United States of America
United States Patent and Trademark Office

Kiddie Kushion

Reg. No. 4,655,826

Registered Dec. 16, 2014

Int. Cl.: 31

TRADEMARK

PRINCIPAL REGISTER

FOSTER BROTHERS WOOD PRODUCTS, INCORPORATED (MISSOURI CORPORATION)
6465 STATE ROAD E
AUXVASSE, MO 65231

FOR: WOOD CHIPS FOR USE AS GROUND COVER, IN CLASS 31 (U.S. CLS. 1 AND 46).

FIRST USE 5-1-1995; IN COMMERCE 5-1-1995.

THE MARK CONSISTS OF STANDARD CHARACTERS WITHOUT CLAIM TO ANY PARTICULAR FONT, STYLE, SIZE, OR COLOR.

SER. NO. 86-261,959, FILED 4-24-2014.

KAPIL BHANOT, EXAMINING ATTORNEY

Michelle K. Lee

Deputy Director of the United States Patent and Trademark Office

Sieve Analysis Data Collection Form
ASTM F 2075-15 per Section 4.4 and Section 7

TUV SUD America, Inc
1755 Atlantic Blvd.
Auburn Hills, MI 48326
Ph: (616) 546-4600

Customer/Participant: Foster Brothers Wood Products, Inc.
Main Office Address: 6465 State Rd. E
(City, State, Zip) Auxvasse, MO 65231
Location ID: Auxvasse, MO
Product Brand Name: Kiddie Kushion

Test Date: 5/16/2017
Project No.: 72126540-3
Ambient Air Temp.: 24.7°C
Relative Humidity: 32%

Test Equipment Used

TUV Asset No.:	Equipment Type	Manufacturer	Model
PLYP00100	Enviromental Chamber	Russells	RB-8-1-1, (QE496)
PLYP00163	Data Logger	Omega	OM-CP-RHTEMP101A
PLYP00055	Test Sieve	W.S. Tyler	No. 16 (1.19 mm)
PLYP00056	Test Sieve	W.S. Tyler	3/8" (9.53 mm)
PLYP00057	Test Sieve	W.S. Tyler	3/4" (19.05 mm)
PLYP00059	Sieve Shaker	W.S. Tyler	RX 812
PLYP00083	Balance	Denver Instruments	18453642

Data

Initial Sample and Container Weight	856.2
Tare weight of Container	211.2
Initial Sample Dry Weight (g)	645.0
Sample and Container Weight for 3/4" Sieve	179.5
Tare weight of Container	179.5
Sample Remaining on 3/4" Sieve (g)	0.0
Sample and Container Weight for 3/8" Sieve	215.7
Tare weight of Container	179.5
Sample Remaining on 3/8" Sieve (g)	36.2
Sample and Container Weight for #16 Sieve	771.9
Tare weight of Container	179.5
Material Remaining on # 16 Sieve (g)	592.4

Sieve Size	Min / Max Requirements	% Passing
3/4" (19.05 mm)	99 - 100%	100.0
3/8" (9.53 mm)	75 - 100%	94.4
No. 16 (0.0469 in.)	0 -15%	2.5

Sample in compliance with ASTM F2075-15 for Sieve Analysis Section 4.4 per 7.4 Yes ☑ No ☐

Note: Testing performed at TÜV SÜD America in Auburn Hills, MI.

Performed By: Timothy Franklin Title: Project Coordinator Date: 5/16/2017

Reviewed By: D Title: Regional Manager Date: 5/16/2017

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.

TÜV America Inc.
1755 Atlantic Blvd.
Auburn Hills, MI 48326

Phone: (616) 546-4600
E-mail: info@tuvam.com
www.TUVamerica.com

America

Hazardous Metals Test
ASTM F2075-15, Section 4.5.2 per 8.0

Manufacturer: Foster Brothers Wood Products, Inc.
Main Office Address: 6465 State Road East, Auxvasse, MO 65231
Manufacturing Location ID: Auxvasse, MO
Product Brand Name: Kiddie Kushion

PURCHASE ORDER: # 2000024508 PROJECT NO.: 72126540-1

The following ISO 17025-accredited Laboratory performed testing:

St. Louis Testing Laboratories, Incorporated
2810 Clark Avenue
St. Louis, MO 63103
St. Louis Testing Laboratory report attached (1 page).

Test Result: **Pass** ☑ **Fail** ☐

Prepared By:

4/26/2017
Date

Regional Manager
Title

Reviewed and Approved By:

4/27/2017
Date

Project Coordinator
Title

The results reported herein reflect the performance of the above described samples at the time of testing. The results are specific to the described samples. Samples of surfacing materials that do not closely match the described samples will perform differently. This data sheet provides an accurate representation of the test results.

Founded 1929 St. Louis Testing Laboratories INCORPORATED

2810 Clark Avenue • St. Louis, MO 63103-2574 • (314) 531-8080 • FAX (314) 531-8085

Chemical, Metallurgical, Mechanical, Nondestructive, Environmental Testing, Analyses and Field Service.

TUV SUD AMERICA, INC
1755 Atlantic Blvd.
Auburn Hills, MI 48326

Attention: Janice Gudenau

April 25, 2017
Lab No. 17C-0699
Invoice No. 227767
P.O. No. 2000024508

REPORT OF ANALYSIS

MATERIAL: 72126540-1

SUBJECT: Soluble Heavy Metals Analysis

STANDARD: ASTM F2075-15

TEST METHOD: ASTM F2075-15

UNITS: Soluble Heavy Metals - Parts per Million (ppm)

RESULTS:

Substance	72126540-1	Maximum Allowable Limit	Method Detection Limit
Soluble Antimony	<5	60	5
Soluble Arsenic	<5	25	5
Soluble Barium	54	1000	5
Soluble Cadmium	<5	75	5
Soluble Chromium	<5	60	5
Soluble Lead	<5	90	5
Soluble Mercury	<5	60	5
Soluble Selenium	<5	500	5

The soluble heavy metal content of the tested product is in compliance with the requirements of the above-indicated standard.

Identification of tested specimens provided by the client.

Robin E. Sinn
Laboratory Director

RES/jlm

ACCREDITED
Certificate No. 0397-01
Certificate No. 0397-02

AN OFFICIAL COPY OF TEST REPORT WILL BE PROVIDED BY THIS LABORATORY ON REQUEST.
NOT OFFICIAL WITHOUT THE RAISED SEAL OF ST. LOUIS TESTING LABORATORIES, INC.
SEE REVERSE FOR CONDITIONS.

MEMBER ACIL

TÜV SÜD America Inc.
Product Safety Services
1755 Atlantic Blvd.
Auburn Hills, MI 48326
Phone: (616) 546-4600

SURFACING MATERIAL REPORT – ASTM F1292-13

Client: Foster Brothers Wood Products, Inc.
Manufacturer: Foster Brothers Wood Products, Inc.
Manufacturing Location: Auxvasse, MO

Phone: (573) 386-2271
Commercial Name of product: Kiddie Kushion
Date of Manufacture: Unknown
No. of samples submitted: Approx. 8 Cu. Ft.

Project No.: 72117080-2 Rev.1
Report Date: 6/14/2016
Test Date: 6/10/16 and 6/13/16
Initial Test ☑
Follow up Test ☐ Ref Job:
Sample Receipt Date: 6/6/2016
Ambient Air Temperature: 23.4°C
Humidity: 29.0%

Test Equipment:

Triax System 5:	☑	Environmental Chamber No.:	PLYP00069
Triax System 4:	☐	Calibration Due Date:	9/29/2016
Accelerometer ID:	PLYP00144	Environmental Chamber No.:	PLYP00101
Accelerometer Calibration Due Date:	2/16/2017	Calibration Due Date:	9/29/2016

Loose fill Material Sample Description:

Engineered Wood Fiber: ☐
Loose Fill Wood ☑
Rubber: ☐
Sand: ☐
Gravel: ☐
Other: ☐

Un-compacted Depth: 16 Inches

Compacted Depth: 12 Inches

Unitary Sample Description:

Tiles ☐
Poured in Place ☐
Other ☐

Total Thickness: _____
Top Layer: _____
Base Layer: _____

Comments:

Per Customer, Product Brand Name was changed from "Kiddie Cushion" to "Kiddie Kushion". This report replaces 72117080-2.

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. Compliance with this Standard does not constitute product certification.

Sample in compliance with ASTM F1292-13 at the temperature and rating specified? Yes ☑ No ☐

Signature: Timothy Franklin Title: Project Coordinator Date: 6/14/16

Reviewed by: [signature] Title: Regional Mgr. Date: 6/14/16

Client: **Foster Brothers Wood Products, Inc.** Project No.: **72117080-2 Rev.1**

Manufacturer: **Foster Brothers Wood Products, Inc.** Test Date: **6/10/16 and 6/13/16**

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	67	2297	27.8	12.014	66	270	27.9	12.101	72	339	27.9	12.101
2	12	86	402	28.0	12.188	87	407	28.1	12.275	85	419	28.0	12.188
3	12	102	520	28.1	12.275	98	501	28.2	12.363	100	537	28.1	12.275
Average		94	461			92.5	454			92.5	478		
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:													

TÜV SÜD America

TÜV SÜD America Inc. Product Safety Services
1755 Atlantic Blvd., Auburn Hills, MI 48326
Phone: (616) 546-4600

Tramp Metals Test Results - ASTM F 2075

ASTM F 2075-15
Standard Specification for Engineered Wood Fiber for Use as a Playground Safety Surface Under and Around Playground Equipment, Section 4.6 and Section 9

Customer/Participant:	Foster Brothers Wood Products, Inc.	Report Date:	6/14/16
Main Office Address:	6465 State Road E., Auxvasse, MO 65231	Test Date:	6/1/16
All testing performed at location ID:	Auxvasse, MO	Project No.:	72117080-1 Rev.1
Product Brand Name/Number:	Kiddie Kushion		

4.6.1 Per 9.4 Tramp Metals

Level – 0" – 15"

Quadrant 1		Quadrant 2		Quadrant 3		Quadrant 4	
Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail
☒	☐	☒	☐	☒	☐	☒	☐

Level – 15" – 30"

Quadrant 1		Quadrant 2		Quadrant 3		Quadrant 4	
Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail
☒	☐	☒	☐	☒	☐	☒	☐

Level – 30" – 45"

Quadrant 1		Quadrant 2		Quadrant 3		Quadrant 4	
Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail
☒	☐	☒	☐	☒	☐	☒	☐

Level – 45" – 60"

Quadrant 1		Quadrant 2		Quadrant 3		Quadrant 4	
Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail
☒	☐	☒	☐	☒	☐	☒	☐

Pass ☒ Fail ☐

Comment: Per Customer, Product Brand Name was changed from "Kiddie Cushion" to "Kiddie Kushion". This report replaces 72117080-1.

The results reported herein reflect the performance of the above described samples at the time of testing. The results are specific to the described samples. Samples of surfacing materials that do not closely match the described samples will perform differently. This data sheet provides an accurate representation of the test results.

Signature:	Timothy Fawlkes	Signature:	
Title:	Project Coordinator	Title:	Regional Mgr.
Date:	6/14/16	Date:	6/14/16.

Surfacing Sample Selection Receipt

Customer Name:	Foster Brothers Wood
Manufacturer's Name:	Foster Brothers Wood
Manufacturer's Address:	PO Box 249, Auxvasse, MO 65231
Supplier ID:	
Mfr. Phone Number:	573 386 2271

Impact Attenuation Testing (per ASTM F1292)

Model Name/Number	Product Line	Product Description	Thk./Ht. Ratio	Full	Room
Kodiak Kushion		Loose Fill Wood Mulch	12"/12"	☒	☐
				☐	☐
				☐	☐

Engineered Wood Fiber - ASTM F2075 Testing

Sieve Analysis	Yes ☐	No ☐
Hazardous Metals	Yes ☐	No ☐
Tramp Metals	Yes ☒	No ☐

Magnet Used During Selection (F2075)

- PLYP00060 ☐
- PLYP00067 ☐
- PLYP00094 ☒
- PLYP00115 ☐

Loose Fill Rubber - ASTM F3012 Testing

Sieve Analysis	Yes ☐	No ☐
Hazardous Metals	Yes ☐	No ☐
Tramp Metals	Yes ☐	No ☐
Total Lead Content	Yes ☐	No ☐

Samples Required for Testing:

EWF: Full Test (Room, Hot, Cold Temps.) – 12 cubic feet (Room/Hot/Cold Temp. Only – 5 cubic feet)

LFR – Full Test (Room, Hot, Cold Temps.) – 5 cubic feet (Room/Hot/Cold Temp. Only – 3.2 cubic feet) Tiles/Turf/PIP: Full Test (Room, Hot, Cold Temps.) – 3 Samples, min. 18in. x 18in. (Room/Hot/Cold Temp. Only – 1 Sample) min. 18in. x 18in.

Sample(s) Selected By: Joe McGuan Date: 6/1/2016

Note: Sample(s) selected are representative of production from this location.

Witnessed By: _____ Date: _____

Manufacturer's Representative

Shipped VIA: _____ by: _____ Date: _____

Person/Company

To: Certification Programs Manager
IPEMA Certification Program
TÜV SÜD America, Inc.
1755 Atlantic Blvd
Auburn Hills, MI 48326

Phone # (616) 546-4600
Fax # (248) 393-6994

Customer Account ☐
TÜV SÜD Account ☐
UPS Store/Other ☐

Form IPEMA 02s

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Report To: Foster Brothers Wood Products — January 20, 2000

Report On: Compliance of Kiddle Kushion with the American Disabilities Act. — Lab No. E73572

Test Method: ASTM F1951-99
Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.

Test Date: January 12, 2000
The test was performed indoors. The product temperature was 68°F and the air temperature was 68°F.

Product Name: Kiddie Kushion

Product Description: Debarked 100% Missouri hardwood timber. Product is ground and sized to a minus one (1) inch screen.

Test Wheelchair:

Builder: Northwest Laboratories

Rear Wheels: 24-inch pneumatic tires
Spacing of 20.5 inches between center lines of tires.

Front Wheels: 8-inch pneumatic tires
Spacing 17.5 inches between center lines of casters.

Front axle to rear axle spacing: 16 5/16 inch

Weight:

Rear Wheels	131.00 lbs.
Front Wheels	80.29
Total	211.29 lbs.

Propulsion: The Wheelchair is propelled with an electric motor. Two clutches provide the four power strokes. Power is supplied to the rims of the rear wheels in the same manner as push rims do in a manual chair.

Guide: The wheelchair straddles a metal pipe which ensures travel in a straight line.

Turn Guide: A rigid metal arm is affixed to the chair on a pivot point. The other end of the arm is affixed with a pivot point to the center of the circle described in Fig. 2 of the standard. This guide ensures that the wheelchair always maintains the proper radius as it is propelled through the 90° turn.

Distance-Time Measurements:

The total distance/90° arc that the wheelchair will travel to a kill switch is measured to 1/16". Propulsion time and the speed of the motor are adjusted until the acceptance criteria are all met by the time the wheelchair trips the kill switch.

Test Results:

	Kiddie Kushion			Inclined		
	Average Ft. x Lbs./Ft.	Avg. Time (sec.)	Standard Deviation	Average Ft. x Lbs./Ft.	Avg. Time (sec.)	Standard Deviation
Straight	3.0	7.269	0.132	3.0	7.201	0.328
90° Turn	2.4	7.496	0.287	2.5	7.435	0.125

This product passes ASTM F1951.

NORTHWEST LABORATORIES

Richard J. Schefsky
Engineer

wbm

To verify product certification, visit www.ipema.org

To verify product certification, visit www.ipema.org

TÜV SÜD America Inc.
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Auburn Hills, MI 48326

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E-mail: info@tuvam.com
www.TUVamerica.com

America

May 17, 2017

Foster Brothres Wood Products Inc.
PO Box 249
Auxvasse, MO 65231

Mr. Travis Foster

SUBJECT: IPEMA *Surfacing Program Congratulations*

You have worked hard to get to this point and on behalf of IPEMA, I would like to congratulate you and your company's effort on achieving IPEMA validation!

The IPEMA administrator will be supplying you the Certification Seal, boilerplate language and IPEMA website login and passwords. Please refer to the appendix B of the application and license agreement for proper use of artwork.

Questions related to RV submittals via the website should be directed to TUV SUD America.

Please refer to the IPEMA website at www.ipema.org for a complete listing of organization officials and committee opportunities.

Sincerely,

Certification Program Manager

David Splane
IPEMA Validator

CC: Denise Calabrese, IPEMA Administrator

Foster Brothers Kiddie Kushion Installation and Maintenance Instructions

Installation

Foster Brothers Wood Products, Inc. produces an engineered playground surfacing material called Kiddie Kushion. Kiddie Kushion is an environmentally safe, biodegradable wood material that has been produced and tested to meet IPEMA standards for playground surfacing material. This material is specifically designed to cushion the impact of muscle, bone, and ligaments onto the playground surface while walking, running, standing, or playing. Its unique design also allows Kiddie Kushion to retain the ability to give disabled individuals stability to move wheelchairs across its surface. Kiddie Kushion is produced from 100% Missouri hardwoods, primarily oak, through an engineered system.

Foster Brothers recommends that all materials provided by Foster Brothers, including product data, specifications, installation instructions and maintenance procedures, as well as all site specific plans, instructions and specifications, be reviewed by a certified engineer, architect or landscape architect familiar with local soil and climatic conditions.

Further, purchaser should determine and specify fall heights and equipment use zones as required by the Consumer Product Safety Commission's Handbook for Playground Public Safety, applicable ASTM standards, and state and local codes and regulations.

1. Prepare the site according to any project engineer directions, project specifications, and/or equipment specifications. This should include: Grading and compacting the surface so that there is a slight slope to ensure proper moisture drainage while keeping a necessary depth for the Kiddie Kushion to be installed. All foreign material such as roots, dirt, rock, concrete, and vegetation must be removed. Install a retention border if that is equal to the depth required for the Kiddie Kushion, this will help to contain the Kiddie Kushion within the playground. Keep in mind that the retaining border should be at least 15 feet from any playground object.

2. Install playground equipment.

3. Install Kiddie Kushion evenly across the entire playground area checking depth as you install. Loose-fill materials will compress at least 25% over time due to use and weathering, this must be considered when planning the playground. Kiddie Kushion should be installed at a minimum of 16" unimpacted to ensure a 12" compaction factor to help prevent injuries for equipment that is up to 12 feet in height. After two weeks recheck depth and level surface again, add Kiddie Kushion if needed.

Maintenance

1. Check the depth of the Kiddie Kushion to ensure that it is equal to the necessary fall zone depth of 12 inches. If section is low redistribute and/or add Kiddie Kushion to reach required depth. The proper level of Kiddie Kushion must be maintained in order to ensure the product does what it is designed to do. Failure to maintain Playground Material at the initial installation depth (12 inches) may result in an injury.

2. Always keep the playground clear of foreign material such as rocks, sticks, broken glass and trash.

3. Inspect drainage to ensure playground is draining properly. If blockage has occurred remove debris. Without proper drainage ice can form and will keep the Kiddie Kushion from functioning as a protective surface.

4. Remove any unwanted plant growth from playground.

Warning: Failure to install Kiddie Kushion properly, lack of maintenance, improper use with other material not designed as a certified playground material and/or mixing material could result in serious injury or death.

While following these requirements and guidelines will reduce the risk of serious injury or death no engineered wood fiber or playground material such as Kiddie Kushion can prevent all accidents, injuries, or death.