CENTRO DI RICERCA E SPERIMENTAZIONE
PER L'INDUSTRIA CERAMICA

Sassuolo, 07/03/2025

CIPA GRES SPA
Via Statale 467, 119
42013 CASALGRANDE (RE)

TEST REPORT No. 5451/24

(Translation of test report No 5268/24 of 07/03/2025)

Requested by:	*CIPA GRES SPA* *Via Statale 467, 119* *42013 CASALGRANDE (RE)*
On (date):	28/10/2024
For the sample marked:	"ESAGONA HI TECH 14 MM".

The results reported relate only to the samples tested.

No responsibility is taken for the accuracy of the sampling unless it is done under our own supervision.

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The texts in inverted commas are Customer's declarations and fall under his responsibility.

This test report consists of 7 pages this cover included.

DESCRIPTION OF THE SAMPLE:	Hexagonal ceramic tiles 10 x 11.5 x 1.4 cm, marked “ESAGONA HI TECH 14 MM” (Photo 1).
Manufacturer:	----------
Sampling details	
- Where:	----------
- Date:	----------
- By whom:	CUSTOMER
- How (methods):	----------
Date of receipt in laboratory:	13/12/2024

TESTS PERFORMED AT LABORATORY LOCATED IN SASSUOLO (Via Valle d’Aosta, 1)

		Date of starting	Date of ending
X	Determination of insulation resistance	07/01/25	11/02/25

Bottom surface

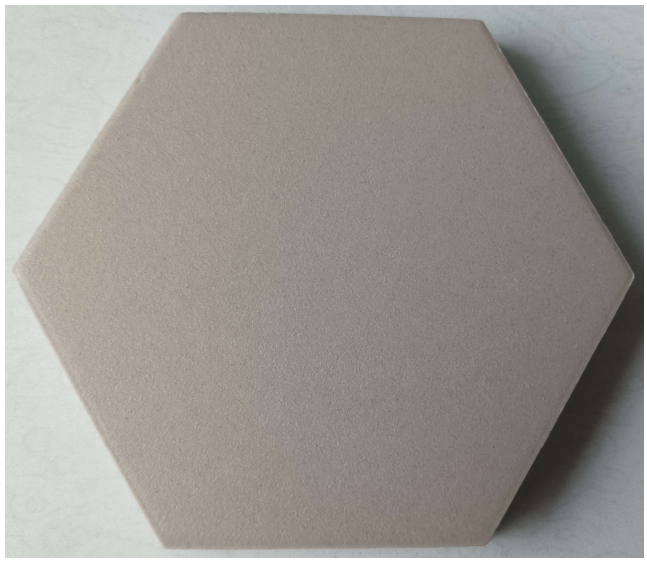
Walking surface

Photo 1

	Materials used*:	**Provided by:**
	Support Type:	
A	Screed 110 x 110 x 5 cm produced with: 1 part Portland cement CEM II/A-LL 42.5 R 3 parts WASHED SAND 0/4 Water/cement ratio 0.35 22 kg/m3 MapeFluid PZ500 additive reinforced with 20 x 20 cm square wire mesh, made up of 6 mm diameter rods.	Centro Ceramico
	Type of copper tape:	
B	Copper Tape 1181 16.5m x 9mm, 3M	Centro Ceramico
	Type of adhesive:	
C	KERAFLEX Grigio, Mapei	Centro Ceramico
	Type of tiles:	
D	Hexagonal ceramic tiles 10 x 11.5 x 1.4 cm marked “ESAGONA HI TECH 14 MM”.	Customer
	Type of joint sealant:	
E	KERACOLOR GG grigio cemento (113), Mapei	Centro Ceramico
	Type of electrically conductive additive:	
F	MAPELECTRIC CP1, Mapei	Centro Ceramico
	Type of trowel:	
G	Square notched trowel for adhesive with a 6 mm notch size, Raimondi	Centro Ceramico
H	Rubber trowel for joints, Raimondi	Centro Ceramico

* all the materials used were indicated by the Customer

	Description of the installation:**	
	Steps	Description of the operations
1	Conditioning of the support:	The Support A was conditioned for at least 28 days before the test at a temperature of 23°C and 50% humidity.
2	Laying of the copper adhesive mesh:	On the surface of support A, a 25 x 25 cm square mesh was created using adhesive tape B (Photo 2).
3	Adhesive preparation:	Adhesive C was prepared according to the manufacturer's specifications, mixing it with additive F, with a ratio F/C = 0.1 (10%)
4	Applying the adhesive:	The adhesive was applied to the surface of the support A prepared as described the previous points, with the aid of the trowel G.
5	Application of tiles:	The D ceramic tiles were applied taking care to make the lower part touch (Photo 3 and Photo 4) so as to obtain a joint width of 2 mm.
6	Applying the sealant:	After waiting for the time indicated in the technical data sheet for adhesive C, sealant E was prepared as prescribed by the manufacturer's technical data sheet, mixing it with additive F, with a ratio F/E = 0.05 (5%) and then applied with spatula H, taking care not to create any leveling differences between the surface of sample D and that of joint sealant E.
7	Cleaning the sample surface:	After waiting for the time indicated in the technical data sheet of the E-joint sealant, the surface of the sample was cleaned.
8	Pavement sample maturation:	The flooring sample produced (Photo 5) was left to mature at a temperature of 23°C and 50% humidity.

** All stages were specified by the Customer

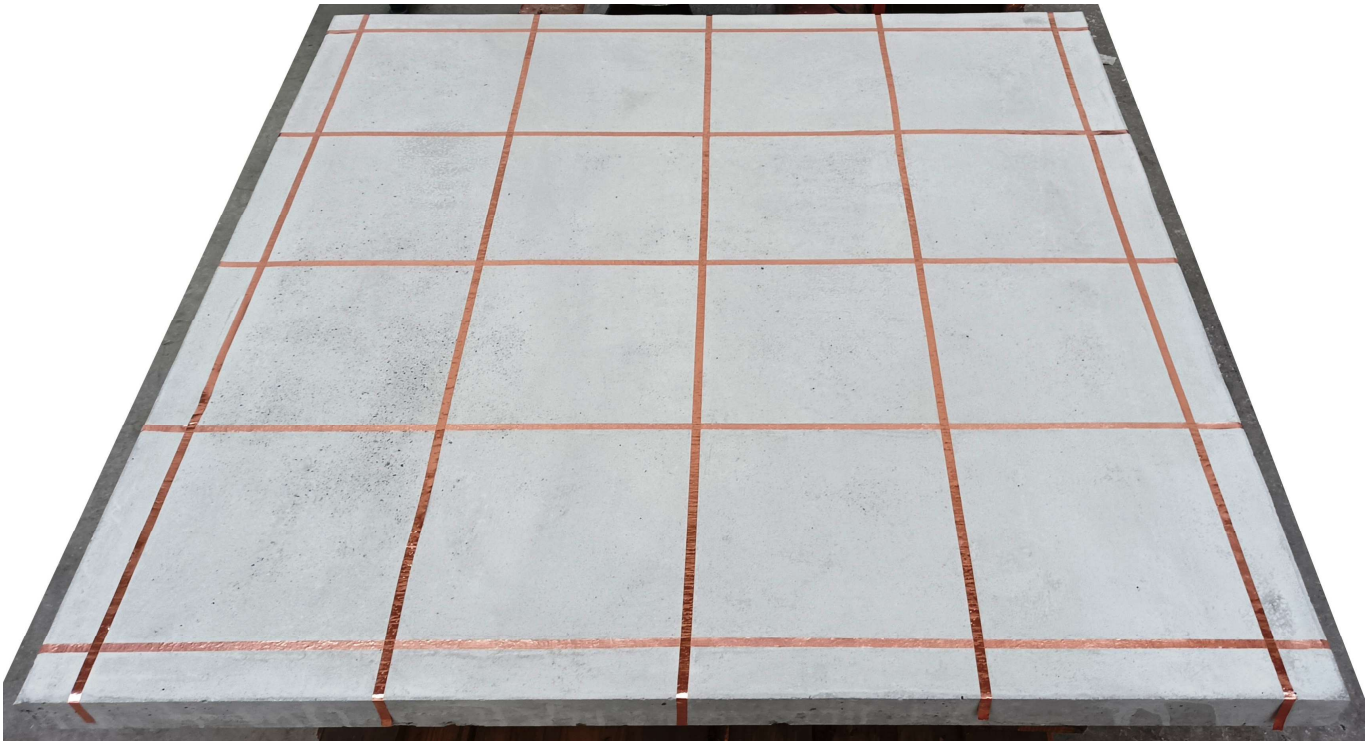

Photo 2 (Copper adhesive mesh)

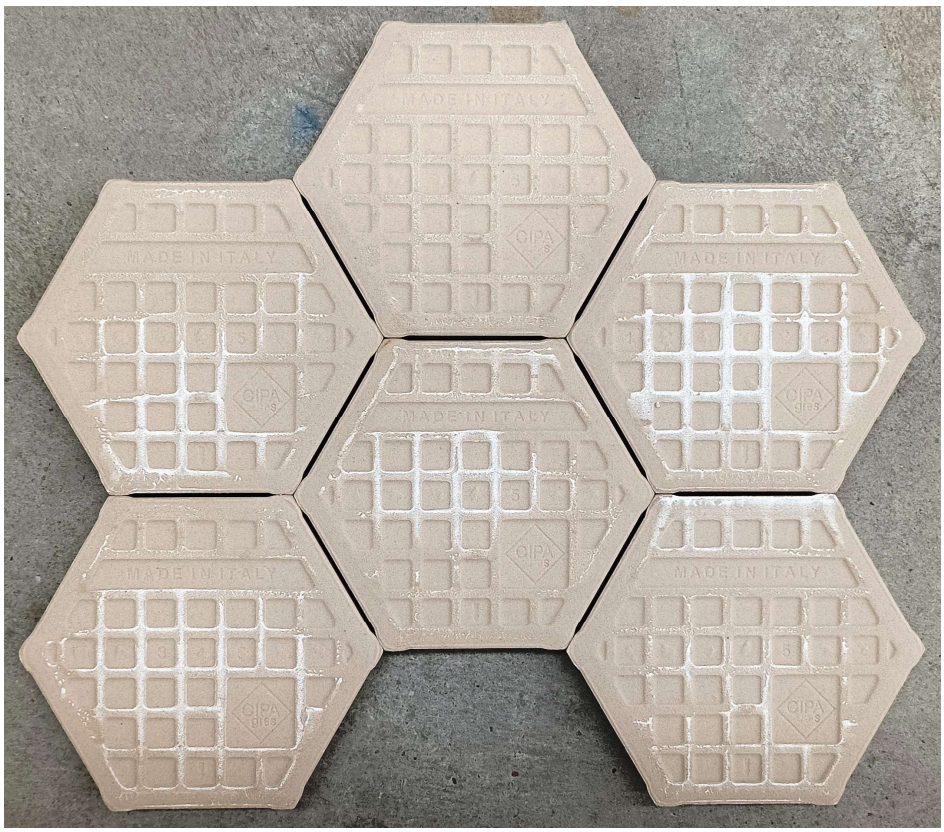

Photo 3 (Glued surface)

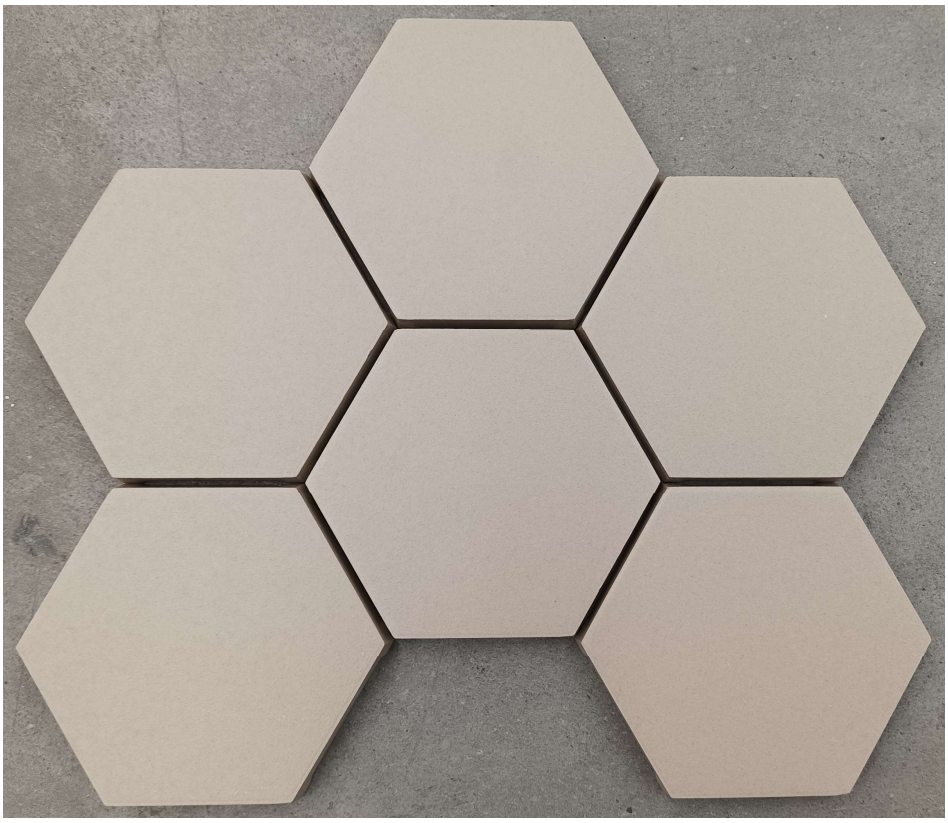

Photo 4 (Walking surface)

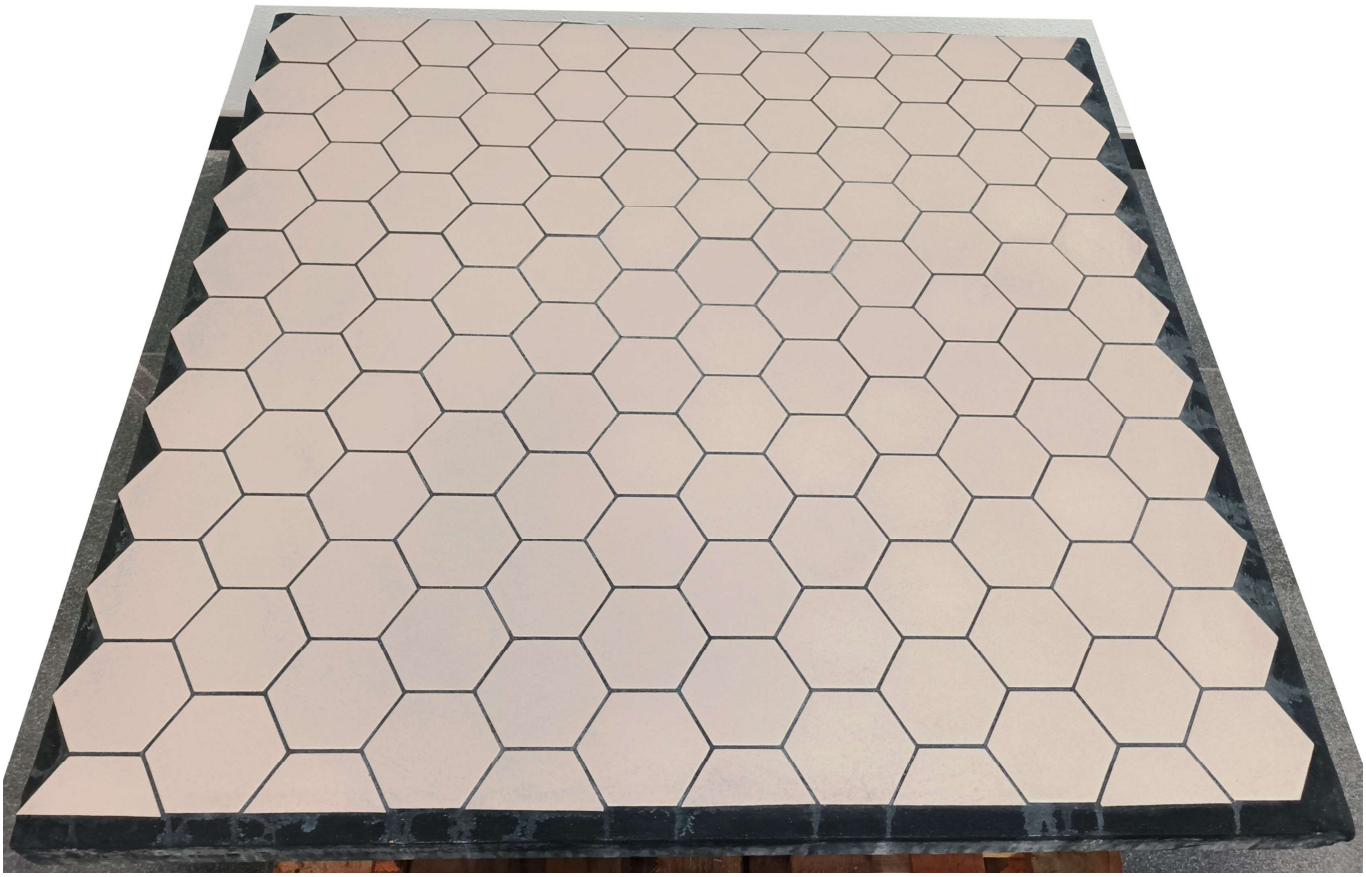

Photo 5 (Paving sample)

Determination of insulation resistance

The measurements were performed as prescribed by CEI 64-4 § 3.4.01

OPERATING CONDITIONS:

Test electrodes (CEI 64-4):	Ø(mm) = 50 peso(g) = 1000
Applied DC voltage (CEI 64-4):	(V)= 500 tempo(s) = 5
Test temperature:	T= 23°C
Humidity during the test:	U= 50%

RESULTS:

POSITION OF THE ELECTRODES	Insulation resistance (Ω)
Joint - Joint (joint to joint distance: 1m)	$10^7 < I_{res} < 10^8$
Joint - Screed's bottom surface	$10^7 < I_{res} < 10^8$

The Technician
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