

# Product Specification Sheet

## Willow

**USES:**

Landscape  
Lawns  
Playgrounds  
Traffic Medians  
Pet Areas  
Commercial or Residential  
Light-Heavy Traffic

**SPECIFICATIONS:**

Pile Height: 1-<sup>3</sup>/<sub>4</sub>"  
Turf Gauge: 3/8"  
Face Weight: 75oz./yd<sup>2</sup>  
Backing Weight: 28 oz./yd<sup>2</sup>  
Total Weight: 103 oz./yd<sup>2</sup>  
Stitch Rate: 16/10cm  
Stitches/m<sup>2</sup>: 16800  
Material/Dtex: PE9000 + PP7000  
Color: Field Green and Olive Green with  
Brown and Green Thatching  
Type Of Fiber: PE Monofilament and PP  
Curled

# Summary Report

Watersavers Turf  
 4316 Redwood Hwy, Ste 100  
 San Rafael, CA 94903

Report Date: February 28, 2013

Work Order: 13022515



Project Location: U.S.A.  
 Project Name: Turf Test

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
322063	Willow	turf	2013-02-22	00:00	2013-02-25

**Sample: 322063 - Willow**

Param	Flag	Result	Units	RL
Total Lead		<1.00	mg/Kg	1



# Certificate of Analysis Summary 627504



Watersavers Turf, San Rafael CA

Project Name: Turf Testing

Project Id: Turf Testing Series 12

Project Location: USA

Date Received in Lab: Tue Jun-11-19 04:00 pm

Report Date: 20-JUN-19

Project Manager: John Builes

<b>Analysis Requested</b>	<b>Lab Id:</b>	627504-001				
	<b>Field Id:</b>	Turf Testing Series 12				
	<b>Depth:</b>					
	<b>Matrix:</b>	SOLID				
	<b>Sampled:</b>	Jun-07-19 16:00				
<b>Total Lead SUB: T104704215-19-29</b>	<b>Extracted:</b>	Jun-16-19 14:30				
	<b>Analyzed:</b>	Jun-17-19 23:05				
	<b>Units/RL:</b>	mg/kg      RL				
Lead		<0.909      0.909				

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.


Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

John Builes  
Project Manager

## CERTIFICATE OF ANALYSIS

Client: Watersavers Turf  
Product: Willow  
Xenco Sample #: 627504  
Lead Results: Less than one part per million

Synthetic fibers from turf product Willow, taken by Watersavers Turf 06-07-19, and received by Xenco Labs 06-11-19, were analyzed by Xenco Labs 06-17-19 for total lead by method ASTM G 2765-09 (EPA 6010). The results were less than one milligram lead per kilogram synthetic fiber (<1.00 mg/Kg).



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**Dr. Blair Leftwich, Director**

06/18/19

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**Date**



## TEST REPORT

**CLIENT:**

Company:	Watersavers Turf	Report Number:	67652B
Address:	4316 Redwood Hwy, Ste 100	Lab Test Number:	2820-8786
	San Rafael, CA 94903	Test Completion Date:	5/26/2016
		Report Date:	6/10/2016
		Page:	1 of 1

**TEST MATERIAL:**

Material Type:	Synthetic Turf			Date Received:	5/24/2016
Material Condition:	EXCELLENT:	XXX	GOOD:	POOR:	REJECTED:
Style:	Willow				

**TESTING METHODS REQUESTED:**

<i>Testing Services Inc. was instructed by the client to test for the following...</i>			
Standard:	ASTM F1551	Test Method:	Standard Test Methods for Comprehensive Characterization of Synthetic Turf Playing Surfaces and Materials: Suffix-DIN 18-035, Part 6: Water Permeability of Synthetic Turf Systems and Permeable Bases

**SAMPLING PLAN:**

Sampling Date:	5/24/2016
<ul style="list-style-type: none"> <li>Specimen sampling is performed in the sampling department at TSI.</li> <li>The sampling size of specimens is determined by the test method requirements.</li> <li>In the event a specific sampling size is not called for, a determination will be made based on previous testing experience, and approved for use by an authorized manager.</li> <li>All samples are subjected to the outside environmental conditions of temperature and relative humidity.</li> <li>Sample requiring pre-determined exposure to specified environmental conditions based on a specific test method, take place in the departments in which they are tested</li> </ul>	

**DEVIATION FROM TEST METHOD:**

State reason for any Deviation from, Additions to, or Exclusions From Test Method.
None

**TEST SUMMARY:**

TEST METHOD	TEST DESCRIPTION	TEST RESULT
ASTM F1551; Suffix-DIN 18-035, Part 6	Average Rainfall Capacity (Water Permeability)	72.6 inches/hour

*\* Test data values represent drainage rates for the turf with infill only, and do not take into account the percolation properties of a sub-base and/or padding.*

Infill System: 1.0 lbs/ft <sup>2</sup> Silica Sand	# of Specimens (3) 11.5" Diameter	
Tube: 10.75" OD 10.00" ID 8" Length (Beveled)	Tube Index Mark: 6"	Tube Weight: 39 lbs
Flange: 9.375" Diameter	Tube Flow Head: 2 Gallons	Pre-Conditioning: none

We undertake all assignments for our clients on a best effort basis. Our findings and judgments are based on the information to us using the latest test methods available. TSI can only ensure the test results for the specific items tested. Unless otherwise noted in the deviations sections of this report, all tests performed are in compliance with stated test method.

**Test Report Approval:**

 Digitally signed by Erle Miles, Jr. VP  
DN: cn=Erle Miles, o=TSI, ou=Testing Services Inc. Inc., email=erle@testing-services-inc.com, c=US  
 Date: 2016.06.13 13:24:02 -0400 Erle Miles, Jr. VP, Testing Services Inc

TSI Accreditation: Our laboratory is accredited by the US Dept of Commerce, National Institute of Standards and Technology: ISO/IEC 17025:2005.  
 TSI is a certified independent testing laboratory by the Synthetic Turf Council

Form:	Rev:	Revision Date:	Page 1 of 1
Release Date:	Control Type: Electronic – Expires 24 hours after this date: Jun. 13, 16 Printed copies are uncontrolled		

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND ARE NOT NECESSARILY INDICATIVE OF THE QUALITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. THESE LETTERS AND REPORTS ARE FOR THE USE ONLY OF THE CLIENT TO WHOM THEY ARE ADDRESSED AND THEIR COMMUNICATION TO ANY OTHERS OR THE USE OF THE NAME TESTING SERVICES, INC. MUST RECEIVE OUR PRIOR WRITTEN APPROVAL. OUR REPORTS, LETTERS, NAME, SEALS, OR INSIGNIA ARE NOT UNDER ANY CIRCUMSTANCES TO BE USED IN ADVERTISING TO THE GENERAL PUBLIC.

**PO Box 2041  
 Dalton, GA 30722-2041  
 (706) 226-1400  
 tsioffice@optilink.us**

## TEST REPORT

**CLIENT:**

Company:	Watersavers Turf.	Report Number:	79407
Address:	4316 Redwood Hwy, Ste 100	Lab Test Number:	3169-2441
	San Rafael, CA 94903	Test Completion Date:	1/16/2020
		Report Date:	1/18/2020
		Page:	1 of 1

**TEST MATERIAL:**

Material Type:	Synthetic Turf	Date Received:	1/13/2020
Material Condition:	EXCELLENT:    XXX    GOOD:	POOR:	REJECTED:
Turf Identification:	Willow		
Infill:	None		

**TESTING METHODS REQUESTED:**

<i>Testing Services Inc. was instructed by the client to test for the following...</i>			
Standard:	ASTM D2859	Test Method:	Standard Test Method for Ignition Characteristics of Finished Textile Pile Yarn Floorcoverings

**SAMPLING PLAN:**

Sampling Date:	1/13/2020
<ul style="list-style-type: none"> <li>• Specimen sampling is performed in the sampling department at TSI.</li> <li>• The sampling size of specimens is determined by the test method requirements.</li> <li>• In the event a specific sampling size is not called for, a determination will be made based on previous testing experience, and approved for use by an authorized manager.</li> <li>• All samples are subjected to the outside environmental conditions of temperature and relative humidity.</li> <li>• Sample requiring pre-determined exposure to specified environmental conditions based on a specific test method, take place in the departments in which they are tested</li> </ul>	

**DEVIATION FROM TEST METHOD:**

<b>State reason for any Deviation from, Additions to, or Exclusions From Test Method.</b>
Specimens were not exposed to air circulating oven.

**TEST SCOPE:**

This test method provides a method of determining the flammability characteristics of textile products when exposed to an ignition source in a laboratory environment. Eight specimens were taken from the sample lot, 230mm X 230mm, and preconditioned in an air circulating oven @ 150°C for 2 hours. After removal from the oven, the specimens are placed into a desiccator for 1 hour prior to performing the test. Each specimen was then placed into the test chamber floor with the pile surface up and a steel frame, 230mm X 230mm with 200mm diameter hole, placed on top of the specimen. A methenamine tablet was placed centrally onto the pile surface. The pill was ignited using a lighted match, with the ignition flame and propagated flame allowed to self-extinguish.

**CRITERIA:**

The specimen passes, if the charred portion of the test specimen, did not extend to within 25mm (1") of the diameter hole of the steel frame. The U.S. Consumer Product Safety Commission requires that at least seven of the eight specimens pass the test for acceptance as meeting the standard.

**TEST SUMMARY:**

TEST METHOD	TEST DESCRIPTION	TEST RESULT	
ASTM D2859-16	Ignition Characteristics of Textile Floor Coverings (Pill Test)	8 out of 8 Pass	Passes, U.S. CPSC 16CFR 1630 (FF1-70), Carpets & Rugs

**Uncertainty:**

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TSI can only ensure the test results for the specific items tested.

Unless otherwise noted in the deviations sections of this report, all tests are performed in compliance with stated test method.

**Test Report Approval:**

 Erle Miles, III, Lab Director Testing Services (TSI) LLC

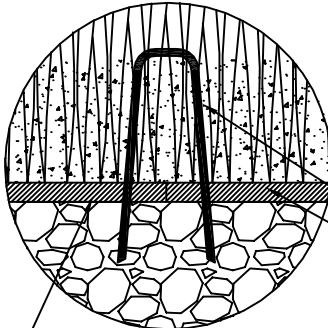
TSI Accreditation: Our laboratory is accredited by the US Dept. of Commerce, National Institute of Standards and Technology: ISO/IEC 17025:2005. Our code # is: NVLAP 100108-0. TSI is a certified independent testing laboratory by the Synthetic Turf Council



**100108-0**

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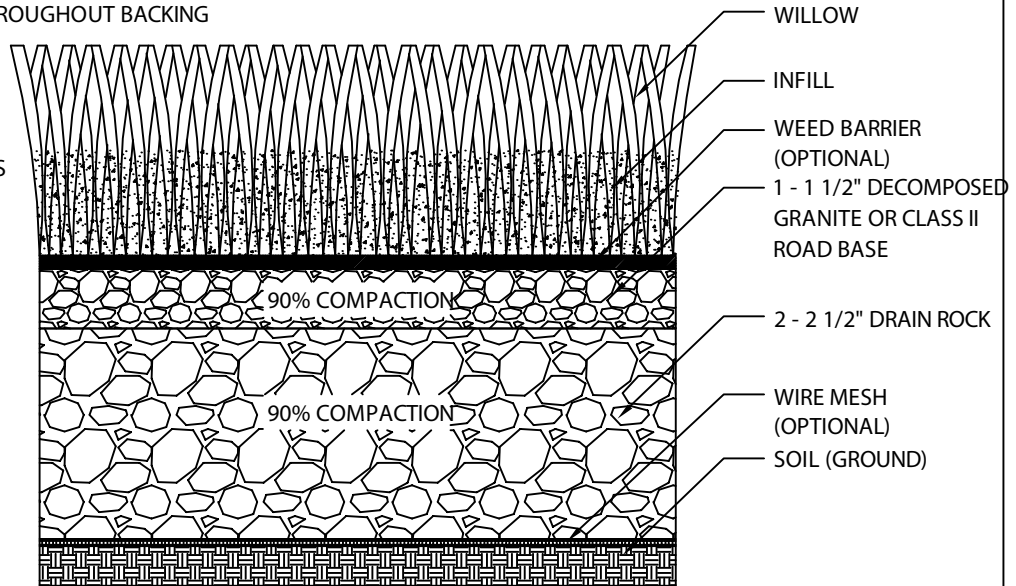
**817 Showalter Ave  
Dalton, GA 30722  
(706) 226-1400  
tsioffice@optilink.us**



SOD STAPLE 6" x 1" x 6"  
 DRAINAGE PASS THROUGH FOR  
 WATER IN PUNCHED HOLES  
 THROUGHOUT BACKING

SEAMING TAPE  
**SPECIFICATIONS**

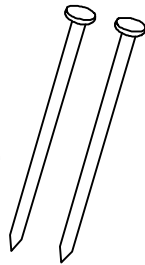
YARN TYPE	POLYETHYLENE BLADE
THATCH YARN TYPE	POLYPROPYLENE CURLED AS THATCH
PILE HEIGHT	1 3/4"
TURF GAUGE	3/8"
FACE WEIGHT	75 OZ YD <sup>2</sup>
BACKING WEIGHT	22 OZ YD <sup>2</sup>
TOTAL WEIGHT	97 OZ YD <sup>2</sup>
STITCH RATE	12/10 CM
STITCHES/M <sup>2</sup>	12600
COLOR	FIELD GREEN AND OLIVE GREEN WITH BROWN AND FIELD GREEN THATCHING
ROLL SIZE (FEET)	15' x 100'
MAXIMUM DRAIN RATE	>30 INCHES PER HOUR



SECTION



**SEAMING**  
 SOD STAPLES ARE  
 RECOMMENDED TO SEAM  
 THE SEAMS



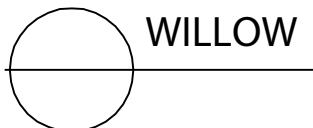
**SECURING TURF TO BASE**  
 BRIGHT COMMON 40D/60D  
 NAILS OR GALVANIZED NAILS  
 6' APART ALONG PERIMETER  
 SEAMS.



**POWER BROOM AFTER  
 INSTALLATION IS  
 COMPLETE**

NOTES:

1. THE GRASS MUST BE INSTALLED AND SEAMED WITH ADJACENT PIECES RUNNING IN THE SAME DIRECTION. SEAMS SHOULD BE GLUED WITH SUITABLE SEAMING GLUE AND SEAMING CLOTH, OR GST RECOMMENDED SEAMING TECHNIQUES.
2. COLOR: FIELD GREEN AND OLIVE GREEN WITH BROWN AND FIELD GREEN THATCHING.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. DO NOT SCALE DRAWING.
5. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION.
6. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
7. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT [www.CADdetails.com/info](http://www.CADdetails.com/info) AND ENTER REFERENCE NUMBER 5006-051.





# TEST REPORT

**CLIENT:**

Company:	Watersavers Turf	Report Number:	79887
Address:	4316 Redwood Hwy, Ste 100	Lab Test Number:	3182-2934
	San Rafael, CA 94903	Test Completion Date:	3/2/2020
		Report Date:	3/4/2020
		Page:	1 of 1

**TEST MATERIAL:**

Material Type:	Synthetic Turf			Date Received:	2/20/2020		
Material Condition:	EXCELLENT:	XXX	GOOD:	POOR:	REJECTED:		
Product ID:	Willow						

**TESTING METHODS REQUESTED:**

<i>Testing Services Inc. was instructed by the client to test for the following...</i>							
Standard:	ASTM D5848	Test Method:	Standard Test Method for Mass Per Unit Area of Pile Yarn Floorcoverings				
Standard:	ASTM D5823	Test Method:	Standard Test Method for Tuft Height of Pile Yarn Floorcoverings				

**SAMPLING PLAN:**

Sampling Date:	2/20/2020						
	<ul style="list-style-type: none"> <li>Specimen sampling is performed in the sampling department at TSI.</li> <li>The sampling size of specimens is determined by the test method requirements.</li> <li>In the event a specific sampling size is not called for, a determination will be made based on previous testing experience, and approved for use by an authorized manager.</li> <li>All samples are subjected to the outside environmental conditions of temperature and relative humidity.</li> <li>Sample requiring pre-determined exposure to specified environmental conditions based on a specific test method, take place in the departments in which they are tested</li> </ul>						

**DEVIATION FROM TEST METHOD:**

State reason for any Deviation from, Additions to, or Exclusions From Test Method.
None

**TEST SUMMARY:**

TEST METHOD	TEST DESCRIPTION	TEST RESULT
ASTM D5848-10e1	Total Product Weight	102.44 oz/yd <sup>2</sup>
ASTM D5848-10e1	Pile Yarn Weight	75.32 oz/yd <sup>2</sup>

**Uncertainty:**

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**Test Report Approval:**

 Erle Miles, III, Lab Director Testing Services (TSI) LLC

TSI Accreditation: Our laboratory is accredited by the US Dept. of Commerce, National Institute of Standards and Technology; ISO/IEC 17025:2005. Our code # is: NVLAP 100108-0. TSI is a certified independent testing laboratory by the Synthetic Turf Council



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817 Showalter Ave  
Dalton, GA 30722  
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tsioffice@optilink.us





## TEST REPORT

**CLIENT:**

Company:	Watersavers Turf	Report Number:	79428
Address:	4316 Redwood Hwy, Ste 100	Lab Test Number:	3169-2427
	San Rafael, CA 94903	Test Completion Date:	1/17/2020
		Report Date:	1/18/2020
		Page:	1 of 1

**TEST MATERIAL:**

Material Type:	Synthetic Turf				Date Received:	1/13/2020	
Material Condition:	EXCELLENT:	XXX	GOOD:		POOR:		REJECTED:
Product ID:	Willow						

**TESTING METHODS REQUESTED:**

<i>Testing Services Inc. was instructed by the client to test for the following...</i>			
Standard:	ASTM D1335	Test Method:	Standard Test Method for Tuft Bind Strength of Pile Yarn Floorcoverings

**SAMPLING PLAN:**

Sampling Date:	1/13/2020
<ul style="list-style-type: none"> <li>Specimen sampling is performed in the sampling department at TSI.</li> <li>The sampling size of specimens is determined by the test method requirements.</li> <li>In the event a specific sampling size is not called for, a determination will be made based on previous testing experience, and approved for use by an authorized manager.</li> <li>All samples are subjected to the outside environmental conditions of temperature and relative humidity.</li> <li>Sample requiring pre-determined exposure to specified environmental conditions based on a specific test method, take place in the departments in which they are tested</li> </ul>	

**DEVIATION FROM TEST METHOD:**

<b>State reason for any Deviation from, Additions to, or Exclusions From Test Method.</b>
None

**TEST SUMMARY:**

TEST METHOD	TEST DESCRIPTION	TEST RESULT
ASTM D1335-17e1	Average Tuft Bind Strength	11.3 lbs/force

➤ Each individual pull was made from a combination of monofilament and textured fibers, same needle site

Pull #1	9.570 lbs/force	Pull #2	12.96 lbs/force	Pull #3	11.42 lbs/force	Pull #4	8.816 lbs/force	Pull #5	12.47 lbs/force
Pull #6	10.59 lbs/force	Pull #7	11.41 lbs/force	Pull #8	8.988 lbs/force	Pull #9	9.098 lbs/force	Pull #10	11.22 lbs/force
Pull #11	10.89 lbs/force	Pull #12	13.61 lbs/force	Pull #13	9.224 lbs/force	Pull #14	14.67 lbs/force	Pull #15	14.40 lbs/force

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Erle Miles, III, Lab Director Testing Services (TSI) LLC

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817 Showalter Ave  
Dalton, GA 30722  
(706) 226-1400  
tsioffice@optilink.us

## TEST REPORT

**CLIENT:**

Company:	Watersavers Turf	Report Number:	79713
Address:	4316 Redwood Hwy, Ste 100	Lab Test Number:	3169-2427
	San Rafael, CA 94903	Test Completion Date:	2/18/2020
		Report Date:	2/19/2020
		Page:	1 of 1

**TEST MATERIAL:**

Material Type:	Synthetic Turf			Date Received:	2/5/2020
Material Condition:	EXCELLENT:	XXX	GOOD:	POOR:	REJECTED:
Product ID:	Willow				

**TESTING METHODS REQUESTED:**

<i>Testing Services Inc. was instructed by the client to test for the following...</i>	
Standard:	ASTM D5034
Test Method:	Standard Test Method for Breaking Strength of Textile Fabrics (Grab)

**SAMPLING PLAN:**

Sampling Date:	2/5/2020
<ul style="list-style-type: none"> <li>• Specimen sampling is performed in the sampling department at TSI.</li> <li>• The sampling size of specimens is determined by the test method requirements.</li> <li>• In the event a specific sampling size is not called for, a determination will be made based on previous testing experience and approved for use by an authorized manager.</li> <li>• All samples are subjected to the outside environmental conditions of temperature and relative humidity.</li> <li>• Sample requiring pre-determined exposure to specified environmental conditions based on a specific test method, take place in the departments in which they are tested</li> </ul>	

**DEVIATION FROM TEST METHOD:**

State reason for any Deviation from, Additions to, or Exclusions From Test Method.
None


**TEST SUMMARY:**

TEST METHOD	TEST DESCRIPTION	TEST RESULT
ASTM D5034-09(2017)	Average Grab Tear Strength of Length Direction (MD)	271.1 lbs/force
ASTM D5034-09(2017)	Average Grab Tear Strength of Width Direction (CMD)	226.2 lbs/force

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**Test Report Approval:**

 Digitally signed by Erle Miles, III  
DN: cn=Erle Miles, ou=Testing Services Inc, ou=TSI, email=erle@testing-services.com, c=US, Date: 2020.02.19 14:54:43 -0500  
 Erle Miles, III, Lab Director Testing Services (TSI) LLC

TSI Accreditation: Our laboratory is accredited by the US Dept. of Commerce, National Institute of Standards and Technology: ISO/IEC 17025:2005. Our code # is: NVLAP 100108-0. TSI is a certified independent testing laboratory by the Synthetic Turf Council



## Technical Data Sheet: Willow

<b>Product Properties:</b>	<b>Property</b>	<b>Imperial Unit</b>	<b>Metric Unit</b>	<b>Description</b>
	Fiber Type			Polyethylene Monofilament and Polypropylene Curled as Thatch
	Fiber Mass	Denier 8100/6300 Monofilament	Detex 9000/7000 Monofilament	Polyethylene
	Pile Height	1.75 in	44.45 mm	
	Color(s)			Field Green and Olive Green with Brown and Green Thatching
	Tufting Gauge	.375 in	9.525 mm	
	Stitch Rate	16.256/4in	16/10cm	
	Stitches	14,046.48/yd <sup>2</sup>	16,800/m <sup>2</sup>	
	Primary Backing	5.899 oz/yd <sup>2</sup>	200.00 g/m <sup>2</sup>	Polypropylene and Polyester fiber
	Secondary Backing	21.221 oz/yd <sup>2</sup> ±5%	719.554 g/m <sup>2</sup> ±5%	Urethane
	Total Backing Weight	27.12 oz/yd <sup>2</sup> ±1.5oz	919.554 g/m <sup>2</sup> ±50g	
	Micron	200		

<b>Performance Properties:</b>	<b>Property</b>	<b>Imperial Unit</b>	<b>Metric Unit</b>	<b>Test Method</b>
	Face Weight	75.32 oz/yd <sup>2</sup>	2,553.864 g/m <sup>2</sup>	ASTM D5848-10e1
	Total Weight	102.44 oz/yd <sup>2</sup>	3,473.418 g/m <sup>2</sup>	ASTM D5848-10e1
	Permeability	72.60 in/ft <sup>2</sup> /hr	1,984.973 cm/m <sup>2</sup> /hr	ASTM F1551; Suffix-DIN 18-035, Part 6
	Melting Point	176 °F for Blades (green) 250 °F for Thatch (brown and curled)	80 °C for Blades(green) 121 °C for Thatch (brown and green curled)	
	Tuft Bind	11.30 lb-f	50.265 N	ASTM-D1335-17e1
	Grab Tear MD	271.10 lb-f	1,205.913 N	ASTM-D5034-05
	Grab Tear CMD	226.20 lb-f	1,006.188 N	ASTM-D5034-05
	Infill Amount (recommended)	¾ of the Pile Height		

<b>Packaging:</b>	<b>Property</b>	<b>Imperial Unit</b>	<b>Metric Unit</b>	<b>Description</b>
	Model Number			Willow
	Roll Width	15 ft	4.57 m	
	Roll Length	100 ft	30.48 m	
	Area per Roll	1,500 ft <sup>2</sup>	139.355 m <sup>2</sup>	
	Total Roll Weight	850 lbs	385.554 kg	