

TEST REPORT

16-0002IT

Issued on August 25th 2016

CLIENT

ELASTRADE SRL

PRODUCT NAME

POWERFILL BROWN

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



TESTS PROGRAM	3
REFERENCE STANDARDS AND REGULATIONS	3
STORAGE TIMES	3
SAMPLING	3
TEST PERFORMANCE CONDITION IN LABORATORY	3
APPLICANT	3
ACQUISITION DATA	3
SAMPLE IDENTIFICATION	4
DECLARED VALUES.....	4
SAMPLE'S PHOTO	4
TESTS RESULTS	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
ADDITIONAL INFORMATION	6
CONCLUSIONS	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 th 2015
DATE FIRST SAMPLE RECEIVED	December 18 th 2015
DATE LAST SAMPLE RECEIVED	December 18 th 2015
TEST START DATE	December 18 th 2015
TEST END DATE	August 18 th 2016

SAMPLE IDENTIFICATION

DECLARED VALUES

Manufacturer	Product name	Color	Type
Elastrade Srl	Powerfill Brown	Brown	Covered SBR

Particle size	Bulk density	Particle shape
0.8 - 2.5	0.48g/cm ³	A2

SAMPLE'S PHOTO



TESTS RESULTS

COLOR FASTNESS

L*a*b coordinates on new sample											Mean
L	25.29	23.26	24.15	24.11	24.86	24.90	23.98	23.52	24.44	24.83	24.33
a	11.25	11.11	9.55	9.14	9.52	9.85	10.42	11.88	10.76	10.98	10.45
b	9.12	8.65	8.42	8.05	8.55	8.63	8.86	9.01	8.16	8.18	8.56
L*a*b coordinates on UVA exposed sample											Mean
L	24.97	25.42	22.74	24.97	25.44	24.47	24.96	24.95	24.59	24.20	24.67
a	10.47	9.64	9.76	10.17	9.81	10.96	10.39	10.26	9.89	9.84	10.12
b	7.95	6.97	7.30	7.63	7.40	8.50	7.89	7.81	7.33	7.36	7.61
ΔE values in comparison between new and aged sample											Mean
1.4	3.1	1.8	1.4	1.3	1.2	1.4	2.5	1.2	1.5	1.1	
Grey scale value											4-5

INFILL'S PHOTOS BEFORE AND AFTER UVA EXPOSURE

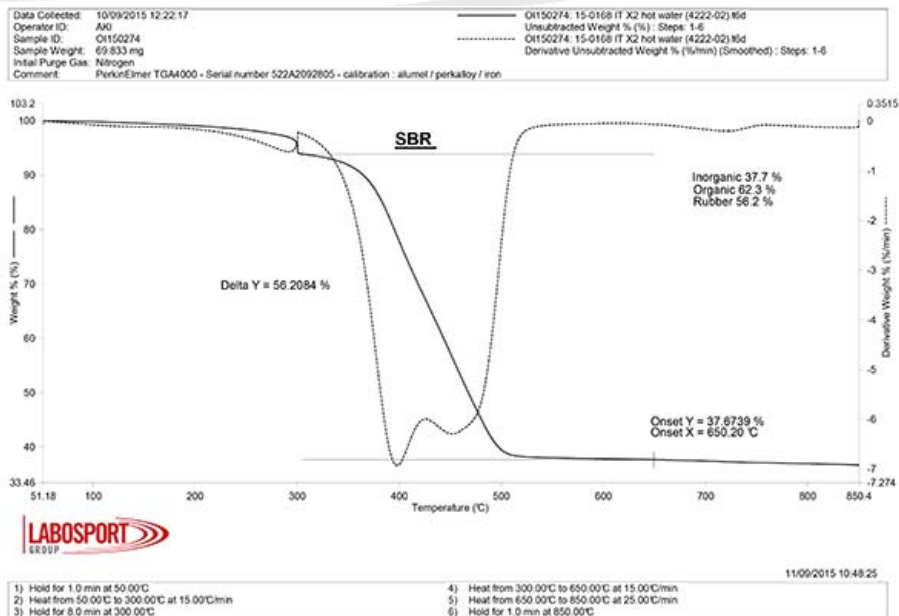
Before UVA exposure



After UVA exposure



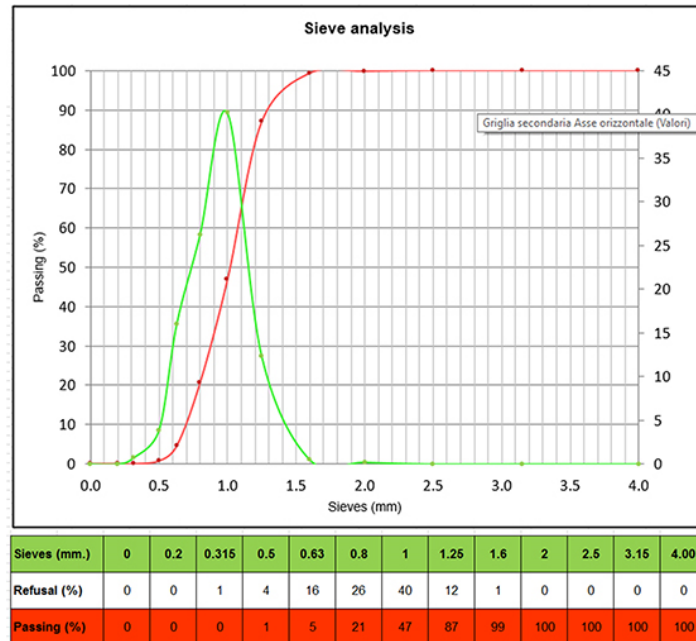
TGA GRAPH BEFORE UVA EXPOSURE



IDENTIFICATION RESULTS

Particle size	Bulk density	Particle shape
1.0 - 2.0	0.47g/cm ³	A2

PARTICLE SIZE GRAPH



ADDITIONAL INFORMATION

The tested product "Powerfill Brown" 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