

# TEST REPORT

No. 2625823/1    dated 17.07.2023

## One-dna™ Play 24 | S25

### Type of Testing:

Determination of the Critical Fall Height (CFH) in accordance with DIN EN 1177:2018-03, the European standard for impact attenuating playground surfacing – Determination of critical fall height

### Applicant:

**LimeGreen Holding B.V.**  
Kleibultweg 35  
7575 BM Oldenzaal  
The Netherlands

### Test Institute:

**ISP GmbH**  
Institut für Sportstättenprüfung  
Amelunxenstraße 65  
48167 Münster  
Germany

### Order No.:

2625823

### Page 1 of:

6 Pages



By the Deutsche Akkreditierungsstelle (DAkkS) DIN EN ISO/IEC 17025:2018 accredited testing laboratory.

The accreditation covers only the test methods listed in the D-PL-20181-01-00 accreditation certificate.

#### ADDRESS

ISP GmbH  
Amelunxenstr. 65  
48167 Münster  
Germany

#### CONTACT

T +49 (0) 2506 30 77 000  
info@isp-germany.com  
www.isp-germany.com

#### BANK DETAILS

Volksbank Münsterland Nord eG  
SWIFT-BIC GENODEM11BB  
IBAN DE22 4036 1906 0084 6989 00

#### MANAGEMENT

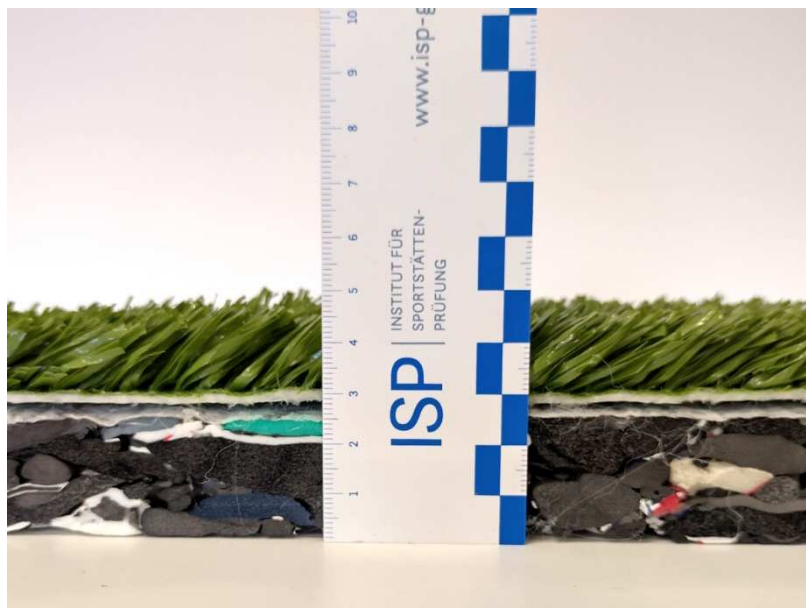
Dennis Frank  
**COMMERCIAL REGISTER**  
HRB 208985  
Local Court of Osnabrück

#### TAX NUMBER

337 / 5945 / 0518  
VAT No. DE297978054

## 1. Sample Description

<b>System Name:</b>	<b>One-dna™ Play 24   S25</b>
<b>System No.:</b>	<b>2625823/S1</b>
<b>Mineral infill:</b>	<b>2625823/6</b> Silica sand (according to manufacturer; grain size: 0.3 – 1.0 mm) Sample amount: 100 kg
<b>Top layer:</b>	<b>2325823/1</b> Synthetic Turf: LimeGreen® Play 24 (according to manufacturer: made entirely of PE; pile length: 24 mm; stitch density: 19950 1/m²; single colour) Weight per unit area: 1432 g/m² Sample amount: 2 samples at approx. 1 m x 1 m
<b>Bottom layer:</b>	<b>2325823/2</b> 25 mm thick prefabricated shockpad: ProPlay-25 (according to manufacturer; made of thermal bonded (closed-celled cross-linked polyethylene foam with a fleece layer) Weight per unit area: 2767 g/m² Sample amount: approx. 1 m x 1 m
<b>Delivery date:</b>	29.06.2023
<b>Sampling:</b>	No sampling by employees of ISP GmbH. Samples have been provided by the applicant.
<b>Date of testing:</b>	29.06.2023 – 13.07.2023



**Picture 1: One-dna™ Play 24 | S25 – side view**  
(Minor differences of the overall thickness near the peripheral area are possible)



**Picture 2: One-dna™ Play 24 | S25 – View of the surface area**

## 2. Test Procedure

The determination of Critical Fall Height (CFH) was carried out in accordance with DIN EN 1177:2018-03, method 1, for “impact attenuating playground surfacing – Determination of critical fall height” in the ISP GmbH laboratory.

The tested samples were conditioned at  $23\pm 2^{\circ}\text{C}$  and  $50\pm 5\%$  relative humidity.

The system was tested dry and laid loose on concrete floor.

All relevant test information e.g. technician, date of testing, conditioning period and test conditions were recorded and stored in the archive of the ISP GmbH.

The testing climate of 23/50-2 met the requirements of DIN EN ISO 291:2008-08.

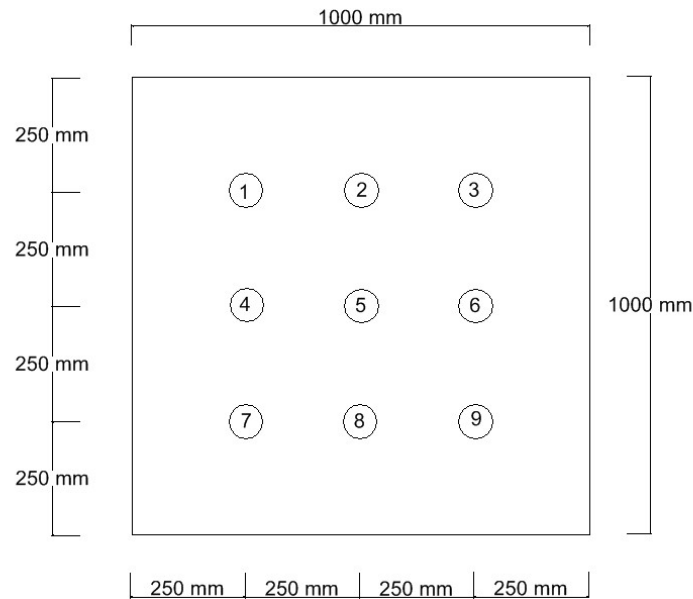
The following system has been tested

System name:	<b>One-dna™ Play 24   S25</b>
Shockpad:	ProPlay-25
Synthetic turf:	LimeGreen® Play 24
Mineral infill:	Silica sand – 25 kg/m <sup>2</sup>
ISP system no.:	2625823/S1

### 3. Arrangement of the measuring points

The system points were chosen systematically in accordance with DIN EN 1177:2018-03.

The system points had a minimum distance of 25 cm to each other and the edge of the sample.



**Graphic 1: View of the system points**

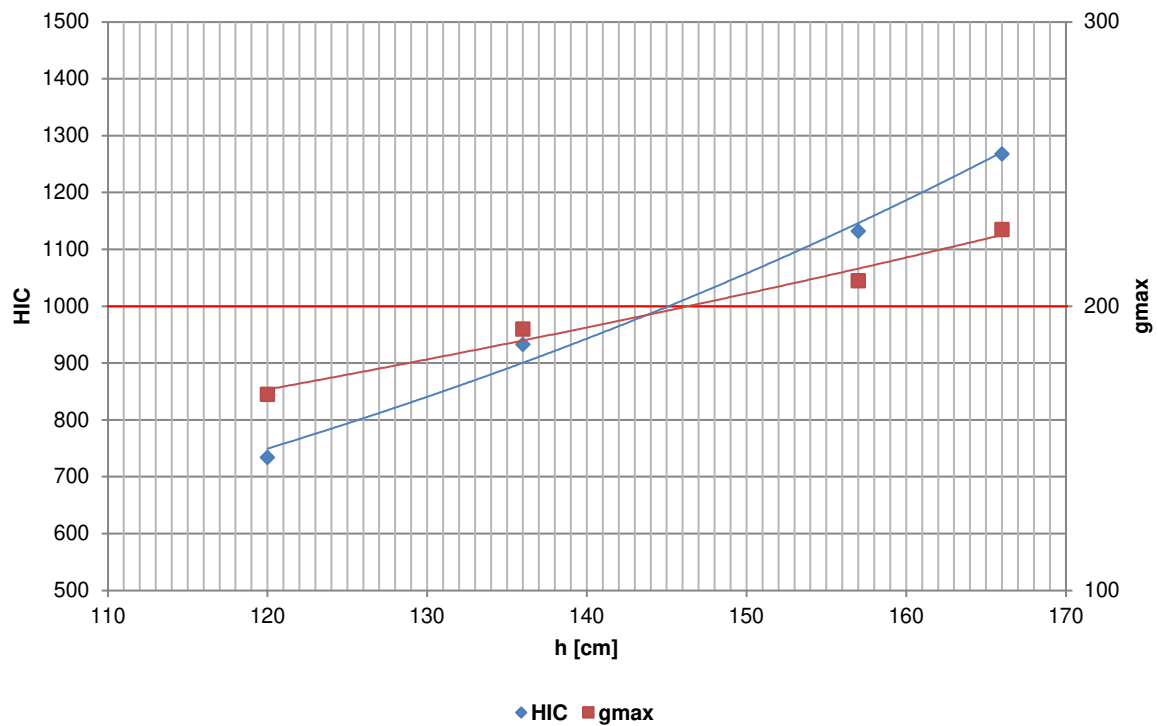
### 4. Test Results

#### 4.1. Determination of the Critical Fall Height (CFH)

System Point	1. Fall height			2. Fall height			3. Fall height			4. Fall height			CFH [m]
	h [cm]	HIC	g <sub>max</sub>	h [cm]	HIC	g <sub>max</sub>	h [cm]	HIC	g <sub>max</sub>	h [cm]	HIC	g <sub>max</sub>	
1	120	734	169	136	933	192	157	1132	209	166	1268	227	1.45
2	121	681	160	134	781	170	159	1197	219	167	1243	220	1.49
3	129	756	168	142	973	196	155	1093	209	167	1311	209	1.47
4	122	731	166	130	828	180	151	1058	204	163	1134	207	1.49
5	123	802	181	135	887	187	157	1090	206	168	1294	225	1.46
6	118	681	164	136	927	192	157	1134	209	169	1256	222	1.47
7	122	731	166	135	884	187	156	1062	202	169	1237	220	1.49
8	120	723	165	137	902	190	155	1059	200	167	1234	218	1.48
9	119	684	163	134	889	188	152	1076	201	168	1279	223	1.46
<b>System</b>	<b>Critical Fall Height (CFH):</b>												<b>1.45</b>

## 4.2. Graphical Analysis

### 4.2.1. Determination of Critical Fall Height (CFH) on System Point 1



### 4.2.2. Time- / Acceleration curve of an impact, 3<sup>rd</sup> fall height on system point 5



#### 4.3. Overall Result

According to the DIN EN 1177:2018-03 Critical Fall Height (CFH) is the lower value of the drop heights at a HIC value of 1000 or a  $g_{\max}$  value of 200 g.

System name:	<b>One-dna™ Play 24   S25</b>
System number:	2625823/S1
Critical Fall Height (CFH):	1.45 m <sup>a</sup>
<small>a According to DIN EN 1177:2018-03 a measurement uncertainty of <math>\pm 7\%</math> must be attributed.</small>	

#### END OF THE TEST REPORT

The test results were specified and evaluated without considering the measurement uncertainty.

Reproduction and publication of this document in shortened text and the use of advertising is permitted only with the written approval of the ISP GmbH.

The test results relate only to the tested samples in the condition as they were received.

This test report was created and released digitally. Effectiveness and validity are equivalent to digital and analogue reports.

Münster, 17.07.2023



**Paul Dück**  
TECHNICAL DIRECTOR

