

## Laboratory Report

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

Product(s):

Colorflex System

### Client:

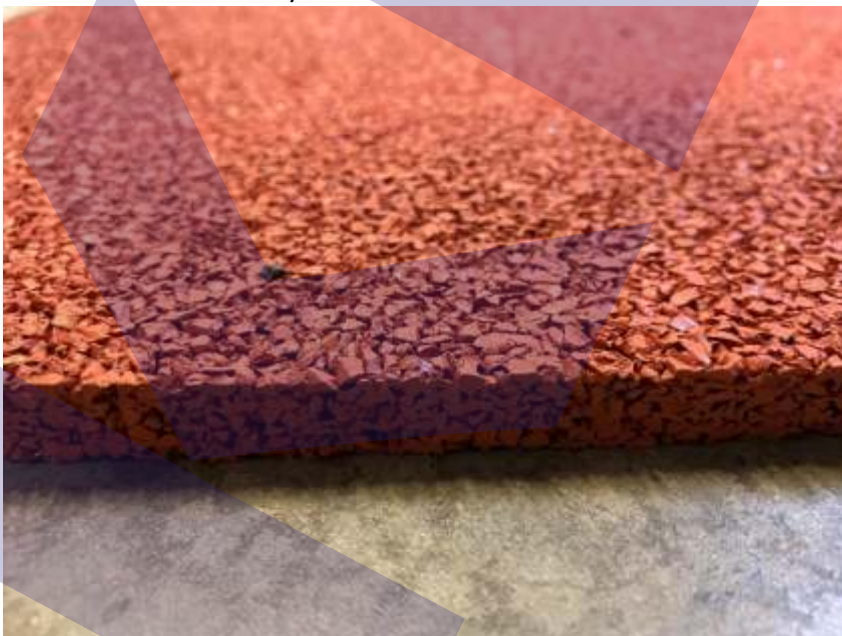
<b>Company</b>	KDF - Kataskeves Dapedon LTD 1 Papanikolaou Ave., 57010 Thessaloniki - GREECE
<b>Contact</b>	Marie Nikolaidou

### Description of Surface:

Supplier name: KDF

Date: 21/4/2020

Systems installed: Colorflex System



## Summary:

A program of testing has been carried out on a Multi- Sport system Colorflex System manufactured by KDF

Testing was performed to *[EN14877:2013] Laboratory test requirements for synthetic surfaces intended for Multi-Sport 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 Multi-sport facilities.*

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

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

### 2.Product Details & Description:

Colorflex System Multi-Sport system.

### 3.Test Procedure:

The product was tested to the method given in *[EN14877:2013] Laboratory test requirements for synthetic surfaces intended for Multi-Sport system*

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 Multi-Sport facilities.*

#### Multi-Sport:

- |                         |  |
|-------------------------|--|
| - 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)                                     |
| - Vertical Ball Rebound | EN 12235 (Basketball)  |
| - 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)   |

## 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	$\mu$	54	(55-110)	Pass
Dry	$\mu$	81	(80-110)	Pass

### Shock Absorption to EN14808 Multi-Sport: SA 25 to 34, SA 35 to 50)

Property	Units	Results	EN14877	Pass/ Fail
Force Reduction before Weathering	%	32	<u>Multi-Sport:</u> 25% to 34%	Pass
Force Reduction After Weathering	%	31	<u>Multi-Sport:</u> 25% to 34%	Pass

### Vertical Deformation to EN14809

Property	Units	Results	EN 14877	Pass/ Fail
Vertical Deformation	mm	3.5	<u>Multi-Sport:</u> $\leq 6\text{mm}$	Pass

### Vertical Ball Rebound EN12235

Property	Units	Results	EN 12235	Pass/ Fail
Vertical Ball Rebound	%	104%	<u><math>\geq 85\% (0.89)</math></u>	Pass

### Water Permeability EN 12616

Property	Units	Results	EN 14877	Pass/ Fail
Water Perm.	mm/hr	1700	$\geq 150\text{mm/hr}$	Pass

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

Property	Units	Results	EN 14877	Pass/ Fail
Before Weathering	Loss of grams	3.5g	$< 4.0 \text{ g}$	Pass
After weathering	Loss of grams	3.7g	$< 4.0 \text{ g}$	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	0.42	≥0.40	Pass
Elongation	%	68%	≥40%	Pass
<b>After Artificial Weathering</b>				
Tensile Strength	MPa	0.41	≥0.40	Pass
Elongation	%	66%	≥40%	Pass

### Absolute Thickness EN1969 (method A)

Nominal Thickness	Measured Thickness
13mm	13

## 4. Conclusion

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

The Multi-Sport Colorflex System, from KDF has been found to **comply** with the following requirements of standards [EN14877:2013] Laboratory test requirements for synthetic surfaces intended for Multi-Sport facilities.

the tested items:

#### Multi-Sport:

- 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)
- Vertical Ball Rebound EN 12235 (Basketball)
- 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:**

Grant Humphreys

Director

Tel: +61 415 423 334

Email: admin@acoustoscan.com.au



Date: 21/7/20