

# LABORATORY TESTING TEMPERATURE EVALUATION



## Project Information

<b>Project Name</b>	Temperature Evaluation Corkonut		
<b>Client Info</b>	Greenplay Sports 6 Hawthorne Avenue Merrick, NY 11566		
<b>Report Date</b>	12/8/2017	<b>Test Date</b>	11/16/2017
<b>Report Status</b>	Final	<b>Job no.</b>	92874/3006
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<b>Checked by</b>	Jeffrey Gentile Laboratory Director		

*Notes:*

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## Introduction

Sports Labs USA was commissioned to perform a temperature evaluation per FIFA Test Method 14. Complete results and background can be found in subsequent sections of this report.

## Summary

The following testing was performed to determine the relative effect infill can have on the surface temperature of a synthetic turf system. Synthetic turf carpet with infill was exposed to infra-red heat lamps for a prolonged period to simulate the heating of the sun in a controlled environment per FIFA Test Method 14 heating apparatus. The resulting temperatures were observed and recorded.

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## Procedure

- Each system was constructed and prepared per EN 12229: Surfaces for sports areas - Procedure for the preparation of synthetic turf and textile pieces.
- Each system was constructed using the infill combinations shown in the systems description table below.
- The samples were conditioned to room temperature for at least 24 hours.

## Heat Test

The following sensors were used to capture and record measurements to a digital data logger every 5 minutes:

- (3) Infra-red thermo-couples aimed at the sample to register surface temperature.
- (1) thermo-couple placed underneath the center of the turf backing.
- (1) Environmental meter for air temperature and humidity.

The samples were heated for 3 hours. All the data was compiled and the temperatures for each phase were found. This report will present the temperature recorded at each sensor as well as the average for each type of temperature measurement sensor. Final lux measurement after 180 minutes elapsed time was 2650. The maximum surface temperature reached was 113 °F, which falls into category 1.

## Reference

The chart below shows tolerance categories for the FIFA 14 heat test method

Category	Temperature Range °F
Category 1	<122
Category 1-2	122-130
Category 2	131-139
Category 2-3	140-149
Category 3	>149

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## System Description

System ID	System Description
EcoMax	Synthetic Turf Carpet: 2 3/8" Turf  Infill Combination: 2.25 lbs. per sq. ft. Corkonut/4 lbs. per sq. ft. Sand

## Results

Temperature and Humidity per phase					
Phase	Elapsed Time (min)	Ambient Air Temp (°F)	Specimen Surface Temp (°F)	Backing Center Temp (°F)	Humidity (%)
1	0	72	66	67	34
	5	73	72	66	34
	10	74	79	66	33
	15	75	86	66	32
	20	76	90	66	32
2	30	78	93	68	31
	40	80	95	69	31
	50	81	96	70	30
	60	82	98	71	29
3	75	83	101	73	28
	90	85	103	75	28
	105	86	104	76	28
	120	86	106	77	28
	135	88	107	79	27
	150	88	109	79	28
	165	89	111	80	29
	180	89	113	81	30

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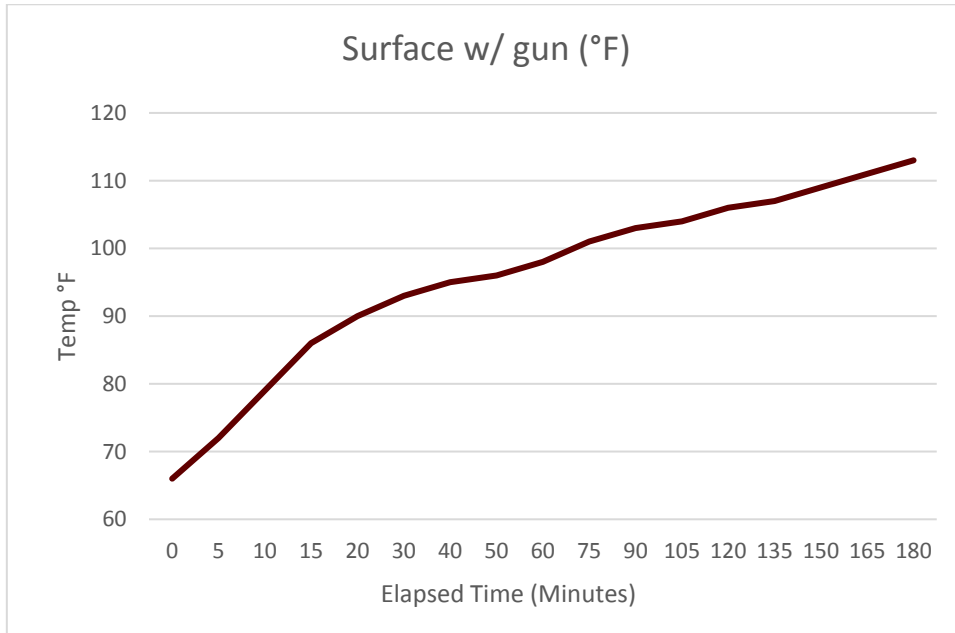
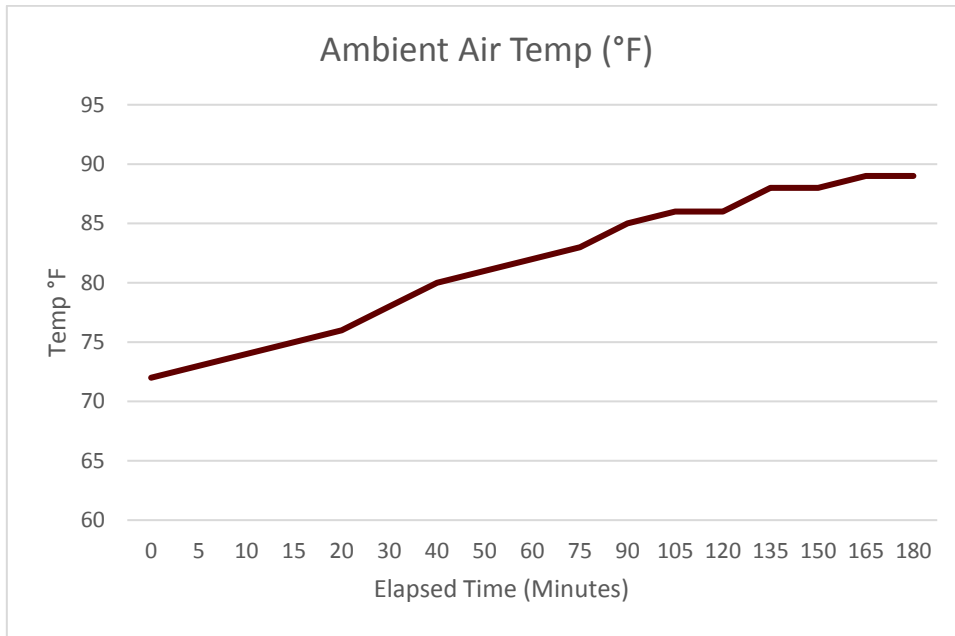


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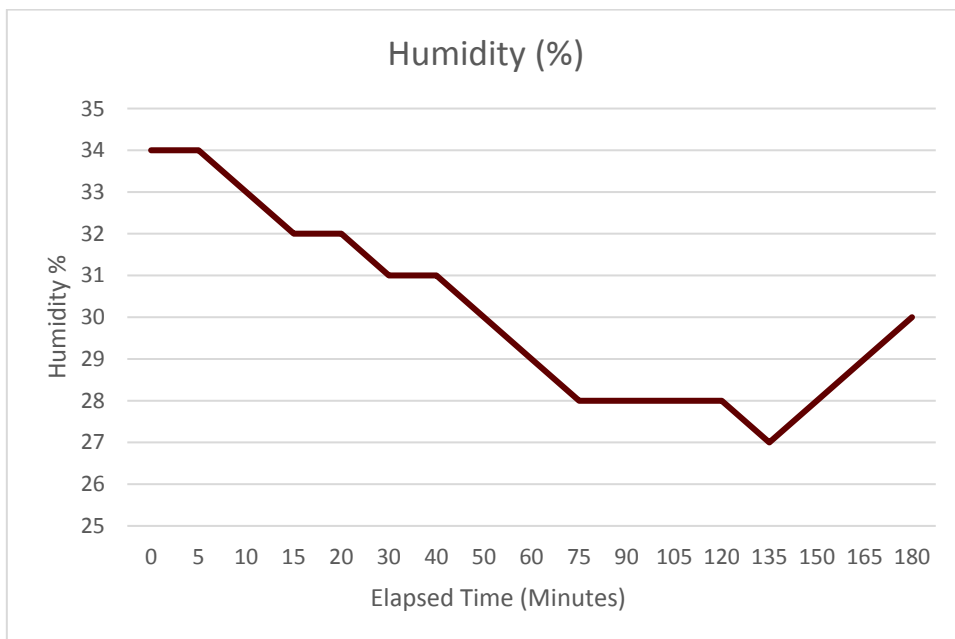
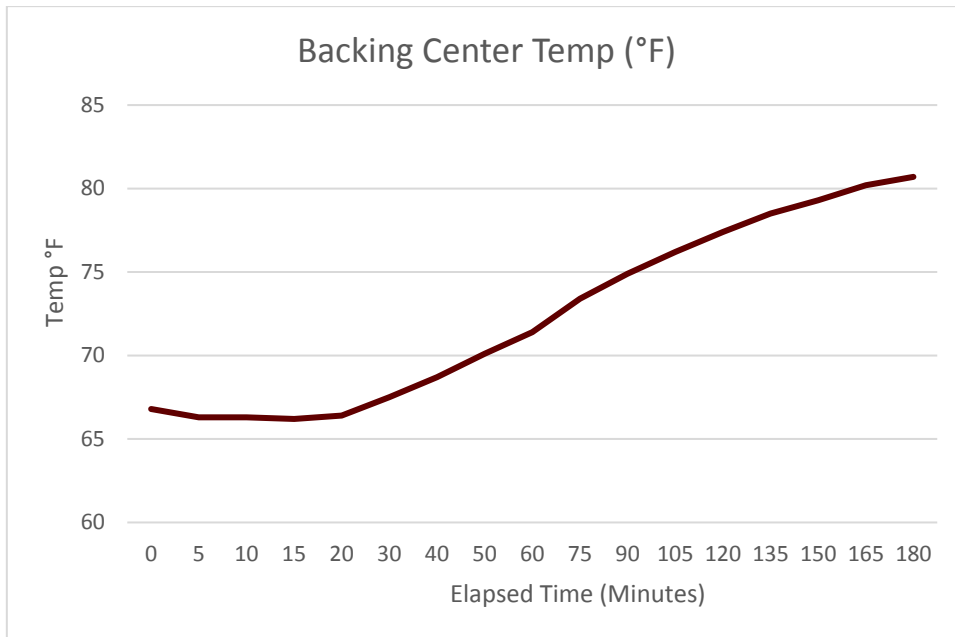


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End of Report

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