

Laboratory Analysis Report

**Blended 2" Product with thatch over PP20 with 5 lbs. Sand and
5 lbs. Aragonite Natural over Concrete.**

Report Number: 96551/8109P

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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This report is confidential to the Client, and Sports Labs accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

Report Written By:	Gustavo Munoz	Report Checked By:	Kieran O'Donnell
Date:	04/03/2026	Date:	04/03/2026
Signed:		Signed:	

Test Laboratory

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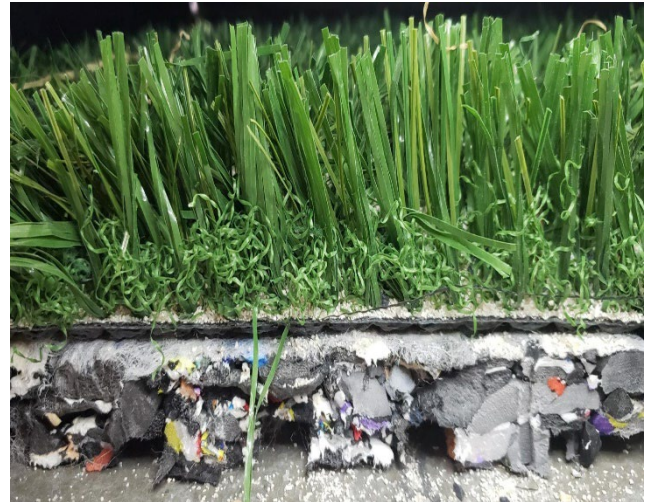
Client

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:	Blended 2" Product with thatch	
Synthetic Turf Name:	Blended 2" Product with thatch	
Performance Infill:	Aragonite Natural	5.0 lbs/ft ²
Stabilizing Infill:	Sand	5.0 lb/ft ²
Shockpad:	ProPlay 20	
Substrate:	Concrete	
Pre Lisport Pile Height:	14mm	

Surface Image:



Sample Reference

Laboratory Job No.	96551	
Sample Reference No.	Synthetic Turf	8109P
	Performance Infill	8110
	Stabilising Infill	8112
	Shockpad	8109P
Ambient Temperature Range During Testing (unless otherwise stated)	71.0 – 75.0 °F	
Ambient Humidity Range During Testing	40 – 60 %	

Laboratory Analysis Report

Performance Testing Results				
Property	Test Method	Test Condition	Mean Result	Requirement
Shock Absorption	ASTM F3189-20	DRY	63%	57 – 68 %
		WET	64%	
		6015 Lisport XL Cycles	62%	
Vertical Deformation	ASTM F3189-20	DRY	8.0 mm	6 – 10 mm
		WET	8.1 mm	
		6015 Lisport XL Cycles	7.2 mm	
Rotational Resistance - Studded	EN 15301–1: 2007	DRY	39 Nm	27 – 48 Nm
		WET	41 Nm	
		6015 Lisport XL Cycles	46 Nm	
Critical Fall Height - HIC	ASTM F3146	DRY	1.39 m	≥ 1.3 m
		WET	1.36 m	
		6015 Lisport XL Cycles	1.21 m	
Gmax	ASTM F1936	DRY	104	No Requirement
		WET	108	
		6015 Lisport XL Cycles	125	
Ball Rebound	EN 12235:2013	DRY	0.73 m	0.60 – 1.00
		WET	0.73 m	
		6015 Lisport XL Cycles	0.83 m	

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Performance Testing Results			
Property	Test Method	Test Condition	Mean Result
Water Permeability	EN 12616	FILLED	354 In/hr
		UNFILLED	675 In/hr
Ball Roll	EN 12234 2013	INITIAL	7.90 m
		6015 Lisport XL Cycles	10.94 m

Synthetic Turf - Identification		
Test method		Mean Result
Carpet Mass	ISO 8543: 1998	89.01 Oz/yd ²
Pile Weight	ISO 8543: 1998	61.03 Oz/yd ²
No. of Tufts	ISO 1763: 1986	9450
Pile Length	ISO 2549: 1972	2.08"
Yarn Type	Visual	Blended Turf with Thatch

Synthetic Turf – Material Tests				
Test method		Test Condition	Mean Result	
Tuft Withdrawal	ISO 4919: 2012	Un-aged	11.05 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	76.5
	5	88.2
	10	93.4
	15	97.3
	20	100
2	30	104.2
	40	107.6
	50	109.9
	60	112.1
3	75	114.4
	90	116.6
	105	118.2
	120	119.3
	135	120.2
	150	121.5
	165	122
	180	122.9

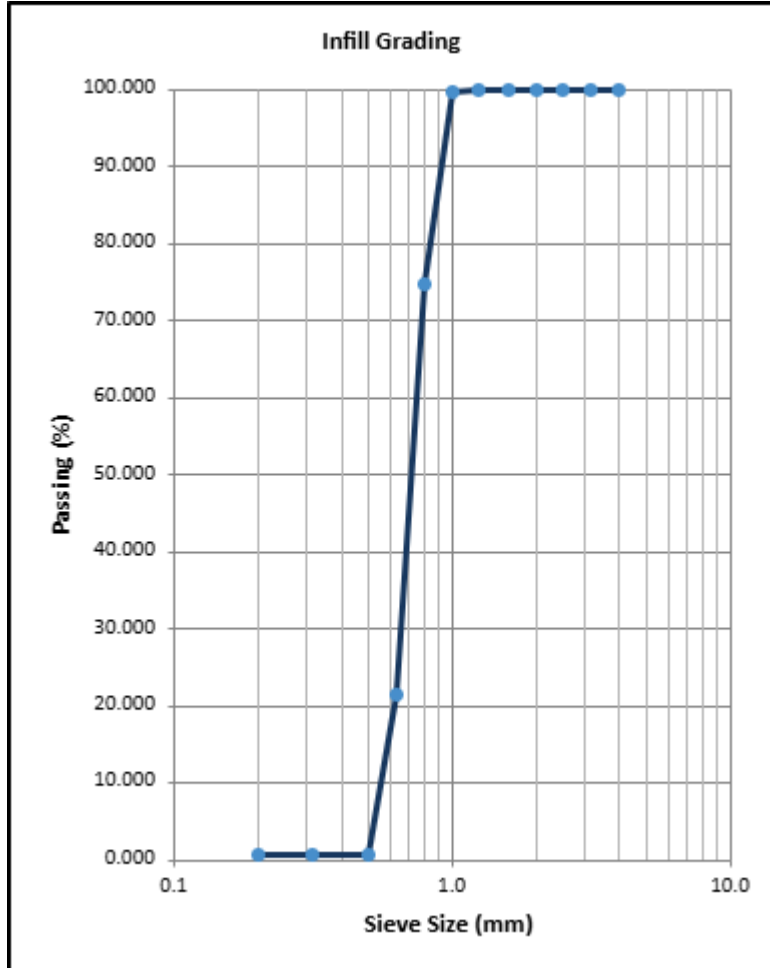
Category	Temperature Range [°F]	System Category
1	<122	
1→2	122→130	YES
2	131→139	
2→3	140→149	
3	>149	

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Stabilizing Infill - Identification

Stabilizing Infill Name Sand

Stabilizing Infill – Material Tests



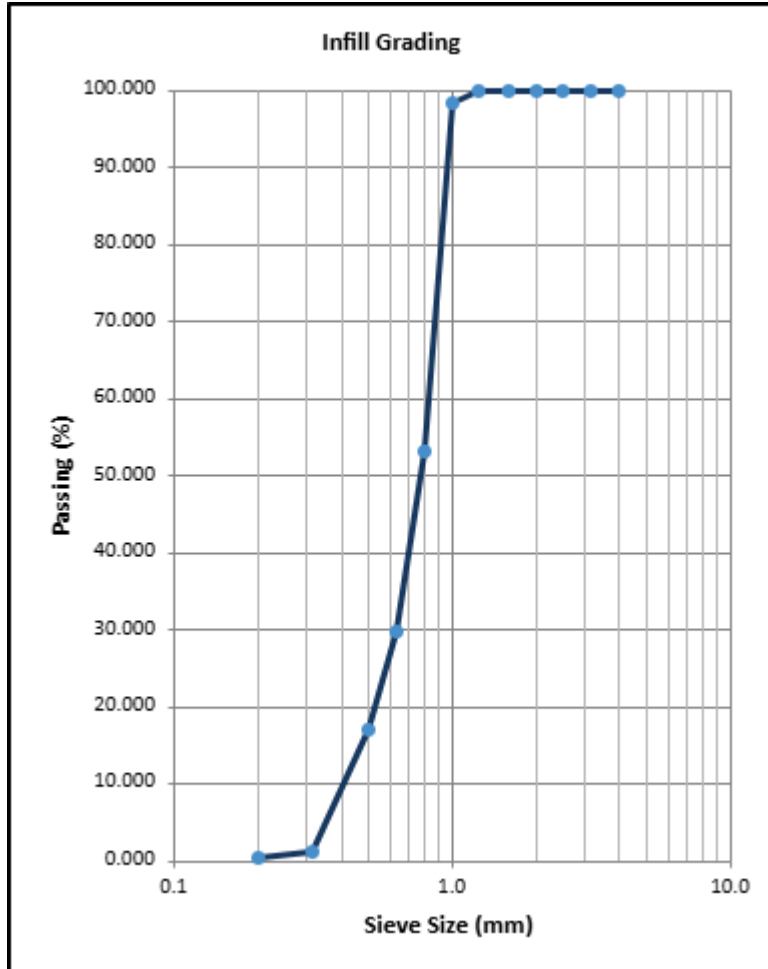
Property	Test Method	Mean Result
Particle Size	EN 933-1: 2012	0.500 – 1.00
Particle Shape	EN 14955: 2005	Round
Colour	Visual	White

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Performance Infill - Identification

Performance Infill Name Aragonite Natural

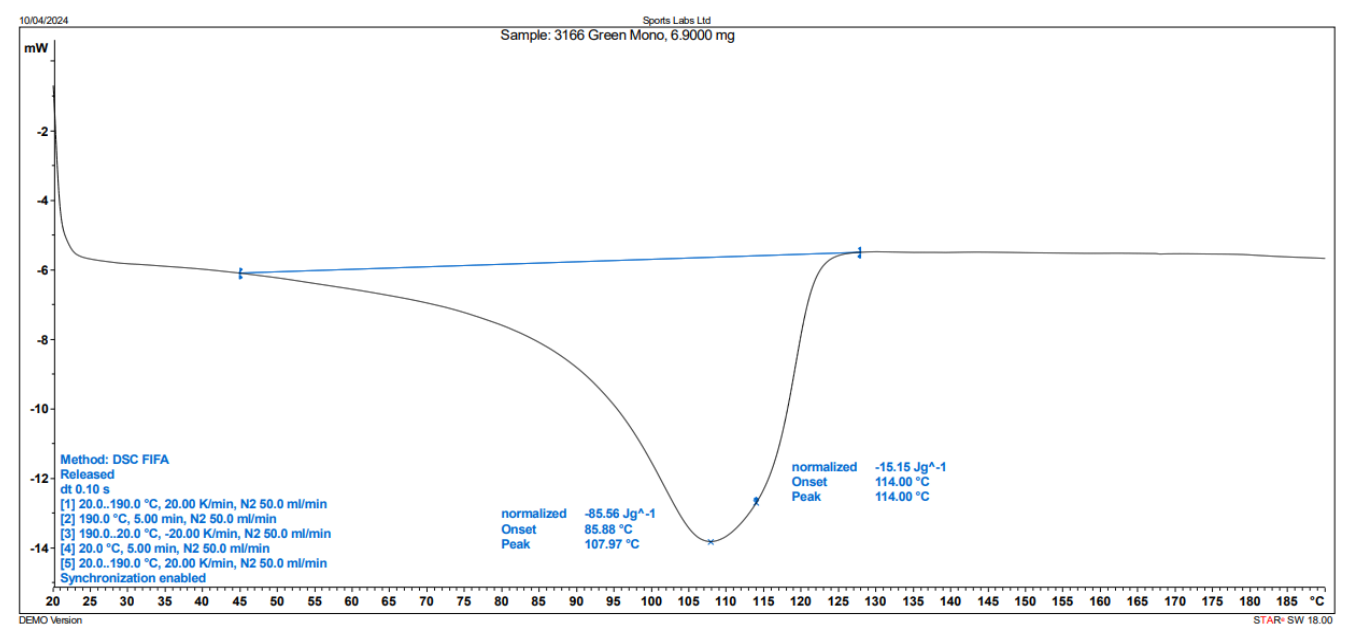
Performance Infill – Material Tests



Property	Test Method	Mean Result
Particle Size	EN 933-1: 2012	0.315 – 1.00
Particle Shape	EN 14955: 2005	Round
Colour	Visual	White

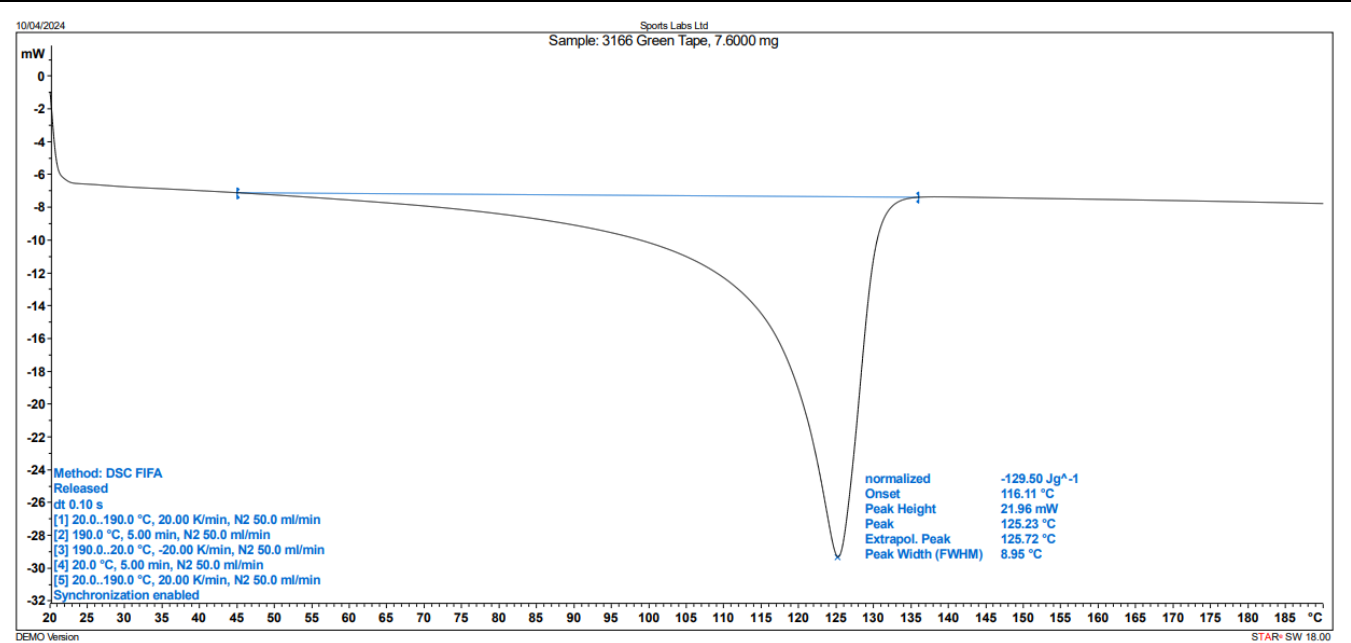
Laboratory Analysis Report

Differential Scanning Calorimetry Results



Green Monofilament - Peak

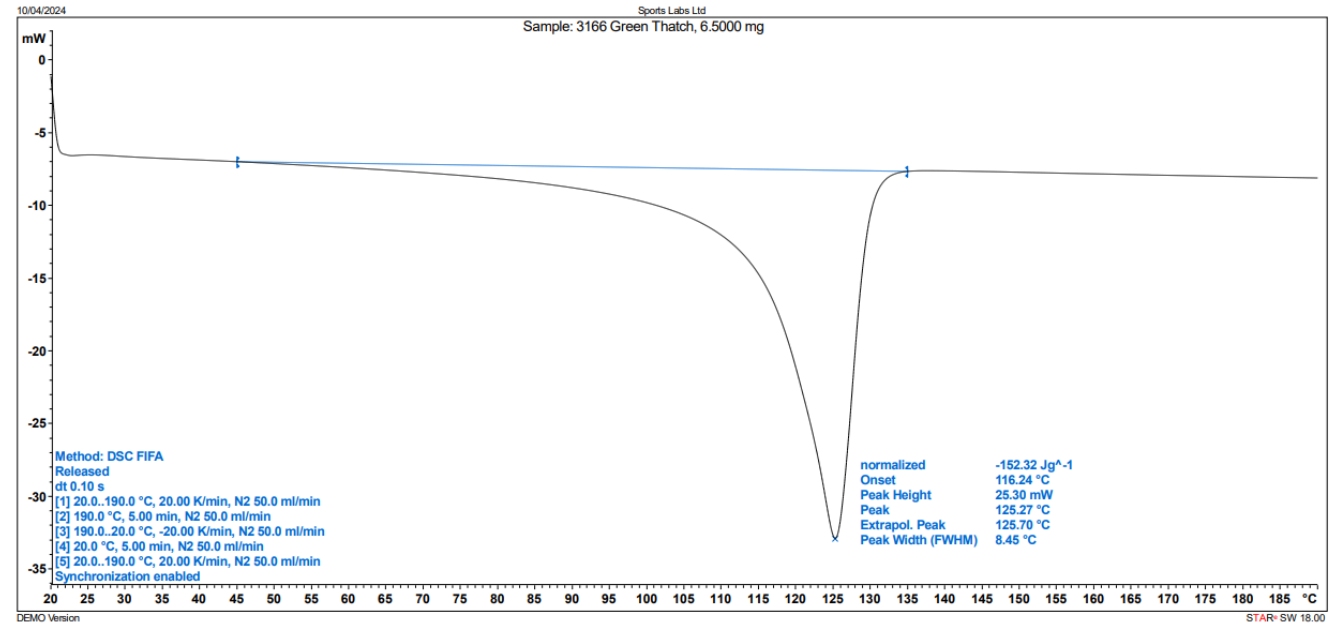
226.35°F



Green Slitfilm - Peak

257.41°F

Differential Scanning Calorimetry Results



Green Thatch - Peak

257.49° F

Sample Photos

0 Cycles



2000 Cycles



4000 Cycles

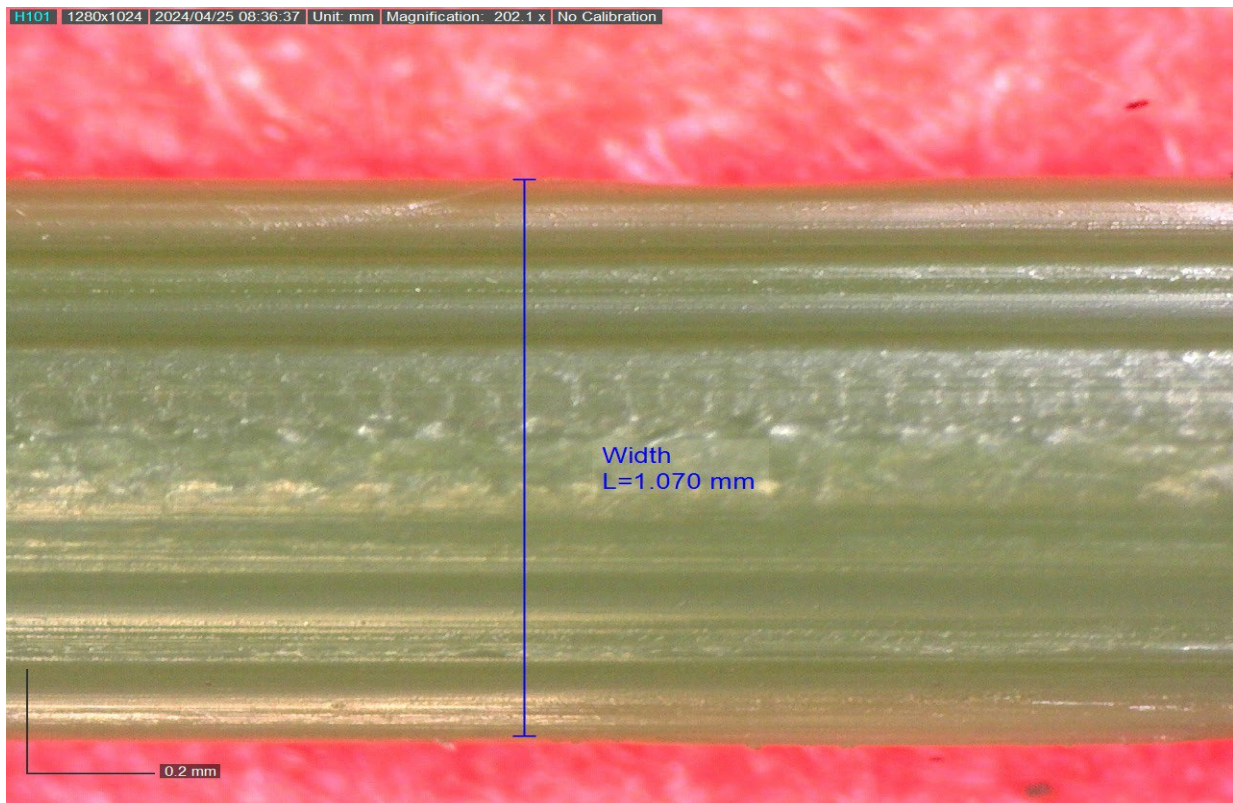
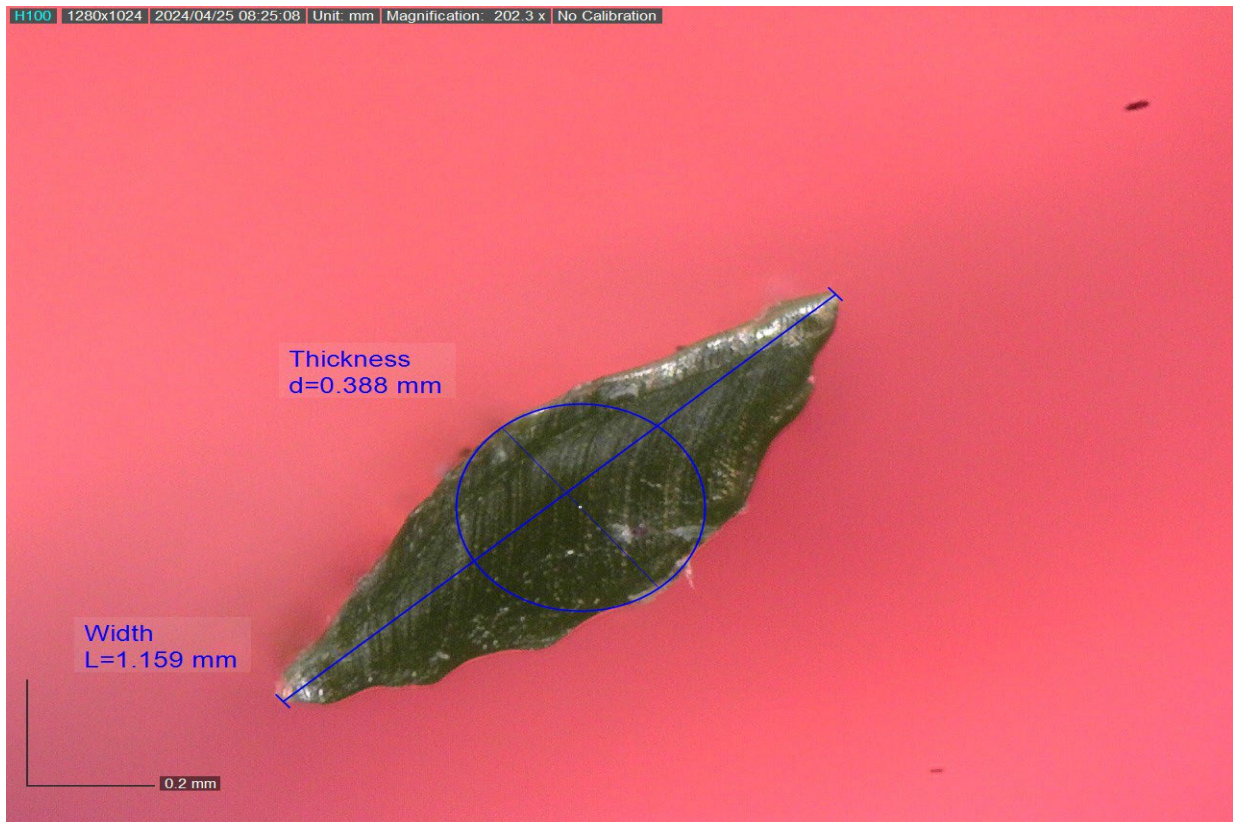


6000 Cycles

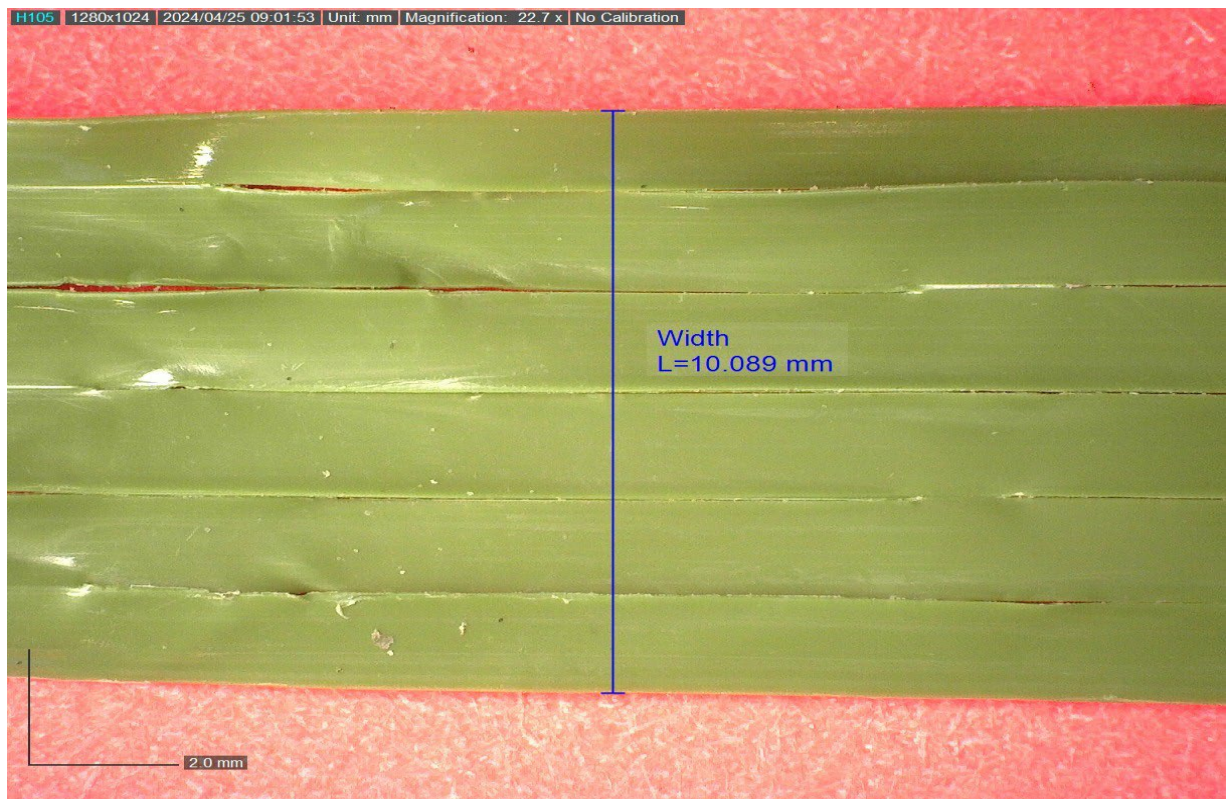
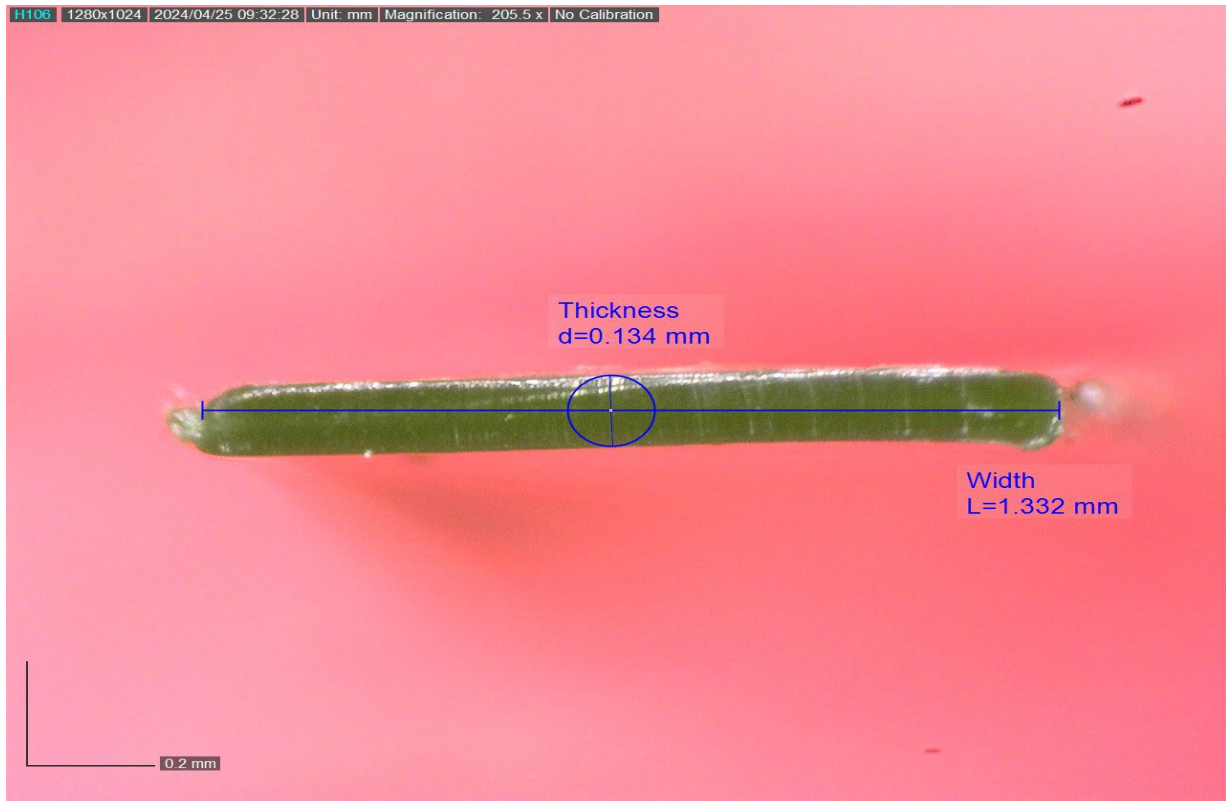


Microscope Photos

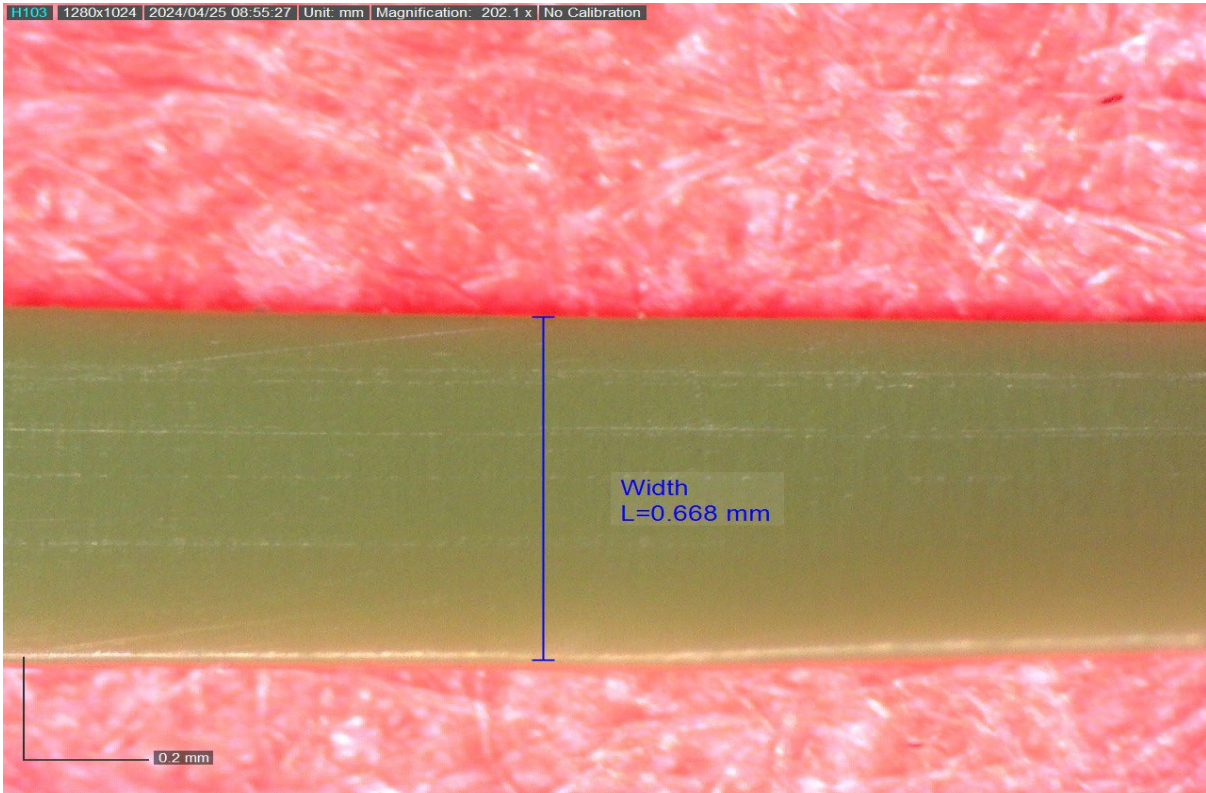
Green Monofilament



Green Slitfilm



Green Thatch



END OF REPORT