REPORT NUMBER 72198252-5

America

PREPARED FOR
OWEN TREE SERVICE, INC.
225 NORTH LAKE RD.
ATTICA, MI 48412
810.343.1197

ATTENTION
RANDY OWEN

PO#
N/A

REPORT DATE
4/25/2024

TÜV SÜD America, Inc.
1866 New Energy Way
Auburn Hills, MI 48326
Phone: 616.546.4600
www.tuvsud.com

REPORTED / APPROVED BY:

TÜV SÜD America, Inc.

Reported by: Ray Majszak, Project Coordinator
CERTIFICATION TEST PROGRAMS

Approved by: David Splane, Regional Manager
CERTIFICATION TEST PROGRAMS

TÜV SÜD America, Inc., Product Safety Services
1866 New Energy Way, Auburn Hills, MI 48326
Phone: (616) 546-4600

Tramp Metals Test Results

ASTM F2075

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: Owen Tree Service, Inc. Report Date: 4/17/2024
Main Office Address: 225 North Lake George Rd., Attica, MI 48412 Test Date: 4/16/2024
All testing performed at location ID: Attica, MI Project No.: 72198252-1
Commercial Name of Product: Playground Mulch Follow-up: ☐ Ref. Job:

4.6.1 Per 9.4 Tramp Metals

Level – 0in. – 15in.

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

Level – 15in. – 30in.

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

Level – 30in. – 45in.

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

Level – 45in. – 60in.

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

Pass ☒ Fail ☐

Comments:

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.

Performed By: *Timothy Fouchia*
Title: Project Engineering Technician
Date: 4/17/2024

Reviewed By:
Title: Regional Manager
Date: 4/29/2024

Sieve Analysis Data Collection Form
ASTM F2075-20 per Section 4.4 and Section 7

TÜV SÜD America, Inc.
1866 New Energy Way
Auburn Hills, MI 48326
Ph: (616) 546-4600

Customer/Participant: Owen Tree Service, Inc.
Main Office Address: 225 North Lake George Rd.
City, State, Zip: Attica, MI 48412
Location ID: Attica, MI
Commercial Name of Product: Playground Mulch

Test Date: 5/7/2024
Project No.: 72198252-7
Ambient Air Temp.: 21.3°C
Relative Humidity: 33 %
Follow-up: ☑ Ref. Job: 72198252-5

Test Equipment Used

TUV Asset No.:	Equipment Type	Manufacturer	Model	
PLYP00100	Environmental Chamber	Russells	RB-8-1-1, (QE496)	
PLYP00163	Data Logger	Omega	OM-CP-RHTEMP101A	
PLYP00216	Hygro-thermometer	Extech Instruments	445703	☑
PLYP00211	Hygro-thermometer	Extech Instruments	445702	☐
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	627.4
Tare weight of Container	160.2
Initial Sample Dry Weight (g)	467.2
Sample and Container Weight for 3/4in. Sieve	177.0
Tare weight of Container	177.0
Sample Remaining on 3/4in. Sieve (g)	0.0
Sample and Container Weight for 3/8in. Sieve	232.3
Tare weight of Container	178.6
Sample Remaining on 3/8in. Sieve (g)	53.7
Sample and Container Weight for #16 Sieve	577.5
Tare weight of Container	178.0
Material Remaining on #16 Sieve (g)	399.5

Sieve Size	Min / Max Requirements	% Passing
3/4" (19.05 mm)	99 - 100%	100.0
3/8" (9.53 mm)	78 - 100%	88.5
No. 16 (0.0469 in.)	0 -15%	3.0

Sample in compliance with ASTM F2075-20 for Sieve Analysis Section 4.4 per 7.4: Yes ☑ No ☐
Tare weights of containers verified prior to testing.
Note: Testing performed at TÜV SÜD America in Auburn Hills, MI.
Comments:

Performed By: _____ Title: Project Engineering Technician Date: 5/7/2024

Reviewed By: _____ Title: Regional Manager Date: 5/7/2024

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 SÜD America Inc.
Product Safety Services
1866 New Energy Way
Auburn Hills, MI 48326
Phone: (616) 546-4600

SURFACING MATERIAL REPORT – ASTM F1292-22

Client: **Owen Tree Service, Inc.**
Manufacturer: **Owen Tree Service, Inc.**
Manufacturing Location: **225 North Lake Rd. Attica, MI 48412**
Phone: **810.343.1197**
Commercial Name of product: **Playground Mulch**
Date of Manufacture: **Unknown**
No. of samples submitted: **Approximately 12 cubic feet**

Project No.: **72198252-3**
Report Date: **4/25/2024**
Test Date: **4/23/2024 & 4/24/2024**
Initial Test: ☑
Follow up Test: ☐ **Ref Job:**
Sample Receipt Date: **4/2/2024**
Ambient Air Temperature: **20.8°C**
Humidity: **20.0%**

Test Equipment:

Alpha Automation, Triax, TUV System 5:	☑	Environmental Chamber ID:	**PLYP00069**
Alpha Automation, Triax, TUV System 7:	☐	Calibration Due Date:	**8/18/2024**
Accelerometer ID:	**PLYP00193**	Environmental Chamber ID:	**AE-029**
Accelerometer Calibration Date:	**1/10/2024**	Calibration Due Date:	**8/18/2024**

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:

The maximum critical fall height of the above described sample was determined to be: 18 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 F1292-22 at the temperature and rating specified? **Yes** ☑ **No** ☐

Signature: _____ Title: Project Engineering Technician Date: 4/25/2024

Reviewed by: _____ Title: Regional Manager Date: 5/6/2024

Client: **Owen Tree Service, Inc.** Project No.: **72198252-3**

Manufacturer: **Owen Tree Service, Inc.** Test Date: **4/23/2024 & 4/24/2024**

Drop	Critical Fall Height (Ft.)	Reference Temperature -4°C, (25°F)				Reference Temperature 23°C, (73°F)				Reference Temperature 49°C, (120°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	18	89	474	34.1	18.077	74	429	34.1	18.077	78	423	34.2	18.183
2	18	122	844	34.3	18.289	108	740	34.3	18.289	115	776	34.3	18.289
3	18	141	1087	34.3	18.289	134	1008	34.4	18.396	142	1095	34.4	18.396
Average		131.5	965.5			121	874			128.5	935.5		
Measured Surface Temperature		-4°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:		Frozen				Wet				Dry			

Drop	One foot over (Ft.)	Reference Temperature -4°C, (25°F)				Reference Temperature 23°C, (73°F)				Reference Temperature 49°C, (120°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	19	90	510	35.1	19.153	81	434	35.0	19.044	87	509	35.1	19.153
2	19	131	991	35.2	19.262	120	839	35.2	19.262	126	930	35.2	19.262
3	19	158	1342	35.3	19.371	151	1225	35.3	19.371	155	1290	35.4	19.481
Average		144.5	1166.5			135.5	1032			140.5	1110		
Measured Surface Temperature		-4°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:		Frozen				Wet				Dry			

Drop	One foot under (Ft.)	Reference Temperature -4°C, (25°F)				Reference Temperature 23°C, (73°F)				Reference Temperature 49°C, (120°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	17	74	419	33.2	17.135	70	461	33.1	17.032	68	343	33.2	17.135
2	17	98	667	33.3	17.239	95	615	33.2	17.135	110	696	33.4	17.342
3	17	228	965	33.4	17.342	119	810	33.3	17.239	135	980	33.5	17.446
Average		163	816			107	712.5			122.5	838		
Measured Surface Temperature		-4°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:		Frozen				Wet				Dry			

TÜV SÜD America

TÜV America Inc.
1866 New Energy Way
Auburn Hills, MI 48326

Phone: (616) 546-4600

America

Hazardous Metals Test
ASTM F2075, Section 4.5.2 per 8.0

Manufacturer: Owen Tree Service, Inc.

Main Office Address: 225 North Lake George Rd., Attica, MI 48412

Manufacturing Location ID: Attica, MI

Commercial Name of Product: Playground Mulch

PURCHASE ORDER: # 2000058197

PROJECT NO.: 72198252-4

The following ISO 17025-accredited Laboratory performed testing:

Enviro Lab Services, Inc.
4150 Arrow St.
Oscoda, MI 48750
Enviro Lab Services, Inc., report attached (1 page).

Test Result: **Pass** ☑ **Fail** ☐

Prepared By:

Timothy Fouchia

4/29/2024
Date

Project Engineering Technician
Title

Reviewed and Approved By:

4/29/2024
Date

Regional Manager
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.

Enviro Lab Services

CERTIFICATE OF ANALYSIS

USEPA Lab ID: MI9885 | Michigan EGLE Lab ID: 9115 | **Report Date:** 4/24/2024

Laboratory Report

Order ID:	24041101	**Client:**	TUV SUD
Sample ID:	24041101-3	**Client PO#:**	2000058197
Sample Matrix:	Engineered Wood Fiber	**Project Name:**	Soluble Heavy Metals Analysis by ASTM F2075
Customer Sample ID:	72198252-4	**Contact:**	David Splane
Sample Date:		**Reporting To:**	david.splane@tuvsud.com
Sample Time			patrick.ashley@tuvsud.com
Sample Collected By:			tim.fouchia@tuvsud.com
Analysis Date:	2/19/2024	**Analyst:**	Travis Kirin

TEST: Hazardous Metals Analysis ASTM F2075

Analyte	CAS #	Method	Result	Units	Reporting Limit (ppm)
Soluble Antimony	7440-36-0	ASTM F-2075	<5	ppm	5
Soluble Arsenic	7440-38-2	ASTM F-2075	<5	ppm	5
Soluble Barium	7440-39-3	ASTM F-2075	<5	ppm	5
Soluble Cadmium	7440-43-9	ASTM F-2075	<5	ppm	5
Soluble Chromium	7440-47-3	ASTM F-2075	<5	ppm	5
Soluble Lead	7439-92-1	ASTM F-2075	<5	ppm	5
Soluble Mercury	7439-97-6	ASTM F-2075	<5	ppm	5
Soluble Selenium	7782-49-2	ASTM F-2075	<5	ppm	5

The soluble heavy metal content of the tested product is in compliance with the requirements of ASTM F2075.

FINAL APPROVAL

APPROVED BY: *Travis Kirin* Lab Manager

The results herein relate only to the items/batch tested, calibrated, or sampled in this report. "ND" indicates that the analyte was not detected nor present in the sample tested at levels at or below the limit of quantitation. Results only pertain to sample as received or those sampled by Enviro Lab Services Inc.

Enviro Lab Services, Inc.
4150 Arrow Street, Oscoda, MI 48750
Phone: (248)882-1245
www.envirolabusa.com

Enviro Lab Services, Inc - ISO 17025 ACCREDITED LABORATORY
Accreditation Number: 108439
Certificate Number: L23-315