



WORLD
ATHLETICS

PRODUCT CERTIFICATE

World Athletics is pleased to certify that the following product meets all the technical requirements of the World Athletics Rules for the relevant competitions.

Product's Trade Name:

Synthetic surface - Poltrack Sandwich System

Description, Colour/Absolute Thickness:

Sandwich, 13.4mm

Company Name, Country:

Kataskeves Dapedon Ltd. (KDF), GRE

Catalogue Number:

-

Certification Number:

S-18-0228

Test Report by and on:

260620, Trackmaster (Thailand) Co. Ltd.(THA), 26 June 2020

Note:

-

Date of Issue:

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June 2025

Issued in accordance with the terms and conditions of the World Athletics Certification System

Jon Ridgeon
World Athletics CEO



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:

| | |
|----------------|--|
| Company | KDF - Kataskeves Dapedon LTD 1 Papanikolaou Ave., 57010 Thessaloniki - GREECE |
| Contact | 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:

1. Introduction
2. Product details & description
3. Test Procedure
4. Test Results
5. Conclusion

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 $(50 \pm 5) \%RH$ are laboratory values. The UV weather samples were exposed for $(4\ 896 \pm 125)$ kJ, in a QUV chamber

NOTE An exposure of $(4\ 896 \pm 125)$ 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 | μ | 55 | (55-110) | Pass |
| Dry | μ | 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 | μ | 36 | <u>Athletics:</u> 35% to 50% | Pass |
| Force Reduction After Weathering | μ | 35 | <u>Athletics:</u> 35% to 50% | Pass |

Vertical Deformation to EN14809

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

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Date: 21/7/20

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KATASKEVES DAPEDON LTD - KDF
MRS. Maria Nikolaidoy
Mitropoleos 19
54024 Thessaloniki
GREECE

Fürth, May 12/2020

TEST REPORT No. FUTYP2020-01959-C

Date sample received: March 06/2020
Period of testing: March 19/2020 – April 29/2020
Technical Director: Kerstin Scharrer

Sample description: EPDM Granulates E1, E2, E7, E8, E11, E12, E13, E15, E16, E17, E18, E19, E20



For the test results please refer to next pages

Test order

Test of products for polycyclic aromatic hydrocarbons

| Summary | Results |
|----------------------|-------------|
| Further requirements | <i>pass</i> |

Sample description:

| | |
|---------|-------------------------------------|
| No. 1: | Granulate E1 (red rose) |
| No. 2: | Granulate E2 (orange) |
| No. 7: | Granulate E7 (brown) |
| No. 8: | Granulate E8 (dark brown) |
| No. 11: | Granulate E11 (light blue) |
| No. 12: | Granulate E12 (dark blue) |
| No. 13: | Granulate E13 (purple) |
| No. 15: | Granulate E15 (light grey) |
| No. 16: | Granulate E16 (dark grey) |
| No. 17: | Granulate E17 (light green) |
| No. 18: | Granulate E18 (blue) |
| No. 19: | Granulate E19 (light brown) |
| No. 20: | Granulate E20 (EPDM red 0,5-1,5 mm) |

Test results

Abbreviations:
n.d. = not determinable (< LoQ)
LoQ = limit of quantification

1. Polycyclic Aromatic Hydrocarbons according to US-EPA+ 2 EFSA PAH and according to Regulation (EC) No. 1907/2006 (REACH) Annex XVII No. 50

Test method: AfPS GS 2019:01 PAK (2019-05)
Limit of quantification: 0.1 mg/kg

Test results in mg/kg

| Parameter | CAS-No. | Sample No. 1 | Sample No.2 | Sample No. 7 | Sample No. 8 |
|----------------------|----------|--------------|-------------|--------------|--------------|
| 1 Naphthalene | 91-20-3 | 0.26 | 0.14 | 0.14 | 0.18 |
| 2 Acenaphthylene | 208-96-8 | n.d. | n.d. | n.d. | n.d. |
| 3 Acenaphthene | 83-32-9 | n.d. | n.d. | n.d. | n.d. |
| 4 Fluorene | 86-73-7 | 0.66 | 0.22 | 0.23 | 0.68 |
| 5 Phenanthrene | 85-01-8 | 1.9 | 0.40 | 0.46 | 1.1 |
| 6 Anthracene | 120-12-7 | 0.22 | n.d. | n.d. | n.d. |
| 7 Fluoranthene | 206-44-0 | 0.39 | 0.14 | 0.18 | n.d. |
| 8 Pyrene | 129-00-0 | n.d. | n.d. | 0.21 | n.d. |
| 9 Benzo(a)anthracene | 56-55-3 | 0.23 | n.d. | n.d. | n.d. |

Polycyclic Aromatic Hydrocarbons - continued

Test results in mg/kg

| Parameter | CAS-No. | Sample No. 1 | Sample No.2 | Sample No. 7 | Sample No. 8 |
|--|---------------------|------------------------|-------------------------|-------------------------|------------------------|
| 10 Chrysene | 218-01-9 | 0.28 | n.d. | n.d. | n.d. |
| ∑11+12 Benzo(b)fluoranthene + Benzo(j)fluoranthene | 205-99-2 + 205-82-3 | n.d. | n.d. | n.d. | n.d. |
| 13 Benzo(k)fluoranthene | 207-08-9 | n.d. | n.d. | n.d. | n.d. |
| 14 Benzo(e)pyrene | 192-97-2 | n.d. | n.d. | 0.21 | n.d. |
| 15 Benzo(a)pyrene | 50-32-8 | n.d. | n.d. | n.d. | n.d. |
| 16 Indeno(1,2,3-cd)pyrene | 193-39-5 | n.d. | n.d. | n.d. | n.d. |
| 17 Dibenzo(a,h)anthracene | 53-70-3 | n.d. | n.d. | n.d. | n.d. |
| 18 Benzo(ghi)perylene | 191-24-2 | n.d. | n.d. | n.d. | n.d. |
| Sum 15 PAH | | 3.3^b | 0.40^b | 0.88^b | 1.1^b |

^a For summation according to AfPS GS 2019:01 PAK the following PAH are not included: Acenaphthylene, Acenaphthene, Fluorene

^b Only contents from 0.2 mg/kg were used for summation.

| Parameter | CAS-No. | Sample No. 11 | Sample No. 12 | Sample No. 13 | Sample No. 15 |
|--|---------------------|------------------------|-------------------------|-------------------------|-------------------------|
| 1 Naphthalene | 91-20-3 | 0.34 | 0.30 | n.d. | n.d. |
| 2 Acenaphthylene | 208-96-8 | n.d. | n.d. | n.d. | n.d. |
| 3 Acenaphthene | 83-32-9 | n.d. | n.d. | n.d. | n.d. |
| 4 Fluorene | 86-73-7 | 0.19 | n.d. | 0.32 | 0.21 |
| 5 Phenanthrene | 85-01-8 | 0.87 | 0.61 | 0.65 | 0.53 |
| 6 Anthracene | 120-12-7 | n.d. | n.d. | n.d. | n.d. |
| 7 Fluoranthene | 206-44-0 | 0.25 | 0.16 | n.d. | 0.16 |
| 8 Pyrene | 129-00-0 | n.d. | n.d. | n.d. | 0.15 |
| 9 Benzo(a)anthracene | 56-55-3 | n.d. | n.d. | n.d. | n.d. |
| 10 Chrysene | 218-01-9 | 0.15 | 0.12 | n.d. | n.d. |
| ∑11+12 Benzo(b)fluoranthene + Benzo(j)fluoranthene | 205-99-2 + 205-82-3 | n.d. | n.d. | n.d. | n.d. |
| 13 Benzo(k)fluoranthene | 207-08-9 | n.d. | n.d. | n.d. | n.d. |
| 14 Benzo(e)pyrene | 192-97-2 | n.d. | n.d. | n.d. | n.d. |
| 15 Benzo(a)pyrene | 50-32-8 | n.d. | n.d. | n.d. | n.d. |
| 16 Indeno(1,2,3-cd)pyrene | 193-39-5 | n.d. | n.d. | n.d. | n.d. |
| 17 Dibenzo(a,h)anthracene | 53-70-3 | n.d. | n.d. | n.d. | n.d. |
| 18 Benzo(ghi)perylene | 191-24-2 | n.d. | n.d. | n.d. | n.d. |
| Sum 15 PAH | | 1.5^b | 0.91^b | 0.65^b | 0.53^b |

^a For summation according to AfPS GS 2019:01 PAK the following PAH are not included: Acenaphthylene, Acenaphthene, Fluorene

^b Only contents from 0.2 mg/kg were used for summation.

Polycyclic Aromatic Hydrocarbons - continued

Test results in mg/kg

| Parameter | CAS-No. | Sample No. 16 | Sample No. 17 | Sample No. 18 | Sample No. 19 |
|---|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 1 Naphthalene | 91-20-3 | n.d. | n.d. | n.d. | n.d. |
| 2 Acenaphthylene | 208-96-8 | n.d. | n.d. | n.d. | n.d. |
| 3 Acenaphthene | 83-32-9 | n.d. | n.d. | n.d. | n.d. |
| 4 Fluorene | 86-73-7 | n.d. | n.d. | 0.45 | n.d. |
| 5 Phenanthrene | 85-01-8 | n.d. | 0.12 | 0.81 | 0.12 |
| 6 Anthracene | 120-12-7 | n.d. | n.d. | n.d. | n.d. |
| 7 Fluoranthene | 206-44-0 | n.d. | n.d. | n.d. | n.d. |
| 8 Pyrene | 129-00-0 | n.d. | n.d. | n.d. | n.d. |
| 9 Benzo(a)anthracene | 56-55-3 | n.d. | n.d. | n.d. | n.d. |
| 10 Chrysene | 218-01-9 | n.d. | n.d. | n.d. | n.d. |
| ∑11+12 Benzo(b)fluoranthene + Benzo(j)fluoranthene | 205-99-2 + 205-82-3 | n.d. | n.d. | n.d. | n.d. |
| 13 Benzo(k)fluoranthene | 207-08-9 | n.d. | n.d. | n.d. | n.d. |
| 14 Benzo(e)pyrene | 192-97-2 | n.d. | n.d. | n.d. | n.d. |
| 15 Benzo(a)pyrene | 50-32-8 | n.d. | n.d. | n.d. | n.d. |
| 16 Indeno(1,2,3-cd)pyrene | 193-39-5 | n.d. | n.d. | n.d. | n.d. |
| 17 Dibenzo(a,h)anthracene | 53-70-3 | n.d. | n.d. | n.d. | n.d. |
| 18 Benzo(ghi)perylene | 191-24-2 | n.d. | n.d. | n.d. | n.d. |
| Sum 15 PAH | | n.d.^b | n.d.^b | 0.81^b | n.d.^b |

^a For summation according to AfPS GS 2019:01 PAK the following PAH are not included: Acenaphthylene, Acenaphthene, Fluorene

^b Only contents from 0.2 mg/kg were used for summation.

| Parameter | CAS-No. | Sample No. 20 |
|---|------------------------|-------------------------|
| 1 Naphthalene | 91-20-3 | n.d. |
| 2 Acenaphthylene | 208-96-8 | n.d. |
| 3 Acenaphthene | 83-32-9 | n.d. |
| 4 Fluorene | 86-73-7 | n.d. |
| 5 Phenanthrene | 85-01-8 | n.d. |
| 6 Anthracene | 120-12-7 | n.d. |
| 7 Fluoranthene | 206-44-0 | n.d. |
| 8 Pyrene | 129-00-0 | n.d. |
| 9 Benzo(a)anthracene | 56-55-3 | n.d. |
| 10 Chrysene | 218-01-9 | n.d. |
| ∑11+12 Benzo(b)fluoranthene + Benzo(j)fluoranthene | 205-99-2 + 205-82-3 | n.d. |
| 13 Benzo(k)fluoranthene | 207-08-9 | n.d. |
| 14 Benzo(e)pyrene | 192-97-2 | n.d. |
| 15 Benzo(a)pyrene | 50-32-8 | n.d. |
| 16 Indeno(1,2,3-cd)pyrene | 193-39-5 | n.d. |
| 17 Dibenzo(a,h)anthracene | 53-70-3 | n.d. |
| 18 Benzo(ghi)perylene | 191-24-2 | n.d. |
| Sum 15 PAH | | n.d.^b |

^a For summation according to AfPS GS 2019:01 PAK the following PAH are not included: Acenaphthylene, Acenaphthene, Fluorene

^b Only contents from 0.2 mg/kg were used for summation.

Conclusion

The tested sample of the presented products “**EPDM Granulates E1, E2, E7, E8, E11, E12, E13, E15, E16, E17, E18, E19, E20**” conform to the EC-Regulation 1907/2006, Annex XVII No. 50.

Remark

Requirements acc. to AfPS GS 2019:01 PAK (Utilization for GS-mark from July 1st, 2020) and Regulation (EC) No. 1907/2006, Annex XVII No. 50

| Parameter | Category 1 | Category 2 | | Category 3 | | Limit value acc. to EC regulation 1907/2006, Annex XVII No. 50 | |
|---|---|---|-------------------------------|---|-------------------------------|--|--|
| | Materials intended to be put into the mouth, or materials in toys according to Directive 2009/48/EC or materials in articles for use by children up to three years of age with prolonged skin contact (longer than 30s) when used as intended | Materials, not covered by category 1, with prolonged skin contact (longer than 30s) or repeated short-term skin contact when used as intended or in a foreseeable way | | Materials, not covered by category 1 or category 2, with short-term skin contact (up to 30 s) when used as intended or in a foreseeable way | | Toys, including activity toys, and childcare articles – Components rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use | Articles shall not be placed on the market for supply to the general public, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use |
| | | a. Use by children | b. other consumer products | a. Use by children | b. other consumer products | | |
| Benzo[a]pyrene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | 0.5 | 1 |
| Benzo[e]pyrene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | 0.5 | 1 |
| Benzo[a]anthracene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | 0.5 | 1 |
| Benzo[b]fluoranthene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | 0.5 | 1 |
| Benzo[j]fluoranthene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | 0.5 | 1 |
| Benzo[k]fluoranthene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | 0.5 | 1 |
| Chrysene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | 0.5 | 1 |
| Dibenzo[a,h]anthracene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | 0.5 | 1 |
| Benzo[ghi]perylene mg/kg | < 0.2 | < 0.2 | < 0.5 | < 0.5 | < 1 | - | - |
| Indeno[1,2,3-cd]pyrene mg/kg | < 0,2 | < 0.2 | < 0.5 | < 0.5 | < 1 | - | - |
| Phenanthrene, Pyrene, Anthracene, Fluoranthene, mg/kg | < 1 – Sum | < 5 – Sum | < 10 – Sum | < 20 – Sum | < 50 – Sum | - | - |
| Naphthalene mg/kg | < 1 | < 2 | | < 10 | | - | - |
| Sum 15 PAH mg/kg | <1 | < 5 | < 10 | < 20 | < 50 | - | - |
| Evaluation | - | - | - | - | - | pass | - |

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END OF REPORT

