

TEST REPORT

19-0110IT

Issued on October 24th 2019

CLIENT

ELASTRADE SRL

PRODUCT NAME

GOMMAMICA® POWERFILL EPDM

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



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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
Via Matteotti, 45/1
64028 Silvi (TE)

COUNTRY

Italy

ACQUISITION DATA

| | |
|----------------------------|--------------------------------|
| DATE ORDER RECEIVED | February 13 th 2019 |
| DATE FIRST SAMPLE RECEIVED | February 28 th 2019 |
| DATE LAST SAMPLE RECEIVED | February 28 th 2019 |
| TEST START DATE | March 18 th 2019 |
| TEST END DATE | October 15 th 2019 |

SAMPLE IDENTIFICATION

DECLARED VALUES

| Manufacturer | Product name | Color | Type |
|---------------------|---------------------------|--------------|-------------|
| Elastrade Srl | GommAmica® Powerfill EPDM | Green | EPDM |

| Particle size | Bulk density | Particle shape |
|----------------------|-----------------------|-----------------------|
| 1.0 - 2.5 | 0.63g/cm ³ | A2-B3 |

SAMPLE'S PHOTO



TESTS RESULTS

COLOR FASTNESS

| L*a*b coordinates on new sample | | | | | | | | | | | Mean |
|-----------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| L | 42,01 | 42,01 | 45,09 | 42,06 | 42,70 | 44,20 | 43,26 | 45,41 | 42,53 | 43,56 | 43,28 |
| a | -10,08 | -10,03 | -10,07 | -10,04 | -10,99 | -10,13 | -10,90 | -10,09 | -10,68 | -10,94 | -10,40 |
| b | 9,93 | 10,21 | 10,13 | 10,22 | 10,12 | 10,11 | 10,22 | 10,25 | 10,27 | 9,88 | 10,13 |
| L*a*b coordinates on UVA exposed sample | | | | | | | | | | | Mean |
| L | 40,75 | 41,80 | 46,62 | 43,97 | 41,47 | 43,69 | 44,80 | 45,37 | 41,36 | 43,38 | 43,32 |
| a | -6,57 | -7,22 | -7,61 | -7,59 | -7,52 | -7,10 | -6,61 | -7,50 | -7,32 | -6,91 | -7,20 |
| b | 11,40 | 11,80 | 11,46 | 11,38 | 10,74 | 11,09 | 11,49 | 11,71 | 11,31 | 11,10 | 11,35 |
| ΔE values in comparison between new and aged sample | | | | | | | | | | | Mean |
| 4,0 | 3,2 | 3,2 | 3,3 | 3,7 | 3,2 | 4,7 | 3,0 | 3,7 | 4,2 | 3,4 | |
| Grey scale value | | | | | | | | | | | 3 |

INFILL'S PHOTOS BEFORE AND AFTER UVA EXPOSURE

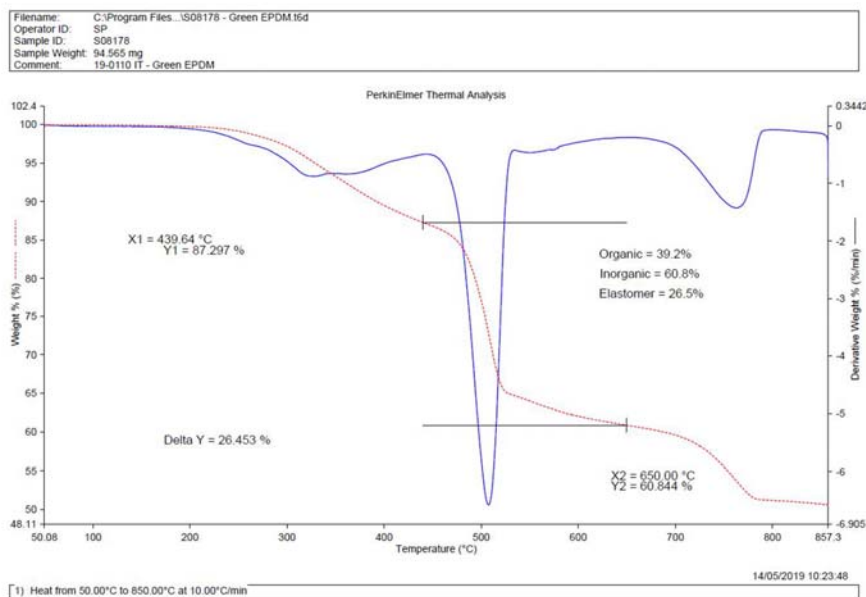
Before UVA exposure



After UVA exposure



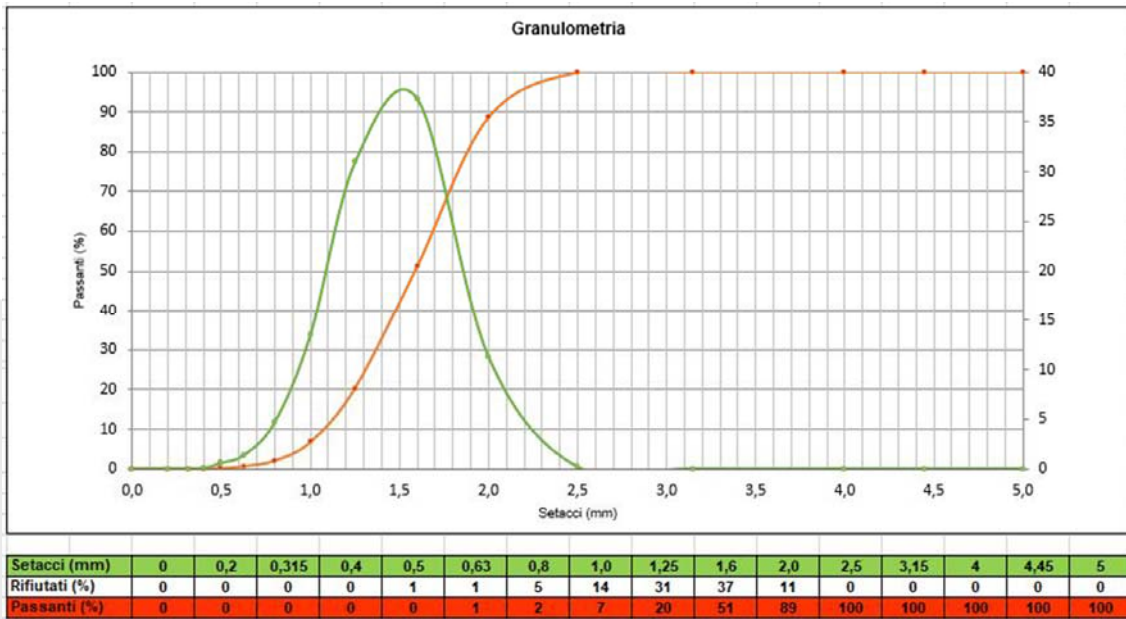
TGA GRAPH BEFORE UVA EXPOSURE



IDENTIFICATION RESULTS

| Particle size | Bulk density | Particle shape |
|---------------|-----------------------|----------------|
| 1.0 - 2.5mm | 0.63g/cm ³ | A2-B3 |

PARTICLE SIZE GRAPH



ADDITIONAL INFORMATION

The tested product "GommAmica® Powerfill EPDM " by ELASTRADE Srl has been found to fully comply with the FIFA Manual 2015 edition requirements and World Rugby Manual 2016 edition.

CONCLUSIONS

None

Laboratory Director
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Laboratory Manager
Davide Giorgini