

TÜV SÜD America Inc. Product Safety Services 1755 Atlantic Blvd. Auburn Hills, MI 48326

Phone: (616) 546-4600

<u>IPEMA Impact Attenuation Report – ASTM F1292-22</u>

Participant: Polyloom dba Tencate	e Grass		eport No.: 72186757-5a
Main Office Address: 1131 Broadway St.			ort Date: <u>2/14/2023</u> est Date: <u>2/14/2023</u>
Dayton, TN 37321 Phone: 423.413.7028		Selection:	Initial: 🗸
Manufacturing Location ID: Dayton, TN			Follow up Ref Job:
Commercial Name of product:Playground MP CLR F	PERM (400053-CP)	Sample Rece	eipt Date: 1/27/2023
Date of Manufacture: <u>Unknown</u>	•	Ambient Air Tei	mperature: <u>22.2</u> ℃
No. of samples submitted: See Comments	 .		lumidity: 25 %
Alpha Automation, Triax, TUV System 5:	<u>Test Equi</u>		mber No.:PLYP00069
Alpha Automation, Triax, TUV System 7:			Oue Date: 8/30/2023
Accelerometer ID: P	_	Environmental Char	
Accelerometer Calibration Date: 7			Oue Date: 8/30/2023
		mple Description:	200 Date: 0/00/2020
			1
Engineered Wood Fiber:	Ur	-compacted Depth:Inc	nes
Loose Fill Wood:			
Rubber Nuggets:			
Rubber Buffings:		O to t D th	h a a
Sand:		Compacted Depth:Inc	nes
Gravel:			
Other:			
	Unitary Sample	Description:	
Tiles:		Total Th	ickness:
Poured in Place:		To	op Layer:
Other:		Bas	se Layer:
<u>T</u>	urf System Samp	le Description:	
Turf:	\checkmark	Turf Pile	e Height: 1.325 Inches
Pad:	\checkmark	Pad Th	nickness: 2.0 Inches
Aggregate:	✓	Ag	gregate: 4.0 Inches
Infill:	✓	Infill	Amount: 2.0 Lbs./Sq. Ft.
Comments:		In	ıfill Type: envirofill
 Customer submitted: eighteen (18) whole pieces of turf; twenty two (22) seamed pieces of turf; Playground MP CLR PERM (1.325in Pile Height)- infilled with 2.0 lbs per sq. ft. of Envirofill infill Least Favorable Impact Location was Center Turf/Center Pad. Last Favorable Impact Location report is 72186757-5b 	fifty five (55) 2.0 inch center pads, (grain size #12/20 mesh) – over	twenty seven (27) 2.0 inch seamed pads, twenty seven (2.0 inch Tiger Playground Pad – overlaying 4in. of compa	(27) 2.0 inch intersection pad, and 150lbs infill. cted aggregate. Total system depth/thickness of 7.325in.
The maximum critical fall height of the above described sample wa	as determined to be:	8 Ft .	
The results reported herein reflect the performance of the above to the described samples. Samples of surfacing materials that an accurate representation of the test results.		at the time of testing and at the tem	
Sample in compliance with ASTM F1292-22 at the temperate	ture and rating ener	ified? Yes √	No □
Campio in compnance with ACTM 1 1232-22 at the tempera	tare and rating spec	ified? Yes [✓]	Ц
Signature: Patrick Ashley	Title:	Project Engineering Technician	Date: 2/14/2023
Signature: Patrick Ashley Reviewed by: Timothy Fulcia	Title:	Project Engineering Technician	Date: 2/22/2023
<i>V</i>			

Participant: Polyloom dba Tencate Grass TUV Report No: 72186757-5a

Manufacturing Location ID: Dayton, TN Test Date: 2/14/2023

	Critical	Refe	rence Tempe	rature -4°C, (25°F)	Refe	erence Tempe	rature 23°C, (73°F)	Refe	ence Temper	ature 49°C, (120°F)
Drop	Fall Height (Ft.)	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	125	734	22.9	8.15	123	743	22.8	8.08	120	705	21.5	7.19
2	8	124	739	22.9	8.15	128	778	22.9	8.15	126	706	21.5	7.19
3	8	125	764	22.9	8.15	137	854	22.9	8.15	131	727	21.5	7.19
Ave	rage	124.5	751.5			132.5	816.0			128.5	716.5		
Measured Surfa	ce Temperature	-4°C	Max. Change from reference + 5°C, (5°F)			23°C	Max. Cha	ange from refe (5°F)	erence + 3°C,	49°C	Max.	Change from -3°C, (-5°l	
Sample C	ondition:	Dry						Ory		Dry			

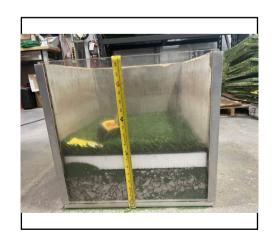
		Refe	erence Tempe	rature -4°C, (25°F)	Refe	rence Temper	rature 23°C, (73°F)	Refe	ence Temper	ature 49°C, (1	120°F)
Drop	One foot over (Ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)
1	9	142	945	24.3	9.18	161	1113	24.3	9.18	175	1194	24.3	9.18
2	9	145	976	24.3	9.18	164	1122	24.3	9.18	181	1235	24.3	9.18
3	9	174	985	24.1	9.03	166	1161	24.3	9.18	195	1348	24.3	9.18
Aver	age	159.5	980.5			165.0	1141.5			188.0	1291.5		
Measured Surfac	ce Temperature	-4°C	Max. Cha	ange from refo (5°F)	erence + 5°C,	23°C	Max. Cha	inge from refe (5°F)	erence + 3°C,	49°C	Max.	Change from -3°C, (-5°I	
Sample Co	ondition:	Dry						Ory		Dry			

		Refe	erence Tempe	rature -4°C, (25°F)	Refe	rence Tempe	rature 23°C, (73°F)	Refer	ence Temper	ature 49°C, (1	20°F)	
Drop	One foot under (Ft.)	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	98	506	21.4	7.12	93	502	21.4	7.12	91	441	21.4	7.12	
2	7	111	591	21.4	7.12	106	576	21.5	7.19	110	588	24.5	9.33	
3	7	112	601	21.4	7.12	102	550	21.5	7.19	120	645	21.4	7.12	
Avei	age	111.5	596.0			104.0	563.0			115.0	616.5			
Measured Surfa	ce Temperature	-3°C	Max. Cha	ange from ref	erence + 5°C,	23°C	Max. Cha	ange from refo (5°F)	erence + 3°C,	48°C	Max.	Change from -3°C, (-5°I		
Sample C	ondition:	Dry					[Ory			Dry			











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Product Safety Services 1755 Atlantic Blvd. Auburn Hills, MI 48326

Phone: (616) 546-4600

IPEMA Surfacing Material Report - Least Favorable Impact Location - ASTM F1292-22

Participant: Polyloom dba Tencate Grass Main Office Address: 1131 Broadway St. Dayton, TN 37321 Phone: 423.413.7028 Manufacturing Location ID: Dayton, TN Commercial Name of Product: Playground MP CLR PERM (400053-CP) Date of Manufacture: Unknown No. of samples submitted: See Comments	Project No.:72186757-5b Report Date:2/14/2023 Test Date:2/14/2023 Selection: ☐ Initial Test: ☑ Follow up Test: ☐ Ref Job: Sample Receipt Date:1/27/2023 Ambient Air Temperature:22.2°C Humidity: 25 %
·	
	uipment:
Alpha Automation, Triax, TUV System 5:	Environmental Chamber No.:PLYP00069
Alpha Automation, Triax, TUV System 7: Accelerometer ID:PLYP00226	Calibration Due Date 8/30/2023 Environmental Chamber No.: AE-029
Accelerometer Calibration Date:7/18/2022	Calibration Due Date 8/30/2023
<u></u>	
Unitar <u>y Sample I</u>	Layer Description:
Tiles:	Total Thickness: 7.325in.
Poured in Place:	Top Layer: See Comments
Turf: √	Base Layer: See Comments
Other:	e (%) of maximum allowable value, based on g-max or HIC, as tested
Impact Location: Least Favorable Impact Control Turt/Control Park	Reference Temperature:
Location was determined at: Center Turf/Center Pad	
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 temper 4.) Customer submitted: eighteen (18) whole pieces of turf; twenty two (22) seamed pieces of turf; fifty five pad, and 150lbs infill. 5.) Playground MP CLR PERM (1.325in. Pile Height)—infilled with 2.0 lbs per sq. ft. of Envirofill infill (grain 6.) Determine Critical Fall Height Report is 72186757-5a.	e (55) 2.0 inch center pads, twenty seven (27) 2.0 inch seamed pads, twenty seven (27) 2.0 inch intersection
The above described sample was tested a	<u>t:</u> 8 <u>Ft.</u>
	les at the time of testing and at the temperature(s) reported. The results are specific the described samples will perform differently. The following data sheet provides
Sample in compliance with ASTM F1292-22 at the temperature and rating sp	pecified? Yes 🗸 No 🗌
Signature: Project	ct Engineering Technician Date: 2/14/2023
Reviewed by: Title: Project	ct Engineering Technician Date: 2/22/2023

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Project No.: 72186757-5b

Manufacturing Location ID: Dayton, TN

Test Date: 2/14/2023

Impact Location: Center Turf/Center Pad

	Specified	Refe	erence Temper	ature -4°C, (2	5°F)	Refere	nce Temperati	are 23°C, (73°	F)	Reference	e Temperature	e 49°C, (120°l	F)	
Drop	Impact Height (Ft.)	G-Max	НІС	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	НІС	Velocity (ft/s)	Theoretical Drop Height (ft.)	
1	8	125	734	22.9	8.15	123	743	22.8	8.08	125	705	21.5	7.19	
2	8	124	739	22.9	8.15	128	778	22.9	8.15	126	706	21.5	7.19	
3	8	125	764	22.9	8.15	137	854	22.9	8.15	131	727	21.5	7.19	
Avei	rage	124.5	751.5			132.5	816.0			128.5	716.5			
Measured Surfa	ce Temperature	-4°C	Max. Cha	nge from refer	rence + 5°C,	23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	49°C	Max. Change from reference -3°C, (-5°F)			
Sample C	ondition:		D	RY			D	RY		DRY			· ·	
Perce	entage (%) of ma	ximum allow	able values (g	-max and HI	C):	G-Max:	66.3%	HIC:	81.6%					

Impact Location: Center Turf/Seam Pad

								3011101 1	ui	<u></u>				
	Specified	Refe	rence Temper	ature -4°C, (2:	5°F)	Refere	nce Temperati	ure 23°C, (73°	F)	Reference	e Temperature	e 49°C, (120°I	F)	
Drop	Impact Height (Ft.)	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				0.00	104	616	22.8	8.08				0.00	
2	8				0.00	116	697	22.9	8.15				0.00	
3	8				0.00	122	746	22.9	8.15				0.00	
Avei	rage	0.0	0.0			119.0	721.5			0.0	0.0			
Measured Surfa	ce Temperature	°C	Max. Cha	nge from refer	rence + 5°C,	23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max.	Change from a -3°C, (-5°F		
Sample C	ondition:		D	RY			D	RY		DRY			,	
Perce	entage (%) of ma	ximum allow	able values (g	-max and HI	C):	G-Max:	59.5%	HIC:	72.2%					

Impact Location: Center Turf/Intersection Pad

											-			
	Specified	Refe	rence Temper	ature -4°C, (2:	5°F)	Refere	nce Temperati	are 23°C, (73°	PF)	Reference	e Temperature	e 49°C, (120°F	7)	
Drop	Impact Height (Ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	НІС	Velocity (ft/s)	Theoretical Drop Height (ft.)	
1	8				0.00	102	598	22.9	8.15				0.00	
2	8				0.00	120	721	22.9	8.15				0.00	
3	8				0.00	120	726	22.9	8.15				0.00	
Avei	rage	0.0	0.0			120.0	723.5			0.0	0.0			
Measured Surfa	ce Temperature	°C	Max. Cha	nge from refer	rence + 5°C,	23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max.	Change from 1 -3°C, (-5°F		
Sample C	Condition:		D	DRY			DRY					RY		
Perce	entage (%) of ma	ximum allow	able values (2	-max and HI	C):	G-Max:	60.0%	HIC:	72 4%			5.11.		





Participant: Polyloom dba Tencate Grass

Project No.: 72186757-5b

 $\label{eq:manufacturing Location ID: Dayton, TN} \ \, \text{Manufacturing Location ID: Dayton, TN}$

Test Date: 2/14/2023

Impact Location: Seam Turf/Center Pad

	Specified	Refe	erence Temper	ature -4°C, (2	5°F)	Refere	nce Temperat	ure 23°C, (73°	F)	Reference	e Temperature	e 49°C, (120°I	3)
Drop	Impact Height (Ft.)	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				0.00	114	747	22.8	8.08				0.00
2	8				0.00	116	755	22.8	8.08				0.00
3	8				0.00	121	775	22.9	8.15				0.00
Avei	age	0.0	0.0			118.5	765.0			0.0	0.0		
Measured Surfa	ce Temperature	°C	Max. Cha	nge from refer	rence + 5°C,	23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max. Change from refe		
Sample C	ondition:	DRY						RY				RY	
Perce	entage (%) of ma	ximum allow	able values (g	-max and HI	C):	G-Max:	59.3%	HIC:	76.5%		511.		

Impact Location: Seam Turf/Seam Pad

	Specified	Refe	erence Temper	ature -4°C, (25	5°F)	Referei	nce Temperat	ure 23°C, (73°	F)	Reference	e Temperature	e 49°C, (120°l	F)
Drop	Impact Height (Ft.)	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					0.00	96	556	22.8	8.08				0.00
2					0.00	111	645	22.8	8.08				0.00
3					0.00	119	694	22.9	8.15				0.00
Aver	age	0.0	0.0			115.0	669.5			0.0	0.0		
Measured Surfac	ce Temperature	°C	Max. Cha	nge from refer	rence + 5°C,	23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max. Change from ref		
Sample C	ondition:		D	DRY				DRY				RY	
Perce	ntage (%) of ma	ximum allow	able values (g	-max and HI	C):	G-Max:	57.5%	HIC:	67.0%				

Impact Location: Seam Turf/Intersection Pad

	Specified	Refe	erence Temper	ature -4°C, (2	5°F)	Refere	nce Temperat	ure 23°C, (73°	F)	Reference	e Temperature	e 49°C, (120°I	F)
Drop	Impact Height (Ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	НІС	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	НІС	Velocity (ft/s)	Theoretical Drop Height (ft.)
1					0.00	102	624	22.9	8.15				0.00
2					0.00	117	728	22.9	8.15				0.00
3					0.00	120	739	22.9	8.15				0.00
Ave	rage	0.0	0.0			118.5	733.5			0.0	0.0		
Measured Surfa	ice Temperature	°C	Max. Cha	nge from refer	rence + 5°C,	23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max.	Change from a -3°C, (-5°F	
Sample C	Condition:			RY				RY				RY	
Perce	entage (%) of ma	ximum allow	able values (g	-max and HI	C):	G-Max:	59.3%	HIC:	73.4%				





America





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<u>IPEMA Impact Attenuation Report – ASTM F1292-22</u>

Participant: Polyloom dba Tencate Main Office Address: 1131 Broadway St. Dayton, TN 37321 Phone: 423.413.7028 Manufacturing Location ID: Dayton, TN Commercial Name of product: Playground MP CLR F Date of Manufacture: Unknown No. of samples submitted: See Comments Alpha Automation, Triax, TUV System 5: Alpha Automation, Triax, TUV System 7: Accelerometer ID: Pl	PERM (400053-CP) Test Equip	Selection: Sample Sample Ambient A ment: Environmental Calibra	JV Report No.: 72186757-10a Report Date: 2/21/2023 Test Date: 2/21/2023 Initial: ✓ Follow up Ref Job: Receipt Date: 1/27/2023 Air Temperature: 22.7 °C Humidity: 26 % Chamber No.: PLYP00069 tion Due Date: 8/30/2023 Chamber No.: AE-029
Accelerometer Calibration Date: 7/	18/2022	Calibra	tion Due Date: 8/30/2023
Loos	e Fill Material Sar	nple Description:	
Engineered Wood Fiber: Loose Fill Wood: Rubber Nuggets: Rubber Buffings:		compacted Depth:	_ Inches
Sand:		Compacted Depth:	Inches
-	Unitary Sample I		
Tiles:		Tot	al Thickness:
Poured in Place: Other:			Top Layer:
	urf Cyctom Com	a Dagarintics:	Base Layer:
<u>II</u> Turf:	urf System Sampl		urf Pile Height: 1.325 Inches
Pad:			ad Thickness: 1.0 Inches
Aggregate:		'	Aggregate: 4.0 Inches
Infill:			Infill Amount: 2.0 Lbs./Sq. Ft.
_	<u></u>		Infill Type: envirofill
Comments:) Oustomer submitted: eighteen (18) whole pieces of turf; twenty two (22) seamed pieces of turf; to) Playground MP CLR PERM (1.325in Pile Height) – infilled with 2.0 lbs per sq. ft. of Envirofill infill) Least Favorable Impact Location was Center Turf/Intersection of Pad.) Last Favorable Impact Location report is 72186757-10b			ity seven (27) 1.0 inch intersection pad, and 150lbs infill.
the maximum critical fall height of the above described sample was the results reported herein reflect the performance of the above the described samples. Samples of surfacing materials that of	e described samples a		
n accurate representation of the test results. ample in compliance with ASTM F1292-22 at the temperat	ure and rating enecit	fied? Yes √	No 🗔
rample in compliance with ASTM F1292-22 at the temperat	ure and rating speci	fied? Yes [✓]	No 📙
Signature: Patrick Ashley Reviewed by: Timethey Founties	Title:	Project Engineering Technic	Date: 2/21/2023
Reviewed by: Timethy Foulia	Title:_	Project Engineering Technic	cian Date: <u>2/22/2023</u>

Participant: Polyloom dba Tencate Grass TUV Report No: 72186757-10a

Manufacturing Location ID: Dayton, TN Test Date: 2/21/2023

	Critical	Refe	rence Tempe	rature -4°C, (25°F)	Refe	erence Tempe	rature 23°C, (73°F)	Refe	ence Temper	ature 49°C, (1	120°F)
Drop	Fall Height (Ft.)	G-Max	НІС	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	5	149	674	18.1	5.09	122	553	18.0	5.04	169	800	18.1	5.09
2	5	159	743	18.1	5.09	154	715	18.1	5.09	186	891	18.1	5.09
3	5	168	789	18.1	5.09	156	729	18.1	5.09	179	866	18.1	5.09
Avei	rage	163.5	766.0			155.0	155.0 722.0			182.5	878.5		
Measured Surfa	ce Temperature	-4°C	Max. Change from reference + 5°C, (5°F)			23°C	Max. Cha	ange from refe (5°F)	erence + 3°C,	49°C	Max.	Change from -3°C, (-5°I	
Sample C	ondition:	Dry					[Ory		Dry			

		Refe	erence Tempe	rature -4°C, (25°F)	Refe	rence Tempe	rature 23°C, (73°F)	Refe	ence Temper	ature 49°C, (1	120°F)	
Drop	One foot over (Ft.)	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	6	194	1048	19.8	6.09	187	1010	19.8	6.09	228	1320	19.8	6.09	
2	6	205	1139	19.8	6.09	200	1131	19.8	6.09	231	1384	19.8	6.09	
3	6	182	955	19.8	6.09	203	1185	19.8	6.09	223	1279	19.8	6.09	
Aver	age	193.5	1047.0			201.5	1158.0			227.0	1331.5			
Measured Surfac	ce Temperature	-3°C	May Change from reference ± 5°C			23°C	Max. Cha	inge from refe (5°F)	erence + 3°C,	48°C	Max.	Change from -3°C, (-5°I		
Sample Co	ondition:	Dry					[Ory			Dry			

		Refe	erence Tempe	rature -4°C, (25°F)	Refe	rence Tempe	rature 23°C, (73°F)	Refe	ence Temper	ature 49°C, (120°F)
Drop	One foot under (Ft.)	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	4	92	372	16.2	4.08	94	335	16.2	4.08	108	382	16.2	4.08
2	4	106	424	16.2	4.08	118	445	16.2	4.08	118	443	16.2	4.08
3	4	109	422	16.2	4.08	126	480	16.2	4.08	128	483	16.2	4.08
Aver	age	107.5	423.0			122.0	122.0 462.5			123.0	463.0		
Measured Surface	d Surface Temperature -4°C Max. Change from reference + 5°C, (5°F)		erence + 5°C,	23°C	Max. Cha	ange from refe (5°F)	erence + 3°C,	49°C	Max.	Change from -3°C, (-5°l			
Sample C	Sample Condition: Dry						Ory			[Dry		









TÜV SÜD America Inc.

Product Safety Services 1755 Atlantic Blvd. Auburn Hills, MI 48326

Phone: (616) 546-4600

IPEMA Surfacing Material Report - Least Favorable Impact Location - ASTM F1292-22

Participant:Polyloom dba Tencate Grass Main Office Address:1131 Broadway St. Dayton, TN 37321 Phone:423.413.7028 Manufacturing Location ID:Dayton, TN Commercial Name of Product:Playground MP CLR PERM (400053-CP) Date of Manufacture:Unknown	Project No.:72186757-10b Report Date:2/21/2023 Test Date:2/21/2023 Selection: Initial Test: Follow up Test: Ref Job: Sample Receipt Date:1/27/2023 Ambient Air Temperature:22.7°C
No. of samples submitted: See Comments	Humidity: 26 %
Test Eq	uipment:
Alpha Automation, Triax, TUV System 5:	Environmental Chamber No.PLYP00069
Alpha Automation, Triax, TUV System 7:	Calibration Due Date 8/30/2023
Accelerometer ID:PLYP00226	Environmental Chamber No.:AE-029
Accelerometer Calibration Date:7/18/2022	Calibration Due Date 8/30/2023
Linitary Cample	Laver Decembring
Unitary Sample	Layer Description:
Tiles:	Total Thickness: 6.325in.
Poured in Place:	Top Layer: See Comments
Turf: ✓	Base Layer: See Comments
Other:	e (%) of maximum allowable value, based on g-max or HIC, as tested
at the locations indicated on Pages 2 and 3. Impact Location: Least Favorable Impact	Reference Temperature:
Location was determined at: Center Turf/Intersection of Pad	23°C
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 temperative and the submitted: eighteen (18) whole pieces of turf; twenty two (22) seamed pieces of turf; fifty five pad, and 150lbs infill. 5.) Playground MP CLR PERM (1.325in Pile Height)—infilled with 2.0 lbs per sq. ft. of Envirofill infill (grain 6.) Determine Critical Fall Height report 72186757-10a.	e (55) 1.0 inch center pads, twenty seven (27) 1.0 inch seamed pads, twenty seven (27) 1.0 inch intersection
The above described sample was tested a	<u>tt:</u> 5 <u>Ft.</u>
	les at the time of testing and at the temperature(s) reported. The results are specific ch the described samples will perform differently. The following data sheet provides
Sample in compliance with ASTM F1292-22 at the temperature and rating sp	pecified? Yes 🗸 No 🗌
Signature: Projection Title: Projection	ct Engineering Technician Date: 2/21/2023
$\sigma \sigma $	ct Engineering Technician Date: 2/22/2023

Participant:	Polyloom dba Tencate Grass	Project No.: 72186757-10b

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Manufacturing Location ID: Dayton, TN

Test Date: 2/21/2023

Impact Location: Center Turf/Intersection of Pad

	Specified	Refe	rence Temper	ature -4°C, (2	5°F)	Refere	nce Temperati	are 23°C, (73°	F)	Reference	e Temperature	49°C, (120°I	7)
Drop	Impact Height (Ft.)	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	5	149	674	18.1	5.09	122	553	18.0	5.04	169	800	18.1	5.09
2	5	159	743	18.1	5.09	154	715	18.1	5.09	186	891	18.1	5.09
3	5	168	789	18.1	5.09	156	729	18.1	5.09	179	866	18.1	5.09
Aver	age	163.5	766.0			155.0	722.0			182.5	878.5		
Measured Surface	ce Temperature	-4°C	-4°C Max. Change from reference + 5°C, (5°F)		rence + 5°C,	23°C	Max. Cha	nge from refer (±5°F)	rence + 3°C,	49°C	Max.	Change from a -3°C, (-5°F	
Sample C	ondition:	DRY				D	RY			D	RY		
Perce	entage (%) of ma	naximum allowable values (g-max and HIC):			C):	G-Max:	77.5%	HIC:	72.2%				

Impact Location: Center Turf/Seam Pad

							,	3011101 1	u.,, 00u				
	Specified	Refe	erence Temper	ature -4°C, (2:	5°F)	Refere	nce Temperati	ure 23°C, (73°	F)	Reference	e Temperature	e 49°C, (120°I	(3)
Drop	Impact Height (Ft.)	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	5				0.00	117	506	18.0	5.04				0.00
2	5				0.00	141	636	18.1	5.09				0.00
3	5				0.00	154	706	18.1	5.09				0.00
Avei	rage	0.0	0.0			147.5	671.0			0.0	0.0		
Measured Surfa	ce Temperature	°C	°C Max. Change from reference + 5°C, (5°F)			23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max.	Change from a -3°C, (-5°F	
Sample C	ondition:	DRY					D	RY				RY	
Perce	entage (%) of ma	ximum allowable values (g-max and HIC):				G-Max:	73.8%	HIC:	67.1%				

Impact Location: Center Turf/Center Pad

Reference Temperature -4°C, (25°F)			Reference Temperature 23°C, (73°F)					Reference Temperature 49°C, (120°F)					
	Specified	Refe	rence Temper	ature -4°C, (2:	5°F)	Refere	nce Temperat	ure 23°C, (73°	°F)	Reference	e Temperature	e 49°C, (120°l	F)
Drop	Impact Height (Ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	НІС	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	НІС	Velocity (ft/s)	Theoretical Drop Height (ft.)
1	5				0.00	118	510	18.0	5.04				0.00
2	5				0.00	150	698	18.1	5.09				0.00
3	5				0.00	155	718	18.1	5.09				0.00
Ave	rage	0.0	0.0			152.5 708.0				0.0	0.0		
Measured Surfa	ce Temperature	°C	°C Max. Change from reference + 5°C, (5°F)			23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max.	Change from -3°C, (-5°F	
Sample C	Condition:	DRY						RY				DRY	
Perce	entage (%) of ma	ximum allowable values (g-max and HIC):				G-Max:	76.3%	HIC:	70.8%				



Participant: Polyloom dba Tencate Grass

Project No.: 72186757-10b

 $\label{eq:manufacturing Location ID: Dayton, TN} \ \, \text{Manufacturing Location ID: Dayton, TN}$

Test Date: 2/21/2023

Impact Location: Seam Turf/Center Pad

	Specified	Refe	erence Temper	ature -4°C, (25	5°F)	Referei	nce Temperati	ure 23°C, (73°	F)	Reference	e Temperature	49°C, (120°I	7)
Drop	Impact Height (Ft.)	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	5				0.00	103	453	18.0	5.04				0.00
2	5				0.00	124	556	18.0	5.04				0.00
3	5				0.00	134	599	18.0	5.04				0.00
Ave	rage	0.0	0.0			129.0 577.5				0.0	0.0		
Measured Surfa	ce Temperature	°C	°C Max. Change from reference + 5°C, (5°F)			23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max.	Change from 1 -3°C, (-5°F)	
Sample C	ondition:	DRY				D	RY				RY		
Perce	entage (%) of ma	imum allowable values (g-max and HIC):				G-Max:	64.5%	HIC:	57.8%				

Impact Location: Seam Turf/Seam Pad

		Reference Temperature -4°C, (25°F)				Reference Temperature 23°C, (73°F)				B 0			
	Specified	Refe	erence Temper	ature -4°C, (25	5°F)	Referer	nce Temperat	ure 23°C, (73°	F)	Reference	e Temperature	e 49°C, (120°l	F)
Drop	Impact Height (Ft.)	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					0.00	113	515	18.0	5.04				0.00
2					0.00	127	601	18.0	5.04				0.00
3					0.00	136	633	18.0	5.04				0.00
Avei	age	0.0	0.0			131.5	617.0			0.0	0.0		
Measured Surfa	ce Temperature	°C	°C Max. Change from reference + 5°C, (5°F)		23°C	Max. Cha	nge from refer (±5°F)	rence <u>+</u> 3°C,	°C	Max.	Change from -3°C, (-5°F		
Sample C	ondition:	DRY					RY				RY	,	
Perce	ntage (%) of ma	ximum allowable values (g-max and HIC):				G-Max:	65.8%	HIC:	61.7%				

Impact Location: Seam Turf/Intersection Pad

	Specified	Refe	rence Temper	ature -4°C, (25	5°F)	Refere	nce Temperati	ıre 23°C, (73°	F)	Reference	e Temperature	49°C, (120°F	F)
Drop	Impact Height (Ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	HIC	Velocity (ft/s)	Theoretical Drop Height (ft.)	G-Max	НІС	Velocity (ft/s)	Theoretical Drop Height (ft.)
1					0.00	111	454	18.0	5.04				0.00
2					0.00	142	638	18.0	5.04				0.00
3					0.00	147	678	18.0	5.04				0.00
Avei	age	0.0	0.0			144.5	658.0			0.0	0.0		
Measured Surfa	ce Temperature	°C	°C Max. Change from reference + 5°C, (5°F)		23°C	Max. Cha	nge from refer (±5°F)	rence + 3°C,	°C	Max.	Change from 1 -3°C, (-5°F		
Sample C	ondition:	DRY				DRY					RY		
Perce	ntage (%) of ma	aximum allowable values (g-max and HIC).				G-Max	70.20/	HIC:	GE 00/				





