

# TEST REPORT

**16-0001IT**

Issued on August 25<sup>th</sup> 2016

CLIENT

**ELASTRADE SRL**

PRODUCT NAME

**POWERFILL GREEN**

CATEGORY

**PERFORMANCE INFILL**

Tests according to:

**EN 14836:2006** Synthetic surfaces for outdoor sports areas. Exposure to artificial weathering.

**5000 hours - 340nm/UVA**

*Reproduction of this Test Report is only authorised in its entirety.*

*The results are valid only for the sample submitted to testing*



<b>TESTS PROGRAM</b> .....	3
<b>REFERENCE STANDARDS AND REGULATIONS</b> .....	3
<b>STORAGE TIMES</b> .....	3
<b>SAMPLING</b> .....	3
<b>TEST PERFORMANCE CONDITION IN LABORATORY</b> .....	3
<b>APPLICANT</b> .....	3
<b>ACQUISITION DATA</b> .....	3
<b>SAMPLE IDENTIFICATION</b> .....	4
DECLARED VALUES.....	4
SAMPLE'S PHOTO.....	4
<b>TESTS RESULTS</b> .....	5
COLOR FASTNESS .....	5
INFILL'S PHOTOS BEFORE AND AFTER UVA EXPOSURE .....	5
TGA GRAPH BEFORE UVA EXPOSURE .....	5
IDENTIFICATION RESULTS .....	6
PARTICLE SIZE GRAPH .....	6
<b>ADDITIONAL INFORMATION</b> .....	6
<b>CONCLUSIONS</b> .....	6

## TESTS PROGRAM

Protocol for accelerated aging of infill by means of 5000h of exposure to UVA with QUV equipment.

## REFERENCE STANDARDS AND REGULATIONS

EN 14836:2006 Synthetic surfaces for outdoor sports areas. Exposure to artificial weathering

EN ISO 4892-3:2006 Plastics -- Methods of exposure to laboratory light sources -- Fluorescent UV lamps

EN 20105/A02:1996 Textiles. Tests for colour fastness. Grey scale for assessing change in colour.

EN 933-1:2012 Tests for geometrical properties of aggregates – Determination of particle size distribution – Sieving method

EN 14955:2006 Surfaces for sports areas – Determination of composition and particle shape of unbound mineral surfaces for outdoor sports areas

EN 1097-3:1999 Tests for mechanical and physical properties of aggregates – Determination of loose bulk density and voids

## STORAGE TIMES

Storage of documents 4 years and samples 1 month from the issue of the report.

## SAMPLING

Sampling carried out by the customer.

## TEST PERFORMANCE CONDITION IN LABORATORY

Ambient temperature	Relative humidity
23 ± 2°C	50 % ± 5%

## APPLICANT

COMPANY  
ADDRESS

ELASTRADE SRL  
Starda Statale 17 Km 94.700  
67035 Pratola Peligna (AQ)

COUNTRY

Italia

## ACQUISITION DATA

DATE ORDER RECEIVED	December 12 <sup>th</sup> 2015
DATE FIRST SAMPLE RECEIVED	December 18 <sup>th</sup> 2015
DATE LAST SAMPLE RECEIVED	December 18 <sup>th</sup> 2015
TEST START DATE	December 18 <sup>th</sup> 2015
TEST END DATE	August 18 <sup>th</sup> 2016

## **SAMPLE IDENTIFICATION**

### **DECLARED VALUES**

<b>Manufacturer</b>	<b>Product name</b>	<b>Color</b>	<b>Type</b>
Elastrade Srl	Powerfill Green	Green	Covered SBR

<b>Particle size</b>	<b>Bulk density</b>	<b>Particle shape</b>
0.8 - 2.5	0.48g/cm <sup>3</sup>	A2

### **SAMPLE'S PHOTO**



# TESTS RESULTS

## COLOR FASTNESS

L*a*b coordinates on new sample											Mean
L	30.41	31.48	33.11	32.44	31.71	32.36	31.41	33.78	30.18	32.23	31.91
a	-11.11	-12.20	-12.10	-12.78	-12.45	-12.39	-12.55	-12.46	-11.63	-12.08	-12.18
b	12.41	13.39	12.97	12.74	12.59	12.81	12.58	12.96	12.22	12.77	12.74
L*a*b coordinates on UVA exposed sample											Mean
L	31.24	30.59	30.33	28.18	31.69	30.58	30.97	31.15	29.85	29.58	30.42
a	-9.22	-7.12	-9.45	-9.58	-10.25	-9.00	-9.22	-10.52	-9.36	-9.48	-9.32
b	12.31	12.90	12.31	13.28	10.76	10.95	10.98	9.85	11.45	10.85	11.56
ΔE values in comparison between new and aged sample											Mean
2.1	5.2	3.9	5.4	2.9	4.3	3.7	4.5	2.4	4.2	3.4	
Grey scale value											3

## INFILL'S PHOTOS BEFORE AND AFTER UVA EXPOSURE

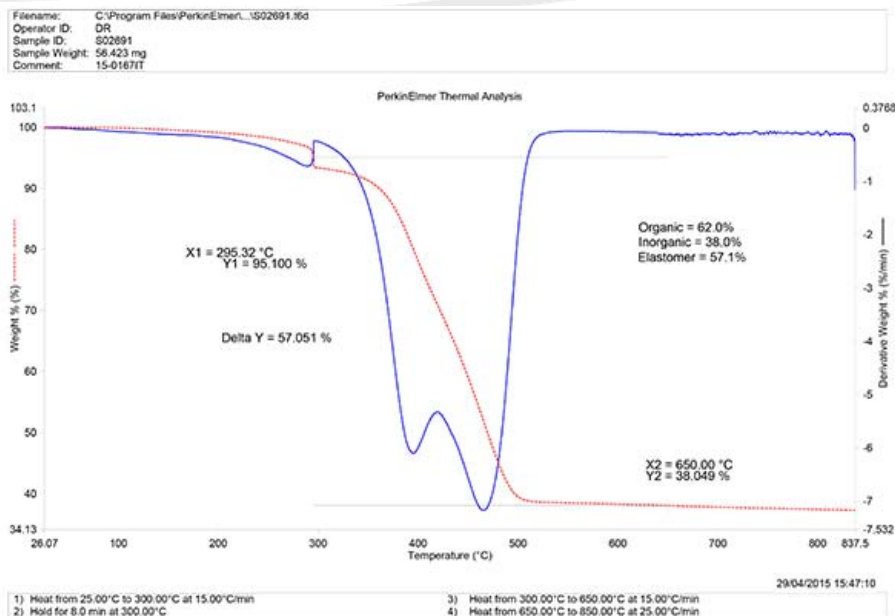
Before UVA exposure



After UVA exposure



## TGA GRAPH BEFORE UVA EXPOSURE

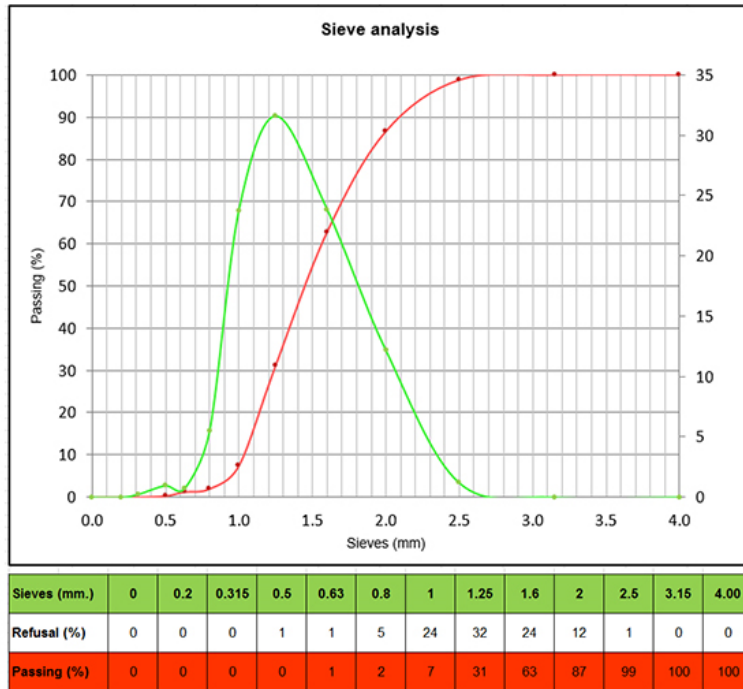




### IDENTIFICATION RESULTS

Particle size	Bulk density	Particle shape
1.0 - 2.5	0.49g/cm <sup>3</sup>	A2

### PARTICLE SIZE GRAPH



### ADDITIONAL INFORMATION

The tested product "Powerfill Green" by Elastrade Srl has been found to fully comply with the FIFA Manual 2015 edition requirements.

### CONCLUSIONS

None

Laboratory Director  
 Roberto Armeni
 

Laboratory responsible  
 Davide Giorgini
 