

## TEST REPORT

**CLIENT:**

|                      |  |                              |           |
|----------------------|--|------------------------------|-----------|
| <b>Company:</b>      | Turf and Ivy Solutions                                   | <b>Report Number:</b>        | 79938A    |
| <b>Address:</b>      | 5 Centerpointe Dr. Ste 400,<br>Lake Oswego, Oregon 97035 | <b>Lab Test Number:</b>      | 3180-2872 |
|                      |  | <b>Test Completion Date:</b> | 2/26/2020 |
|                      |  | <b>Report Date:</b>          | 3/13/2020 |
| <b>Requested by:</b> | Patricia Ochoa   | <b>Page:</b>                 | 1 of 1    |

**TEST MATERIAL:**

|                            |                   |            |              |  |                       |           |                  |
|----------------------------|-------------------|------------|--------------|--|-----------------------|-----------|------------------|
| <b>Material Type:</b>      | Synthetic Turf    |            |              |  | <b>Date Received:</b> | 2/18/2020 |                  |
| <b>Material Condition:</b> | <b>EXCELLENT:</b> | <b>XXX</b> | <b>GOOD:</b> |  | <b>POOR:</b>          |           | <b>REJECTED:</b> |
| <b>Product ID:</b>         | Topaz             |            |              |  |                       |           |                  |

**TESTING METHODS REQUESTED:**

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

**SAMPLING PLAN:**

|   |           |
|---|-----------|
| <b>Sampling Date:</b>   | 2/18/2020 |
| <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 | 11.6 lbs/force |

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

|          |                 |          |                 |          |                 |          |                 |          |                 |
|----------|-----------------|----------|-----------------|----------|-----------------|----------|-----------------|----------|-----------------|
| Pull #1  | 11.62 lbs/force | Pull #2  | 10.26 lbs/force | Pull #3  | 12.46 lbs/force | Pull #4  | 8.617 lbs/force | Pull #5  | 10.09 lbs/force |
| Pull #6  | 9.289 lbs/force | Pull #7  | 9.342 lbs/force | Pull #8  | 9.664 lbs/force | Pull #9  | 15.81 lbs/force | Pull #10 | 12.97 lbs/force |
| Pull #11 | 11.46 lbs/force | Pull #12 | 15.89 lbs/force | Pull #13 | 13.74 lbs/force | Pull #14 | 11.25 lbs/force | Pull #15 | 11.28 lbs/force |

**Uncertainty:**

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 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

