

## Laboratory Report

Assessment of KDF to the performance of [EN14877:2013] Laboratory test requirements for synthetic surfaces intended for athletics facilities.

Product(s):

- **Poltrack Sandwich System**

### Client:

|                |  |
|----------------|--|
| <b>Company</b> | KDF - Kataskeves Dapedon LTD<br>1 Papanikolaou Ave., 57010 Thessaloniki - GREECE |
| <b>Contact</b> | Marie Nikolaidou   |

### Description of Surface:

Supplier name: KDF

Date: 21/4/2020

Systems installed: **Poltrack Sandwich System**



## Summary:

A program of testing has been carried out on a spike outdoor running track system POLAPLAST P10, POLAPLAST P13, SBR 858, POLAPLAST P22, POLAPLAST P20, & EDPM 856, manufactured by KDF  
Testing was performed to *[EN14877:2013] Laboratory test requirements for synthetic surfaces intended for athletics facilities.*

## Reported By:

Grant Humphreys (Director)

## Contents:

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### 1.Introduction:

Testing was performed to *[EN14877:2013] Laboratory test requirements for synthetic surfaces intended for athletics facilities.*

Results of the testing are designed to show the product complies to *[EN14877:2013] athletics.*

Testing of the product for performance requirements in order to determine the type of product to the *[EN14877:2013]* standard.

### 2.Product Details & Description:

Poltrack Sandwich System athletics spike outdoor running track system.

- POLAPLAST P10 (polyurethane primer)
- POLAPLAST P13 (polyurethane binder)
- SBR 858 (granulometry of 1-3mm)
- POLAPLAST P22 (coloured polyurethane sealer)
- POLAPLAST P20 (coloured polyurethane full-PU surface layer)
- EDPM 856 (granulometry of 1-3mm)

### 3.Test Procedure:

The product was tested to the method given in *[EN14877:2013] Laboratory test requirements for synthetic surfaces intended for athletics facilities.*

tested at 23 degrees and 50% humidity (unless specifically stated for a specific test).

Samples were conditioned for 24 hrs prior to the test being undertaken.

The following test methods have been conducted within the scope of *[EN14877:2013] Laboratory test requirements for synthetic surfaces intended for athletics facilities.*

Athletics:

- |                        |  |
|------------------------|--|
| - Friction             | EN 13036-4 using CEN rubber under dry conditions (Wet and Dry) |
| - Shock absorption     | EN 14808 (new and UV aged)                                     |
| - Vertical Deformation | EN 14809 (new and UV aged)                                     |
| - Resistance To wear   | EN 5470-1 using H18 (new and UV aged)                          |
| - Water Permeability   | EN 12616   |
| - Colour Loss          | EN ISO 210105-AO2 (new and UV aged)                            |
| - Tensile Properties   | EN 12230 (new and UV aged)                                     |
| - Absolute thickness   | EN 1969 (method A)   |
| - Spike Resistance     | EN 14810 ( Not Tested)   |

## 4. Test Results:

### TESTS CONDITIONS

The dry conditions in a standard atmosphere at a temperature of  $(23 \pm 2) ^\circ\text{C}$  and a humidity of  $(50 \pm 5) \% \text{RH}$  are laboratory values. The UV weather samples were exposed for  $(4\ 896 \pm 125) \text{ kJ}$ , in a QUV chamber

**\*NOTE\*** An exposure of  $(4\ 896 \pm 125) \text{ kJ}$  will require approximately 2 000h UV exposure and takes approximately 3000 h with cycling to complete.

### Friction to EN13036-4

| Property | Units | Results | EN14877  | Pass/ Fail |
|----------|-------|---------|----------|------------|
| Wet      | $\mu$ | 55      | (55-110) | Pass       |
| Dry      | $\mu$ | 81      | (80-110) | Pass       |

### Shock Absorption to EN14808 athletics: SA 25 to 34, SA 35 to 50)

| Property                          | Units | Results | EN14877                         | Pass/ Fail |
|-----------------------------------|-------|---------|---------------------------------|------------|
| Force Reduction before Weathering | $\mu$ | 36      | <u>Athletics:</u><br>35% to 50% | Pass       |
| Force Reduction After Weathering  | $\mu$ | 35      | <u>Athletics:</u><br>35% to 50% | Pass       |

### Vertical Deformation to EN14809

| Property                               | Units | Results | EN 14877                        | Pass/ Fail |
|--|-------|---------|---------------------------------|------------|
| Vertical Deformation Before Weathering | mm    | 2.1     | Athletics:<br>$\leq 3\text{mm}$ | Pass       |

### Resistance To wear EN 5470-1 using H18

| Property          | Units         | Results | EN 14877 | Pass/ Fail |
|-------------------|---------------|---------|----------|------------|
| Before Weathering | Loss of grams | 2.5g    | <4.0 g   | Pass       |
| After weathering  | Loss of grams | 3.0g    | <4.0 g   | Pass       |

### Colour Loss EN ISO 210105-AO2 after UV testing

| Property      | Units | Results | EN 14877 | Pass/ Fail |
|---------------|-------|---------|----------|------------|
| Colour Change | -     | 4/5     | ≥3       | Pass       |

### Tensile Properties EN 12230

| Property                           | Units | Results | EN 14877 | Pass/ Fail |
|------------------------------------|-------|---------|----------|------------|
| Tensile Strength                   | MPa   | 0.44    | ≥0.40    | Pass       |
| Elongation                         | %     | 62%     | ≥40%     | Pass       |
| <b>After Artificial Weathering</b> |       |         |          |            |
| Tensile Strength                   | MPa   | 0.43    | ≥0.40    | Pass       |
| Elongation                         | %     | 65%     | ≥40%     | Pass       |

### Absolute Thickness EN1969 (method A)

| Nominal Thickness | Measured Thickness |
|-------------------|--------------------|
| 15mm              | 15.5               |

## 4. Conclusion

The above tests have been conducted within the scope of [EN14877:2013] Laboratory test requirements for synthetic surfaces intended for athletics facilities.

The spike outdoor running track **Poltrack Sandwich System**, from KDF has been found to **comply** with the following requirements of standards [EN14877:2013] Laboratory test requirements for synthetic surfaces intended for athletics facilities.

the tested items:

Athletics:

- Friction EN 13036-4 using CEN rubber under dry conditions (Wet and Dry)
- Shock absorption EN 14808 (new and UV aged)
- Vertical Deformation EN 14809 (new and UV aged)
- Resistance To wear EN 5470-1 using H18 (new and UV aged)
- Water permeability EN 12616
- Colour Loss EN ISO 210105-AO2 (new and UV aged)
- Tensile Properties EN 12230 (new and UV aged)
- Absolute thickness EN 1969 (method A)

### **Reviewed and Approved by:**

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