

# Laboratory Test Report

## TTII SAFEGUARD 20-40 OVER TTII PRO-TURF PAD

<b>Job No.</b>	99202/9384
<b>Client Information</b>	Target Technologies International Inc 8535 Eastlake Drive Burnaby BC V5A4T7 Canada
<b>Sample Arrival Date</b>	4/3/2024
<b>Test Date(s)</b>	4/12/2024-4/15/2024
<b>Report Date</b>	4/16/2024
<b>Report Status</b>	Final

**Prepared by** Adam Kalil  
Laboratory Manager



**Checked by** Megan Illsley  
Laboratory Director



- Notes:
1. This report has been prepared by Firefly Sports Testing with all reasonable skill, care and diligence within the terms of the contract with the Client and within the limitations of the resources devoted to it.
  2. This report is confidential to the Client and Firefly Sports Testing 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.
  3. This report shall not be used for engineering or contractual purposes unless signed by the Author and the Checker and unless the report status is "Final."



## Summary

Firefly Sports Testing was commissioned to perform laboratory testing for the following characteristics listed below.

Test Type	Test Method	Test Description
Critical Fall Height	ASTM F3146-18	Impact attenuating playground surfacing – Methods of test for determination of impact attenuation – Test Method 1 Determination of Critical Fall Height (CFH)
AAA	ASTM F3189-20	Standard Test Method for Measuring Force Reduction, Vertical Deformation, and Energy Restitution of Synthetic Turf Systems Using the Advanced Artificial Athlete
g-max	ASTM F355A-16	Standard Test Method for Impact Attenuation of Playing Surface Systems, and Materials Used for Athletics, Recreation and Play
Rotational Resistance	EN 15301-1:2007	Surfaces for Sports Areas – Determination of Rotational Resistance
Ball Rebound	EN 12235:2013	Surfaces for sports areas – Determination of vertical ball behaviour
Abrasion	ASTM F1015-03	Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces <sup>1</sup>
Infill Depth	EN 1969:2000	Surfaces for sports areas – Determination of thickness of synthetic sports surfaces

## General Information

System Name	2" Mono_TTII SafeGuard_TTII PRO-TURF PAD	Performance Infill	9.8 lb/sf TTII SafeGuard 20-40
Synthetic Turf Product	2" Monofilament	Stabilizing Infill	n/a
Air Temperature (°F)	72	Shock Pad	TTII PRO-TURF PAD
Humidity (%)	45	Sub-Base	Concrete

## Results

Parameter	Result	Unit
g-max	102	g
Critical Fall Height	1.27	m
Force Reduction	60	%
Vertical Deformation	8.1	mm
Energy Restitution	35	%
Rotational Resistance	37	Nm
Vertical Ball Rebound	0.73	m
Abrasion	20.9	Abrasiveness Index
Infill Depth	37	mm

End of Report