

# **TEST REPORT**

**12-0065IT**

Issued on June 28th 2012

COMPANY

**Elastrade Srl**

PRODUCT NAME

**POWERFILL ECO**

CATEGORY

**PERFORMANCE INFILL**

**Tests according to:**

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

**340nm/UVA**

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

*The results are solely considered valid for the sample subjected to testing*



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## **SUBJECT**

Protocol for accelerated aging of yarns and infill by means of 3000h of exposure to UVA with QUV equipment

## **METHOD USED**

ME21-001 Plastics -- Methods of exposure to laboratory light sources -- Fluorescent UV lamps

## **REFERENCE DOCUMENTS**

### **REFERENCE STANDARDS AND REGULATIONS USED**

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

### **INTERNAL REFERENCE DOCUMENTS**

MCQ098-001 Test protocol for exposing yarns and infill to artificial aging using QUV for 3000 hours

## **REFERENCE METHODS USED**

UNI 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.

## **STORAGE TIMES**

Storage "Sine die" of specimens and documents

## **TEST PERFORMANCE CONDITION IN LABORATORY**

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

## **APPLICANT**

COMPANY  
ADDRESS

ELASTRADE SRL  
Via dei Termini, 20  
24040 Osio Sopra (BG)

COUNTRY

Italy

## **ACQUISITION DATA**

|                            |                    |
|----------------------------|--------------------|
| DATE ORDER RECEIVED        | February 15th 2012 |
| DATE FIRST SAMPLE RECEIVED | February 22th 2012 |
| DATE LAST SAMPLE RECEIVED  | February 22th 2012 |
| TEST START DATE            | February 22th 2012 |
| TEST END DATE              | June 28th 2012     |

## **SAMPLE IDENTIFICATION**

### **DECLARED VALUES**

| <b>Manufacturer</b> | <b>Commercial name</b> | <b>Color</b> | <b>Type</b> |
|---------------------|------------------------|--------------|-------------|
| Elastarde Srl       | POWERFILL ECO          | Black        | SBR         |

### **SAMPLE'S PHOTO**



## DATA ACQUISITION

### COLOR FASTNESS

| L*a*b coordinates on new sample                             |       |       |       |       |       |       |       |       |       |       | Mean  |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L   | 34.79 | 34.77 | 35.13 | 34.79 | 35.07 | 34.48 | 34.98 | 35.18 | 34.58 | 34.83 | 34.86 |
| a   | -0.30 | -0.26 | -0.26 | -0.27 | -0.26 | -0.27 | -0.24 | -0.24 | -0.28 | -0.26 | -0.26 |
| b   | -0.32 | -0.28 | -0.29 | -0.22 | -0.36 | -0.33 | -0.33 | -0.36 | -0.26 | -0.35 | -0.31 |
| L*a*b coordinates on UVA exposed sample                     |       |       |       |       |       |       |       |       |       |       | Mean  |
| L   | 34.86 | 34.99 | 35.63 | 35.09 | 35.15 | 35.18 | 34.90 | 35.25 | 35.03 | 35.11 | 35.12 |
| a   | -0.22 | -0.24 | -0.22 | -0.26 | -0.20 | -0.27 | -0.25 | -0.23 | -0.25 | -0.24 | -0.24 |
| b   | -0.13 | -0.27 | -0.19 | -0.34 | -0.25 | -0.32 | -0.37 | -0.24 | -0.21 | -0.26 | -0.26 |
| $\Delta E$ values in comparison between new and aged sample |       |       |       |       |       |       |       |       |       |       | Mean  |
| 0.22  | 0.22  | 0.51  | 0.32  | 0.15  | 0.70  | 0.09  | 0.14  | 0.45  | 0.29  | 0.31  |       |
| Grey scale value  |       |       |       |       |       |       |       |       |       |       |       |
| 4-5   |       |       |       |       |       |       |       |       |       |       |       |

### INFILL'S PHOTOS BEFORE AND AFTER UVA EXPOSURE

Before UVA exposure



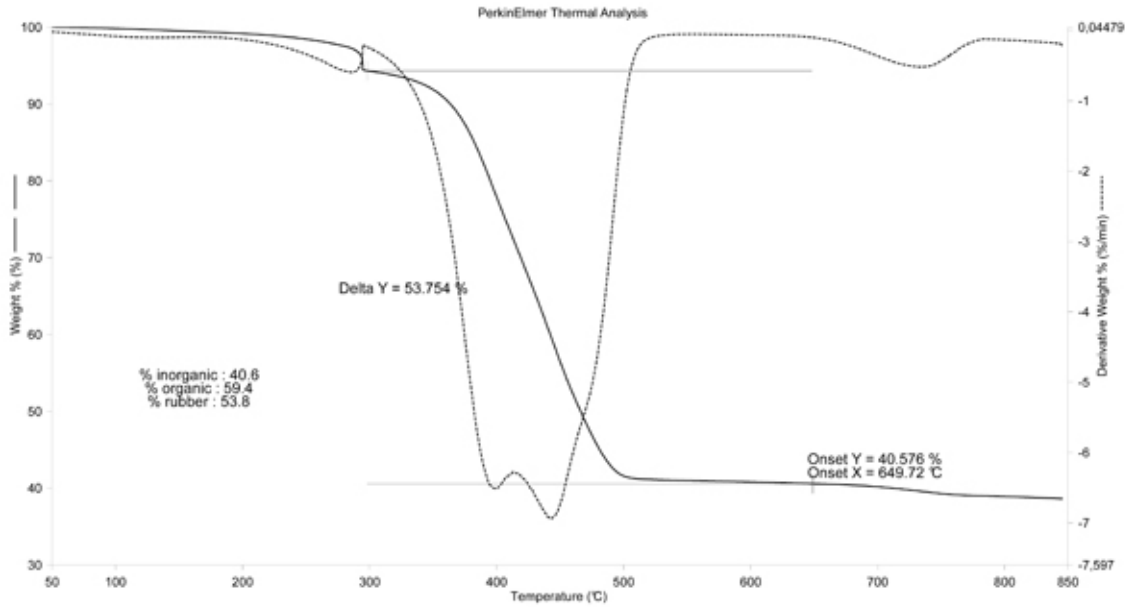
After UVA exposure



# INFILL'S TGA GRAPH

## BEFORE UVA EXPOSURE

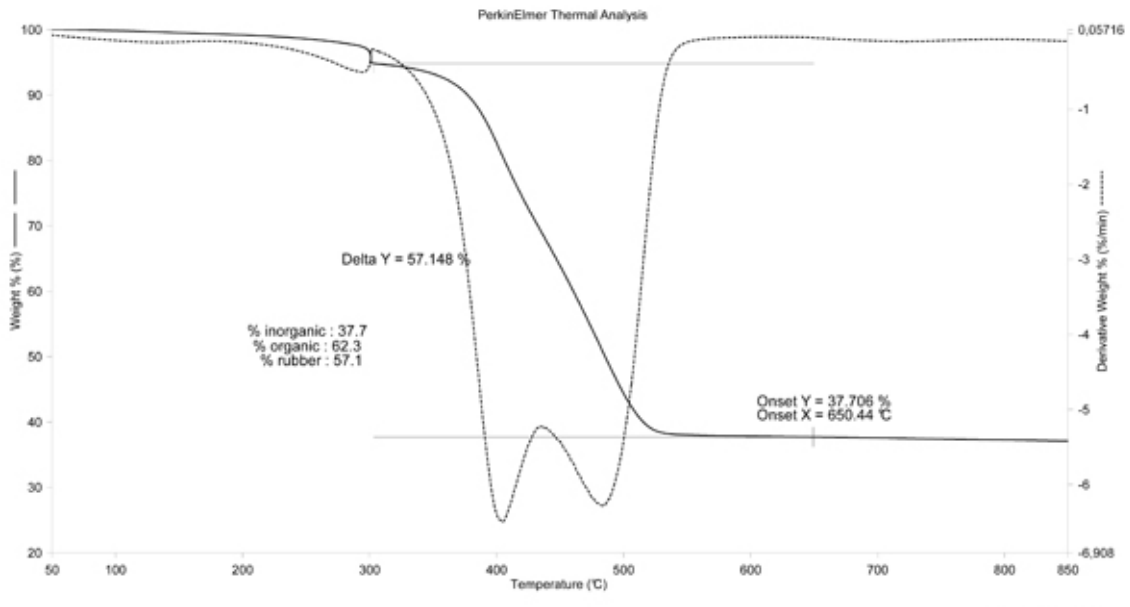
Filename: C:\Program Files\Pyris\...\010889 black.tsd  
 Operator ID: LC  
 Sample ID: 010889 black  
 Sample Weight: 41.925 mg  
 Comment: 120324



28/02/2012 13:30:10  
 1) Heat from 50.00°C to 300.00°C at 15.00°C/min  
 2) Hold for 8.0 min at 300.00°C  
 3) Heat from 300.00°C to 650.00°C at 15.00°C/min  
 4) Heat from 650.00°C to 850.00°C at 25.00°C/min

## AFTER UVA EXPOSURE

Filename: C:\Program Files\Pyris\...\011215 black.tsd  
 Operator ID: LC  
 Sample ID: 011215 black  
 Sample Weight: 50.421 mg  
 Comment: 120678  
 12-0065 IT



12/04/2012 14:25:33  
 1) Heat from 50.00°C to 300.00°C at 15.00°C/min  
 2) Hold for 8.0 min at 300.00°C  
 3) Heat from 300.00°C to 650.00°C at 15.00°C/min  
 4) Heat from 650.00°C to 850.00°C at 25.00°C/min

## APPARATUS USED

ME21-001 Plastics -- Methods of exposure to laboratory light sources -- Fluorescent UV lamps

| Device            | Brand       | Model         | Serial number  | Sheet  |
|-------------------|-------------|---------------|----------------|--------|
| QUV               | Q Pannel    | QUV/SE        | 06-13927-73-SE | STR009 |
| Grey scale        | RAL Farben  | Digital 4     | NA             | STR151 |
| TGA               | NA          | NA            | NA             | NA     |
| Spectrophotometer | BYK-Gardner | Spectro guide | 1057950        | STR015 |

## ADDITIONAL INFORMATION

None

## CONCLUSIONS

None

Laboratory Director  
Roberto Armeni



Laboratory responsible  
Davide Giorgini

