



TESTING TECHNOLOGY FOR SPORT

Laboratory Analysis Report

3.5 lbs. Aragonite Green on a 90 oz. Slitfilm Turf with Thatch over Brock YSR

Report Number: 96552/8112Y

Report Status: Final

Client: Calcean Minerals & Materials LLC

140 Thomas Drive

Gadsden, AL 35904



TESTING TECHNOLOGY FOR SPORT

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REGIONAL LOCATIONS

-Seattle, Washington

-Columbia, Missouri

-Dallas, Texas



-Los Angeles, California

-Montreal, Quebec

Laboratory Analysis Report

Foreword

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Report Written By:	Gustavo Munoz	Report Checked By:	Kieran O'Donnell
Date:	04/03/26	Date:	04/03/26
Signed:		Signed:	

Test Laboratory

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Client

Client's Name:	Calcean Minerals & Materials LLC
Address:	140 Thomas Drive
City & ZIP Code:	Gadsden 35904
State or Province:	Alabama
Country:	United States of America

Laboratory Analysis Report

Product Description		
Product Name:	Aragonite Green on a 90 oz. Slitfilm Turf with Thatch	
Synthetic Turf Name:	Aragonite Green on a 90 oz. Slitfilm Turf with Thatch	
Performance Infill:	Aragonite Green	3.5 lbs/ft ²
Stabilizing Infill:	N/A	N/A
Shockpad:	Brock YSR	
Substrate:	Concrete	
Pre Lisport Pile Height:	20 mm	
Surface Image:		
		
Sample Reference		
Laboratory Job No.	96552	
Sample Reference No.	Synthetic Turf	8112Y
	Performance Infill	8113
	Stabilising Infill	8114
	Shockpad	8112Y
Ambient Temperature Range During Testing (unless otherwise stated)	71.0 – 75.0 °F	
Ambient Humidity Range During Testing	40 – 60 %	

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Performance Testing Results				
Property	Test Method	Test Condition	Mean Result	Requirement
Shock Absorption	ASTM F3189-20	DRY	67%	57 – 68 %
		WET	68%	
		6015 Lisport XL Cycles	64%	
Vertical Deformation	ASTM F3189-20	DRY	8.4 mm	6 – 10 mm
		WET	8.4 mm	
		6015 Lisport XL Cycles	8.2 mm	
Rotational Resistance - Studded	EN 15301–1: 2007	DRY	36 Nm	27 – 48 Nm
		WET	35 Nm	
		6015 Lisport XL Cycles	29 Nm	
Critical Fall Height - HIC	ASTM F3146	DRY	1.52 m	≥ 1.3 m
		WET	1.53 m	
		6015 Lisport XL Cycles	1.50 m	
Gmax	ASTM F1936	DRY	81	No Requirement
		WET	83	
		6015 Lisport XL Cycles	88	
Ball Rebound	EN 12235:2013	DRY	0.78 m	0.60 – 1.00
		WET	0.83 m	
		6015 Lisport XL Cycles	1.0 m	

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Performance Testing Results			
Property	Test Method	Test Condition	Mean Result
Water Permeability	EN 12616	FILLED	388 In/hr
		UNFILLED	725 In/hr
Ball Roll	EN 12234 2013	INITIAL	10.80 m
		6015 Lisport XL Cycles	11.47 m

Synthetic Turf - Identification		
Test method		Mean Result
Carpet Mass	ISO 8543: 1998	120.39 Oz/yd ²
Pile Weight	ISO 8543: 1998	86.99 Oz/yd ²
No. of Tufts	ISO 1763: 1986	20343
Pile Length	ISO 2549: 1972	1.19"
Yarn Type	Visual	Slitfilm Turf with Thatch

Synthetic Turf – Material Tests				
Test method		Test Condition	Mean Result	
Tuft Withdrawal	ISO 4919: 2012	Un-aged	9.74 Lbs.	
Carpet Tensile Strength	EN 13934–1: 2013	Un-aged	Direction of Manufacturer	>200 Lbf
			Perpendicular of Manufacturer	>200 Lbf

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Synthetic Turf – Heat Test FIFA 14		
Phase	Elapsed Time [min]	Surface Temperature [°F]
1	0	77.4
	5	95.5
	10	101.7
	15	105.4
	20	108.7
2	30	113.5
	40	117.3
	50	119.7
	60	122
3	75	124.3
	90	126
	105	127.4
	120	128.8
	135	130.3
	150	131.9
	165	132.4
	180	133.3

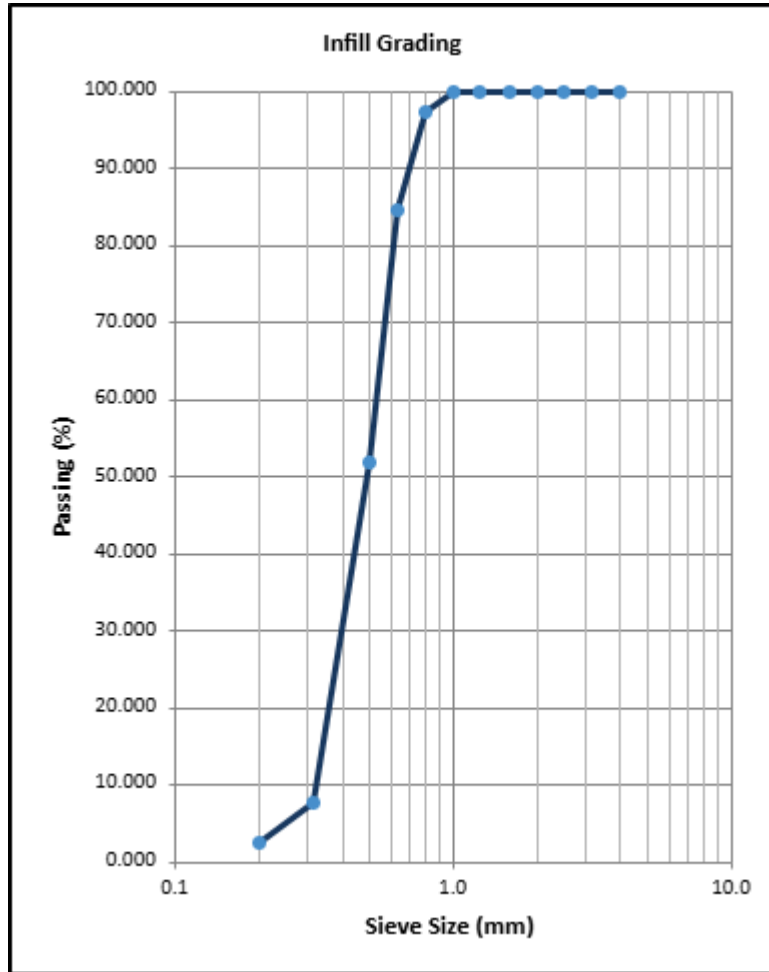
Category	Temperature Range [°F]	System Category
1	<122	
1→2	122→130	
2	131→139	X
2→3	140→149	
3	>149	

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Performance Infill - Identification

Performance Infill Name **Aragonite Green**

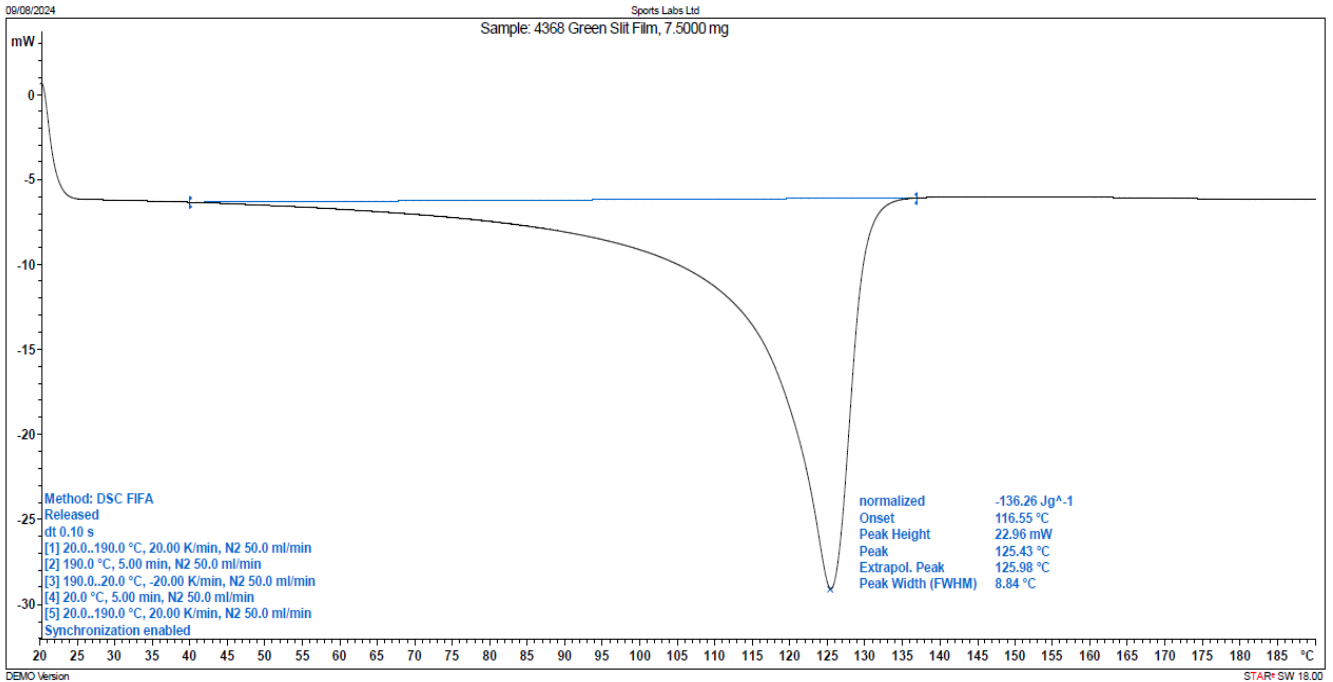
Performance Infill – Material Tests



Property	Test Method	Mean Result
Particle Size	EN 933-1: 2012	0.315 – 0.800
Particle Shape	EN 14955: 2005	Round
Colour	Visual	Green

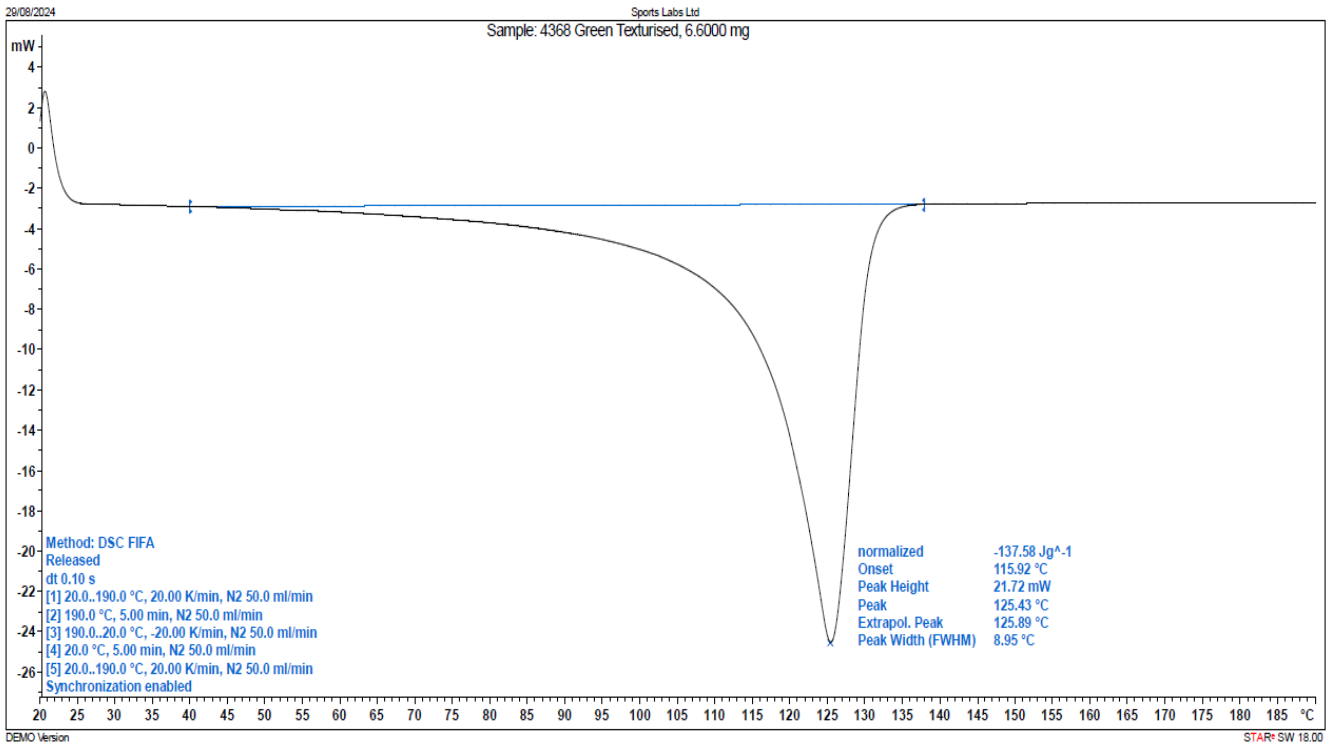
Laboratory Analysis Report

Differential Scanning Calorimetry Results



Green Monofilament - Peak

257.77° F

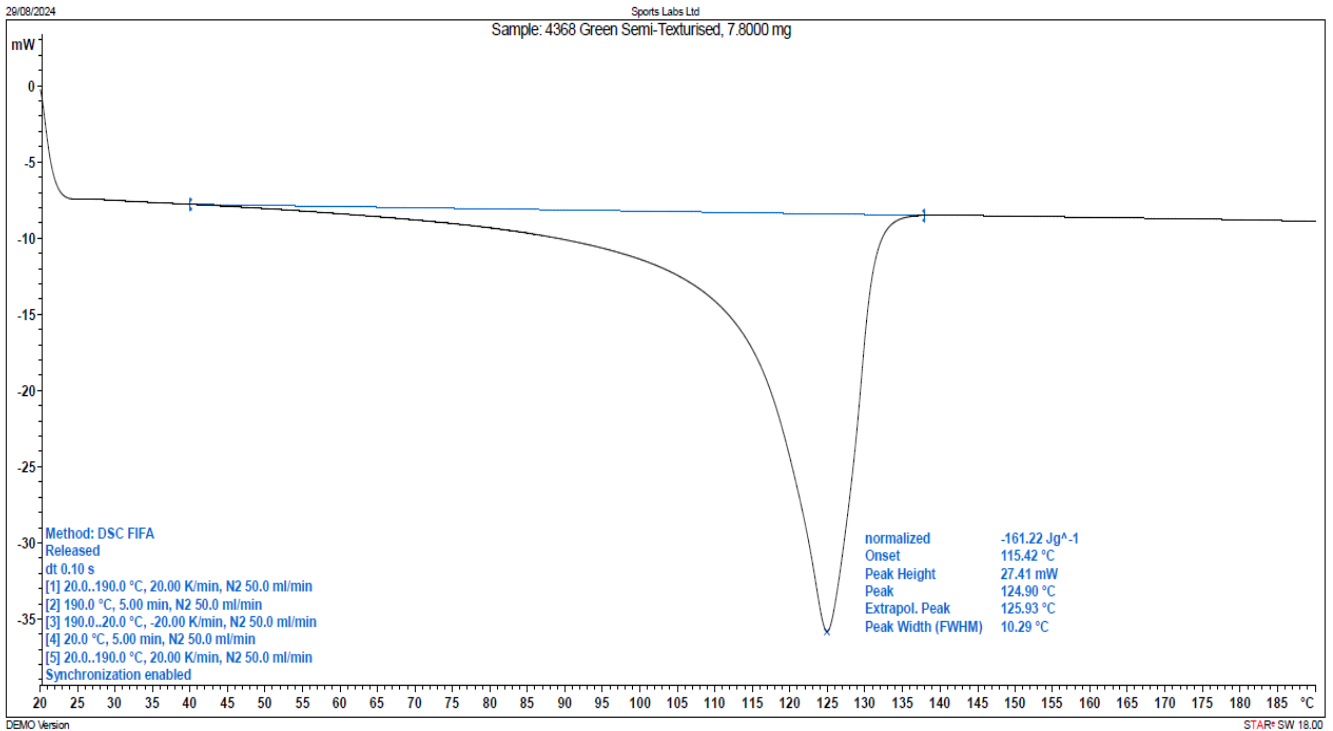


Green Slitfilm - Peak

257.77° F

Laboratory Analysis Report

Differential Scanning Calorimetry Results



Green Thatch - Peak

256.82° F

Sample Photos

0 Cycles



2000 Cycles



4000 Cycles

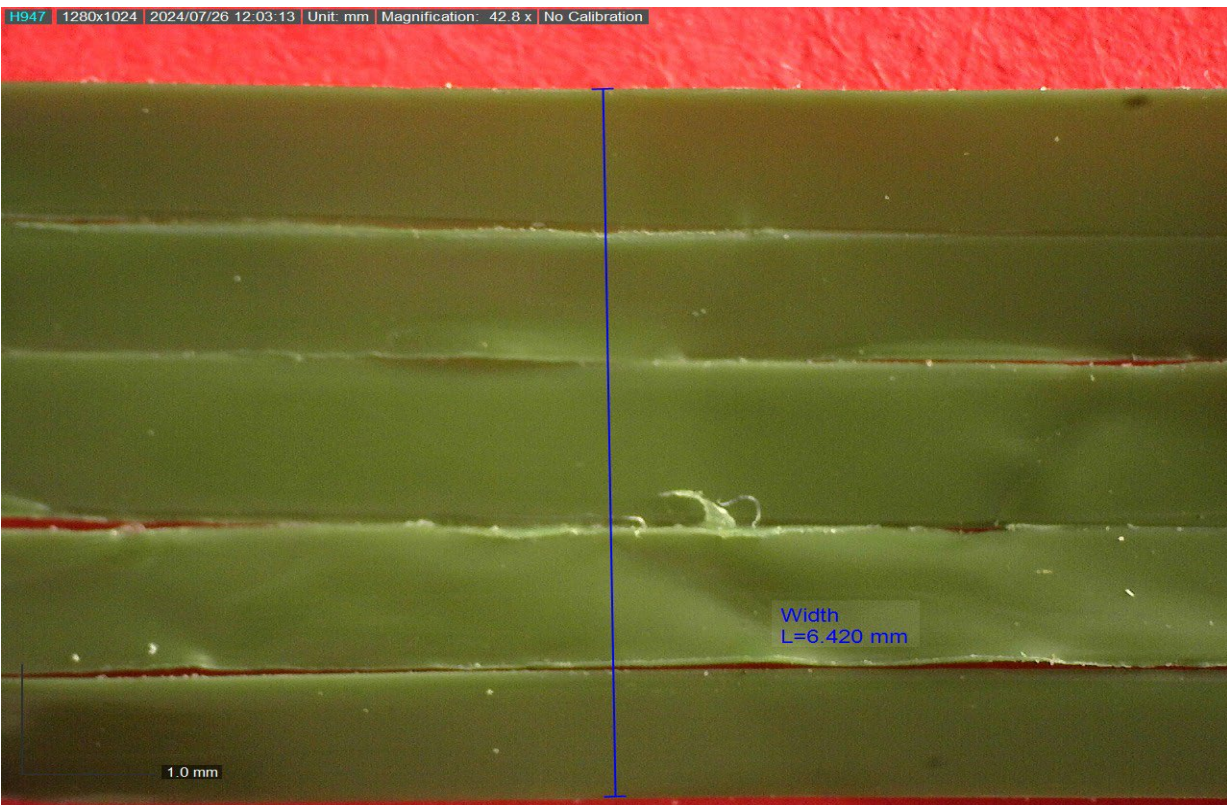
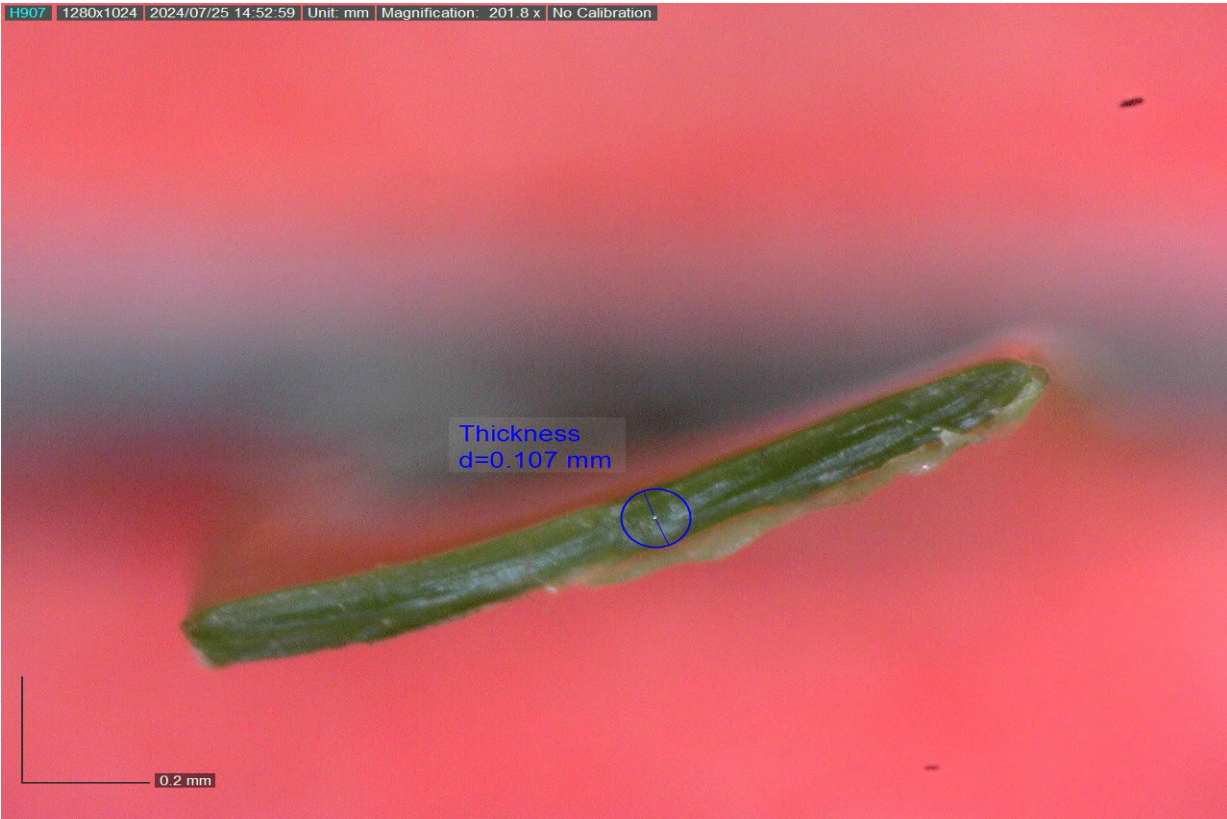


6000 Cycles

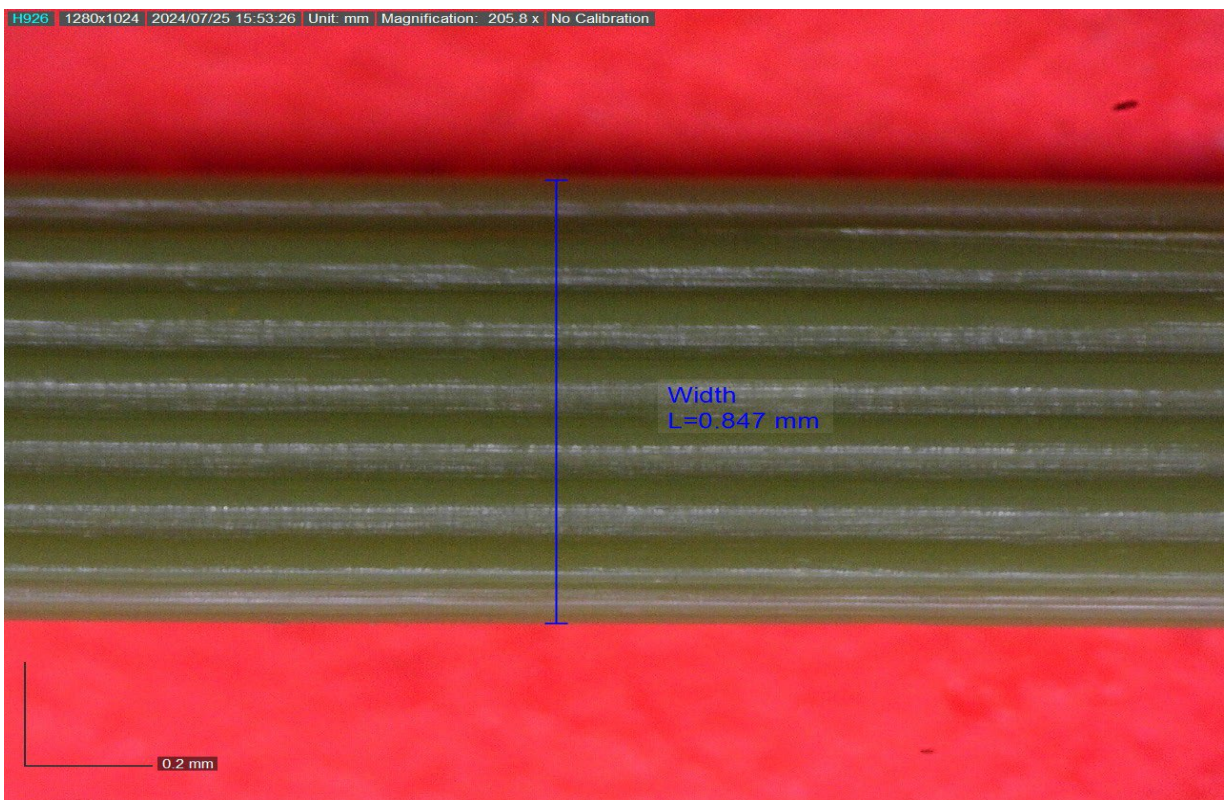


Microscope Photos

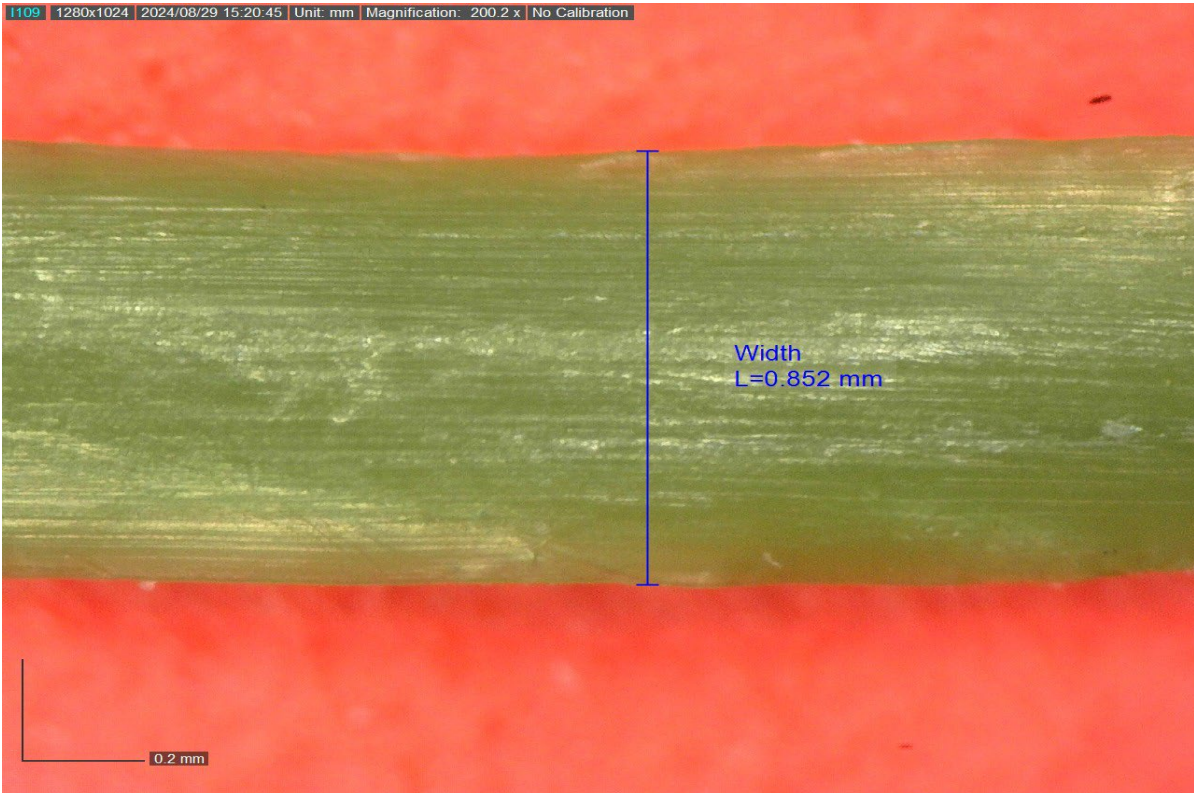
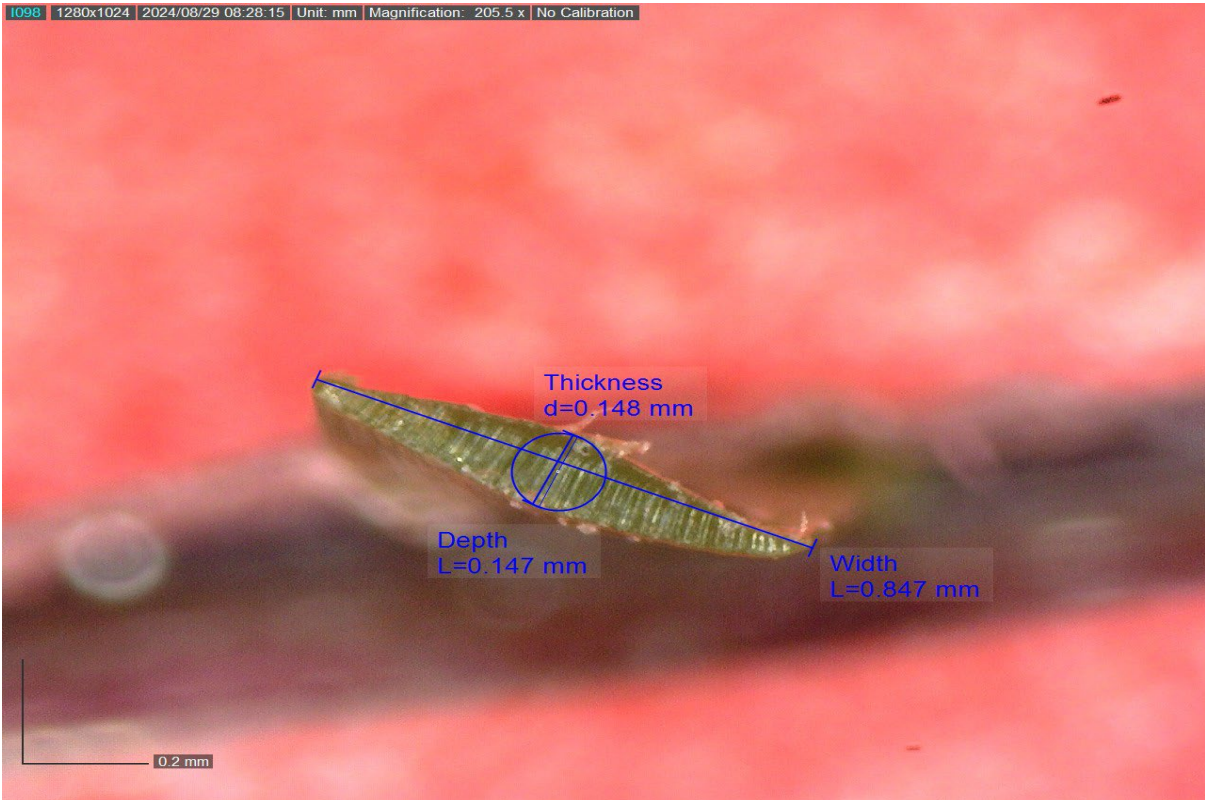
Green Slitfilm



Green Semi Thatch



Green Thatch



END OF REPORT