Research Body Information European Commission 2006/C 323/01



# **TEST REPORT**

|SQM\_395\_2021|

DETERMINATION OF CHEMICAL RESISTANCE (UNI EN ISO 10545-13) "PLATIO SOLAR PAVER WITH OPAL SURFACE", OF THE COMPANY "INNOVATÍV TÉRBURKOLATFEJLESZTŐ KFT."

PLACE AND DATE OF ISSUE:	Faenza, 29/06/2021
COMPANY:	Innovatív Térburkolatfejlesztő Kft.
ADDRESS:	4080 Hajdúnánás, Jókai utca 64 - Hungary
TYPE OF PRODUCT:	Paving integrated systems for external uses
STANDARD APPLIED:	EN ISO 10545-13
DATE OF RECEIPT IN LABORATORY:	03/06/2021
TESTS EXECUTED:	June 2021
TEST EXECUTED BY:	CertiMaC, Faenza

NOTE: Results contained in the present test report are exclusively referred to the samples subjected to the tests described hereafter. Moreover, this report is for the exclusive use of the Customer, within the limits set by mandatory legislation and cannot be reproduced, totally or partially (in digital or paper form), without a written approval of the Laboratory.

Written

\_I.E. Marco Chiari\_ \_Eng. Simone Bandini\_ CertiMaC soc.cons. a r.l. Revision -

Test executed

\_Eng. Luca Laghi\_ Page 1 of 5

**Approved** 

Via Granarolo, 62 48018 - Faenza (RA) Italy (IT) Tel. +39 0546 678548 www.certimac.it info@certimac.it









### 1 Introduction

This test report describes:

- Determination of chemical resistance

executed on a kind of product sent to the CertiMaC Laboratory in Faenza, by the company Innovatív Térburkolatfejlesztő Kft (Ref. 2-a, 2-b).

The test has been executed according to standard on Ref. 2-c.

### 2 References

- a. Estimate: ref. n. 19307/lab on 22/10/2019.
- b. Order confirmation: e-mail on 22/10/2019.
- c. EN ISO 10545-13:2013. Ceramic Tiles- Part 13: Determination of chemical resistance

# 3 Test object

Test has been executed on paving blocks with an integrated photovoltaic system [fig.1], named:

PLATIO SOLAR PAVER WITH OPAL SURFACE

with size approximately of  $35 \times 35 \times 4$  cm<sup>3</sup>. The specimens were selected from a sampling sent to the laboratory by the Customer on 03/06/2021.



Figure 1 Platio solar paver with "OPAL" surface

Rev	Test Executed	Written	Approved	Page 2 of 5
	_I.E. Marco Chiari_	_Eng. Simone Bandini_	_Eng. Luca Laghi_	SQM_395_2021













### 4 Determination of chemical resistance

For each of the 2 solutions listed below, 2 samples were tested (each in two different zones) following the procedures indicated in the standard of Ref. 2-c.

- 1. Acids and alkalis: low concentrations (L)
- > Hydrochloric acid solution, 3% (v/v)
- > Potassium hydroxide solutions, 30 g/l.
- 2. Acids and alkalis: high concentrations (L)
- > Hydrochloric acid solution, 18% (v/v)
- Potassium hydroxide solutions, 100 g/l.

Each test solution was kept in direct contact with the surface of the specimens by using glass cylinders (diameter 20 mm) fixed to the surface of the samples and sealed below with a suitable sealant [fig. 2]. The chemical solutions, inside the cylinders, were kept in contact with the surface of the samples for 4 days. At the end of the test cylinders and chemical solutions were removed and the surface of the specimens was first cleaned with water then visually examined, in order to determine any variations on the surface of the samples.



Figure 2 Surface of a sample in contact with the chemical solutions

Rev	Test Executed	Written	Approved	Page 3 of 5
	_I.E. Marco Chiari_	_Eng. Simone Bandini_	_Eng. Luca Laghi_	SQM_395_2021





Due to the protective surface treatment of this type of panels (OPAL), it was not possible to stick the cylinders using plasticine or other types of easily removable glues; it was therefore necessary to use a silicone sealant.

#### 5 Results

Figure 3 shows the surfaces of the blocks at the end of the test.

Excluding the surface damage due to the silicone sealant, which in some way reacted with the surface of the panel (easily identifiable as a circular area), the panels do not appear to have suffered any visible surface damage due to the aggressive solution contained in the cylinders.



Figure 2 Photo of the surface of a panel at the end of the test

Table 1 reports the results found at the end of the test.

Chemical solutions	Visual inspection of the surface	Classification
Hydrochloric acid solution, 3% (v/v)	olution, 3% (v/v) No visible effect	
Potassium hydroxide solutions, 30 g/L	No visible effect	LA(V)
Hydrochloric acid solution, 18% (v/v)	No visible effect	HA(V)
Potassium hydroxide solutions, 100 g/L	No visible effect	HA(V)

Table 1 Chemical solutions and corresponding classification

Rev	Test Executed	Written	Approved	Page 4 of 5
	_I.E. Marco Chiari_	_Eng. Simone Bandini_	_Eng. Luca Laghi_	SQM_395_2021







### 6 Conclusions

The surfaces of the tested panels resist the chemical attack from both the solutions tested, in both concentrations, without reporting any discernible damage on the surface.

## 7 Distribution List

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Rev	Test Executed	Written	Approved	Page 5 of 5
	_I.E. Marco Chiari_	_Eng. Simone Bandini_	_Eng. Luca Laghi_	SQM_395_2021



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# **TEST REPORT**

|SQM\_396\_2021|

DETERMINATION OF CHEMICAL RESISTANCE (UNI EN ISO 10545-13) OF A PRODUCT NAMED "PLATIO SOLAR PAVER WITH CLEAR SURFACE", OF THE COMPANY "INNOVATÍV TÉRBURKOLATFEJLESZTŐ KFT."

PLACE AND DATE OF ISSUE:	Faenza, 29/06/2021
COMPANY:	Innovatív Térburkolatfejlesztő Kft.
ADDRESS:	4080 Hajdúnánás, Jókai utca 64 - Hungary
TYPE OF PRODUCT:	Paving integrated systems for external uses
STANDARD APPLIED:	EN ISO 10545-13
DATE OF RECEIPT IN LABORATORY:	03/06/2021
TESTS EXECUTED:	June 2021
TEST EXECUTED BY:	CertiMaC, Faenza

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R.I. RA, VAT number and TAX identification number 2200460398 | R.E.A. RA 180280 Shared capital € 84.000,00 fully paid-up Test executed

Written

Approved

\_I.E. Marco Chiari\_
\_Eng. Simone Bandini\_
\_Eng. Luca Laghi\_

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Fage 1 of 5







### 1 Introduction

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- Determination of chemical resistance

executed on a kind of product sent to the CertiMaC Laboratory in Faenza, by the company Innovatív Térburkolatfejlesztő Kft (Ref. 2-a, 2-b).

The test has been executed according to standard on Ref. 2-c.

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- a. Estimate: ref. n. 19307/lab on 22/10/2019.
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# 3 Test object

Test has been executed on paving blocks with an integrated photovoltaic system [fig.1], named:

> PLATIO SOLAR PAVER WITH CLEAR SURFACE

with size approximately of  $35 \times 35 \times 4$  cm<sup>3</sup>. The specimens were selected from a sampling sent to the laboratory by the Customer on 03/06/2021.

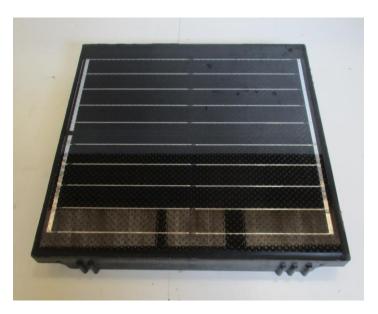


Figure 1 Platio solar paver with "CLEAR" surface

Rev	Test Executed	Written	Approved	Page 2 of 5
	_I.E. Marco Chiari_	_Eng. Simone Bandini_	_Eng. Luca Laghi_	SQM_396_2021





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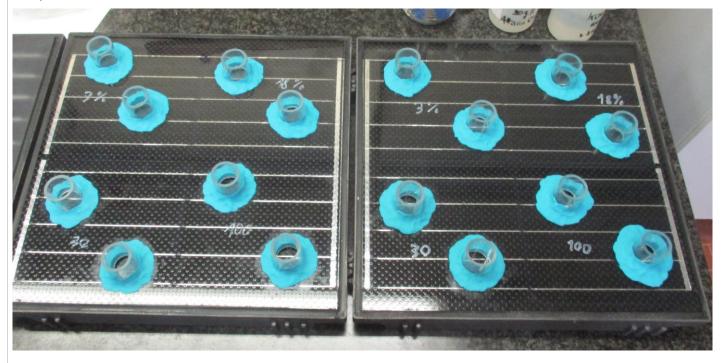


Figure 2 Surface of a sample in contact with the chemical solutions

Rev	Test Executed	Written	Approved	Page 3 of 5
	_I.E. Marco Chiari_	_Eng. Simone Bandini_	_Eng. Luca Laghi_	SQM_396_2021





### 5 Results

Figure 3 shows the surfaces of the blocks at the end of the test.

the panels do not appear to have suffered any visible surface damage due to the aggressive solution contained in the cylinders.

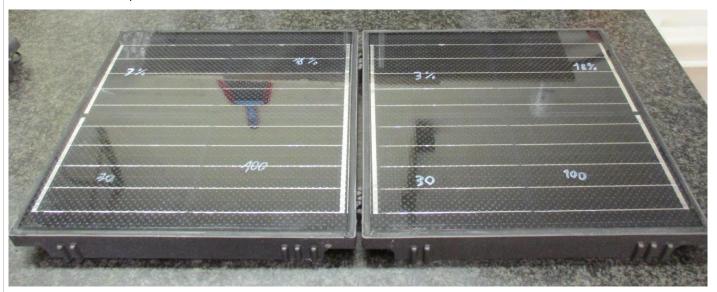


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Rev	Test Executed	Written	Approved	Page 4 of 5
	_I.E. Marco Chiari_	_Eng. Simone Bandini_	_Eng. Luca Laghi_	SQM_396_2021









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Rev	Test Executed	Written	Approved	Page 5 of 5
	_I.E. Marco Chiari_	_Eng. Simone Bandini_	_Eng. Luca Laghi_	SQM_396_2021











