167	668
2	5	184	890
3	5	<b>202</b>	<b>1080</b>
<b>Avg. (2 &amp; 3 Only)</b>	5	193	985

**COMMENT:** Para: 12.3.1 Surface Temperature, After the third impact: Cold, 3°C, (37°F)

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CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**  
 ASTM F1292-09

Hot, 49°C (120°F)

Impact Location: Body of Tile

Temperature Condition:		Hot, 49°C (120°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	3	129	347
2	3	125	371
3	3	144	383
<b>Avg. (2 &amp; 3 Only)</b>	3	135	377
Temperature Condition:		Hot, 49°C (120°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	4	154	528
2	4	152	616
3	4	164	636
<b>Avg. (2 &amp; 3 Only)</b>	4	158	626
Temperature Condition:		Hot, 49°C (120°F)	
Drop No.	Drop Height	"G" Max.	HIC
	(ft)		
1	5	<b>1036</b>	<b>208</b>
2	5	<b>1135</b>	<b>231</b>
3	5	<b>1292</b>	<b>273</b>
<b>Avg. (2 &amp; 3 Only)</b>	5	<b>1124</b>	<b>252</b>

**COMMENT:** Para: 12.3.1 Surface Temperature, After the third impact: Hot, 36°C (97°F)

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**End of Report**

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**CLIENT:** WM POLYMERS LLC  
1880 PERTH AMBOY AVE  
WHITING, NJ 08759

**Test Report No: 3926163PP01**

**Date: 28 January 2016**

**The following sample was submitted by the Client as:** Playground Surface

**SAMPLE ID:** 2 ½" thick Play Flecks

**DATE OF RECEIPT:** 13 January 2016

**TEST PERIOD:** 27-28 January 2016

**TEST(S) REQUESTED:** The submitted sample was evaluated for Impact Attenuation in accordance with the procedures outlined in ASTM F1292-13, "Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment".

**TEST RESULTS:** See pages 3-6.

**PREPARED BY:**

**SIGNED FOR AND ON BEHALF OF**  
SGS NORTH AMERICA INC.,

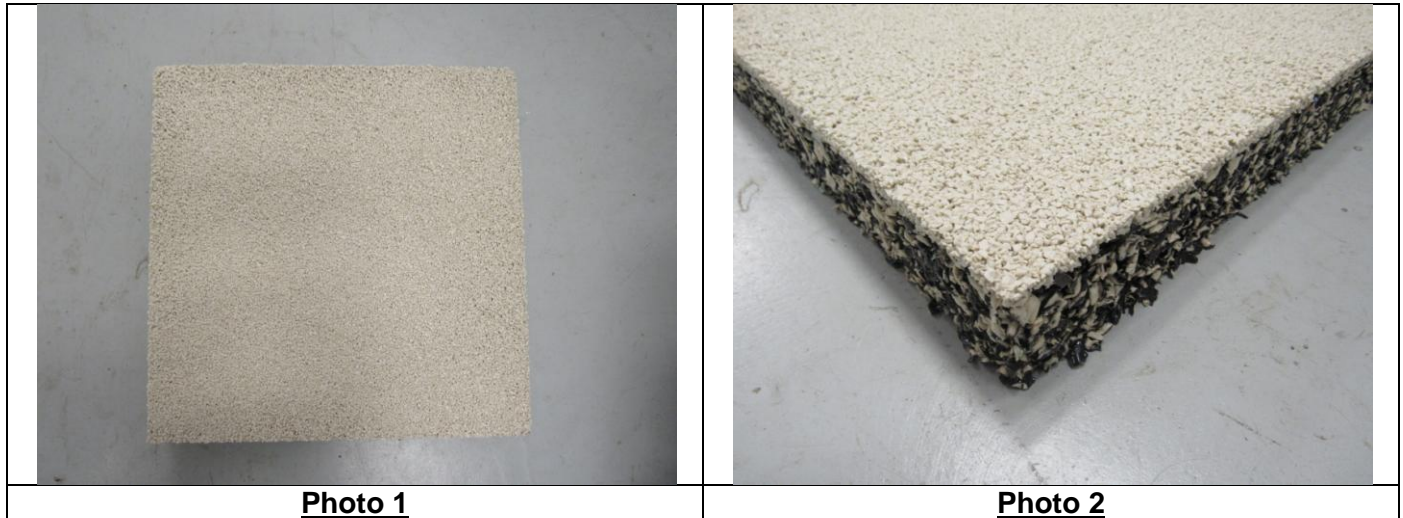
**Reyon Williams, Sr. Lab Tech**  
Materials Lab

**Frank Savino, Manager**  
Materials Evaluation

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CLIENT: WM Polymers LLC



**Sample ID:** 2 ½” thick Play Flecks

**Sample Dimensions:** 18” x 18” x 2-1/2”

**Sample Condition:** Received dry and subjected to temperature conditioning as indicated.

**Test Procedure:** ASTM F1292-09, IMPACT ATTENUATION.

**Missile:** Hemispherical Impacting Surface; Total Drop Assembly Weight 4.6 kg (10.1 pounds)

**Test Equipment:** GHI CAT Helmet Test System

**Accelerometer Calibration:** 06 May 2014



CLIENT: WM Polymers LLC

**Test Results Summary**

<b><u>Temperature</u></b>	<b><u>"G" Max of 200 or Less and an HIC of 1000 or Less</u></b>
Ambient, 23°C (73°F)	7 feet
Cold, -6°C (25°F)	7 feet
Hot, 49°C (120°F)	7 feet
<b>Critical Fall Height</b>	<b>7 feet</b>

**PERFORMANCE CRITERION:** The performance criterion used to determine conformance with the requirements of this specification shall be: a g-max score not exceeding 200g and a HIC score not exceeding 1000 for each temperature condition.

**Note:** The results reported herein reflect the performance of the described sample at the time of testing and at the temperatures reported. The results are specific to the described sample. Samples of surfacing materials that do not closely match the described sample will perform differently.

CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**  
 ASTM F1292-09

**Ambient, 23°C (73°F)**

**Impact Location: Body of Tile**

Temperature Condition:		Ambient, 23°C (73°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	6	155	704	6.11
2	6	173	713	6.11
3	6	163	742	6.11
<b>Avg. (2 &amp; 3 Only)</b>	6	168	728	6.11
Temperature Condition:		Ambient, 23°C (73°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	7	157	887	6.60
2	7	187	947	6.60
3	7	192	992	6.58
<b>Avg. (2 &amp; 3 Only)</b>	7	190	970	6.59
Temperature Condition:		Ambient, 23°C (73°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	8	199	863	7.04
2	8	<b>206</b>	849	7.02
3	8	<b>217</b>	<b>1012</b>	7.04
<b>Avg. (2 &amp; 3 Only)</b>	8	<b>212</b>	931	7.03

**COMMENT:** Para:12.3.1 Surface Temperature, After the third impact : Ambient, 23°C (73°F)

CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**  
 ASTM F1292-09

**Cold, -4°C (25°F)**

**Impact Location: Body of Tile**

Temperature Condition:		Cold, -4°C (25°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	6	172	761	6.09
2	6	163	867	6.09
3	6	172	962	6.09
<b>Avg. (2 &amp; 3 Only)</b>	6	168	915	6.09
Temperature Condition:		Cold, -4°C (25°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	7	205	642	6.58
2	7	189	970	6.58
3	7	171	950	6.58
<b>Avg. (2 &amp; 3 Only)</b>	7	180	960	6.58
Temperature Condition:		Cold, -4°C (25°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	8	201	1322	7.02
2	8	<b>219</b>	<b>1253</b>	7.04
3	8	<b>264</b>	<b>1227</b>	7.04
<b>Avg. (2 &amp; 3 Only)</b>	8	<b>242</b>	<b>1240</b>	7.04

**COMMENT:** Para:12.3.1 Surface Temperature, After the third impact : Cold, -2°C, (28°F)



CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**  
 ASTM F1292-09

Hot, 49°C (120°F)

Impact Location: Body of Tile

Temperature Condition:		Hot, 49°C (120°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	6	151	664	6.09
2	6	151	684	6.08
3	6	169	764	6.09
<b>Avg. (2 &amp; 3 Only)</b>	6	160	724	6.09

Temperature Condition:		Hot, 49°C (120°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	7	165	748	6.60
2	7	185	857	6.60
3	7	179	891	6.58
<b>Avg. (2 &amp; 3 Only)</b>	7	182	874	6.59

Temperature Condition:		Hot, 49°C (120°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	8	190	1003	7.04
2	8	228	1065	7.04
3	8	201	1124	7.04
<b>Avg. (2 &amp; 3 Only)</b>	8	215	1095	7.04

**COMMENT:** Para:12.3.1 Surface Temperature, After the third impact : Hot, 47°C (117°F)

We trust the results will prove useful and informative.  
 Should you have any questions, please feel free to contact us.

\*\*\*\*\*

**End of Report**

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**CLIENT:** WM POLYMERS LLC  
1880 PERTH AMBOY AVE  
WHITING, NJ 08759

**Test Report No: 3926163PP02**

**Date: 28 January 2016**

**The following sample was submitted by the Client as:** Playground Surface

**SAMPLE ID:** 3 ½" thick Play Flecks

**DATE OF RECEIPT:** 13 January 2016

**TEST PERIOD:** 27-28 January 2016

**TEST(S) REQUESTED:** The submitted sample was evaluated for Impact Attenuation in accordance with the procedures outlined in ASTM F1292-13, "Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment".

**TEST RESULTS:** See pages 3-6.

**PREPARED BY:**

**SIGNED FOR AND ON BEHALF OF**  
SGS NORTH AMERICA INC.,

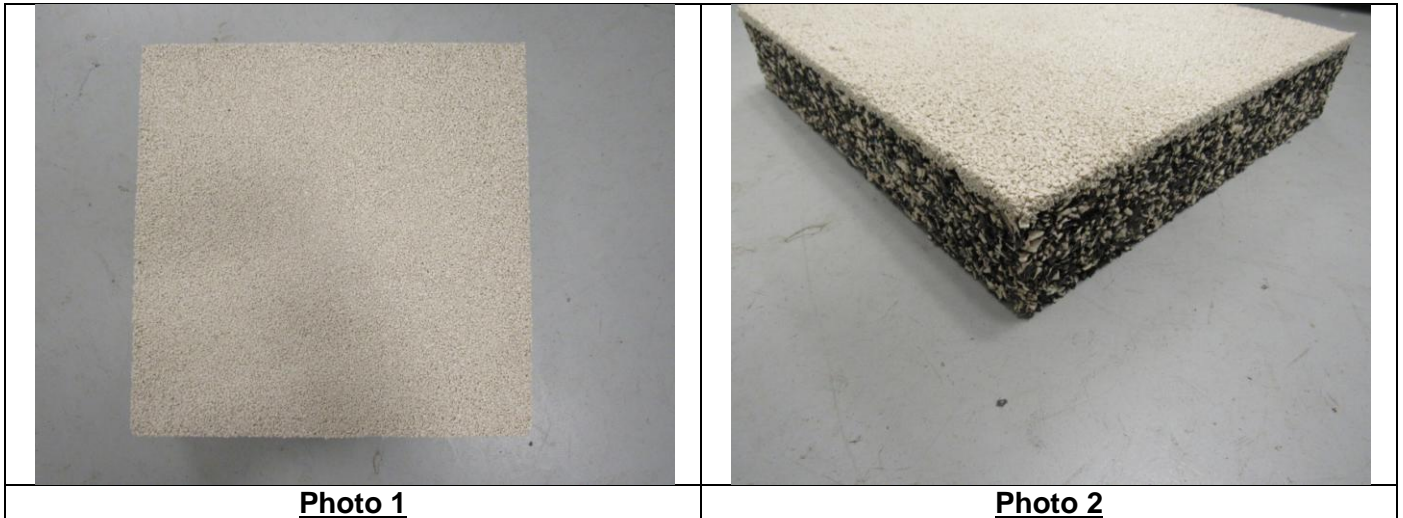
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Materials Evaluation

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CLIENT: WM Polymers LLC



**Sample ID:** 3 ½" thick Play Flecks

**Sample Dimensions:** 18" x 18" x 3-1/2"

**Sample Condition:** Received dry and subjected to temperature conditioning as indicated.

**Test Procedure:** ASTM F1292-09, IMPACT ATTENUATION.

**Missile:** Hemispherical Impacting Surface; Total Drop Assembly Weight 4.6 kg (10.1 pounds)

**Test Equipment:** GHI CAT Helmet Test System

**Accelerometer Calibration:** 06 May 2014

CLIENT: WM Polymers LLC

**Test Results Summary**

<b><u>Temperature</u></b>	<b><u>"G" Max of 200 or Less and an HIC of 1000 or Less</u></b>
Ambient, 23°C (73°F)	>10 feet
Cold, -6°C (25°F)	9 feet
Hot, 49°C (120°F)	>10 feet
<b>Critical Fall Height</b>	<b>9 feet</b>

**PERFORMANCE CRITERION:** The performance criterion used to determine conformance with the requirements of this specification shall be: a g-max score not exceeding 200g and a HIC score not exceeding 1000 for each temperature condition.

**Note:** The results reported herein reflect the performance of the described sample at the time of testing and at the temperatures reported. The results are specific to the described sample. Samples of surfacing materials that do not closely match the described sample will perform differently.

CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**  
 ASTM F1292-09

**Ambient, 23°C (73°F)**

**Impact Location: Body of Tile**

Temperature Condition:		Ambient, 23°C (73°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	8	125	620	6.96
2	8	148	637	7.00
3	8	135	627	7.00
<b>Avg. (2 &amp; 3 Only)</b>	8	142	632	7.00
Temperature Condition:		Ambient, 23°C (73°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	9	157	803	7.41
2	9	163	721	7.43
3	9	202	905	7.37
<b>Avg. (2 &amp; 3 Only)</b>	9	183	813	7.40
Temperature Condition:		Ambient, 23°C (73°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	10	154	920	7.79
2	10	196	942	7.82
3	10	167	871	7.85
<b>Avg. (2 &amp; 3 Only)</b>	10	182	907	7.84

**COMMENT:** Para:12.3.1 Surface Temperature, After the third impact : Ambient, 23°C (73°F)



CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**  
 ASTM F1292-09

**Cold, -4°C (25°F)**

**Impact Location: Body of Tile**

Temperature Condition:		Cold, -4°C (25°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	8	165	673	6.81
2	8	164	607	6.88
3	8	203	673	6.88
<b>Avg. (2 &amp; 3 Only)</b>	8	184	640	6.88
Temperature Condition:		Cold, -4°C (25°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	9	169	1029	7.34
2	9	174	956	7.41
3	9	171	848	7.43
<b>Avg. (2 &amp; 3 Only)</b>	9	173	902	7.42
Temperature Condition:		Cold, -4°C (25°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	10	188	1049	7.72
2	10	<b>205</b>	<b>1067</b>	7.74
3	10	189	<b>1141</b>	7.79
<b>Avg. (2 &amp; 3 Only)</b>	10	197	<b>1104</b>	7.77

**COMMENT:** Para:12.3.1 Surface Temperature, After the third impact : Cold, -2°C, (28°F)

CLIENT: WM Polymers LLC

**IMPACT ATTENUATION**  
 ASTM F1292-09

**Hot, 49°C (120°F)**

**Impact Location: Body of Tile**

Temperature Condition:		Hot, 49°C (120°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	8	115	488	6.96
2	8	130	571	6.96
3	8	140	609	6.98
<b>Avg. (2 &amp; 3 Only)</b>	8	135	590	6.97

Temperature Condition:		Hot, 49°C (120°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	9	141	679	7.41
2	9	168	864	7.40
3	9	146	872	7.43
<b>Avg. (2 &amp; 3 Only)</b>	9	157	868	7.42

Temperature Condition:		Hot, 49°C (120°F)		
Drop No.	Drop Height	"G" Max.	HIC	Velocity
	(ft)			(m/s)
1	10	149	777	7.82
2	10	157	993	7.82
3	10	157	906	7.79
<b>Avg. (2 &amp; 3 Only)</b>	10	157	950	7.81

**COMMENT:** Para:12.3.1 Surface Temperature, After the third impact : Hot, 47°C (117°F)

We trust the results will prove useful and informative.  
 Should you have any questions, please feel free to contact us.

\*\*\*\*\*

**End of Report**