POLEPOX COAT 814

HARDCOAT SYSTEM

POLEPOX COAT 814 (PR 824 plus POLEPOX COATING 814) i**s epoxy-based, self-leveling, two-component coating.**

- ✓ Colored, industrial hard coating, suitable for indoor areas with medium and medium-hard traffic.
- ✓ Creates colored, easy-to-clean flooring without joints, not requiring maintenance and meeting health standards.
- ✓ Resistant to acid solutions, alkalis, oil, grease, wastes.
- ✓ Prevents floorings from creating dust, strengthening their durability and resistance.
- ✓ Resistant to mechanical stresses, wearing from friction and chemical effects.
- ✓ It is ideal for painting industrial troweled floorings, mosaics, cement surfaces, decks, bio-cleanings, water baths.

Areas of application: food industries, car workshops, parking areas, bio-cleanings, production plants, hospitals for antibacterial use supermarkets, labs, warehouses etc.

KDF - Kataskeves Dapedon LTD
e : exports@kdf.gr w : www.kdf.gr
5 Koromila str, 54645, Thessaloniki, Greece
t / f : 0030 2310 829598, t : 0030 2310 683660

Preparation – Application

Applied only on dry,smooth concrete surfaces(over 30 days old) and protected from arising humidity and free of materials that might prevent bonding e.g. dust, loose particles, grease etc. The success in the application has also to do with the preparation of the subfloor.

- ✓ **Good, dry** cleaning of the surface from dust and residues with vacuum cleaner and squeegees.
- ✓ Priming of the surface with **POLEPOX-PR 824** in two or more layers, until the surface is saturated and a film is created. Consumption: 250-600 gr/m^2, depending on the absorption of the underlay(smooth or rough, old or new).
- ✓ After hardening of the primer (2-12 hours depending on the ambient temperature) and within 24 hours, follows the application of **POLEPOX COAT 814**.
- ✓ Good mixing of components A (resin) & B (hardener) packed into separate containers in fixed weight proportion and the epoxy mixture is poured on the floor and spread using rolls. The tool which to be used depends on the desirable thickness of the flooring.
- ✓ Following the application of the **POLEPOX COAT 814**, the self-leveling layer should be rolled using a special spiky-roller in order to release any possibly entrapped air and avoid the formation of bubbles.

Important Remarks

For the creation of a completely non-slip surface, it is recommended on a still fresh layer the dredging of dry, quartz sand 0,1-0,4 mm or 0,4-0,8 mm depending on the desired anti-slipping effect. Consumption of quartz sand: approx. 4 kg/m^2. After hardening of **POLEPOX COAT 814**, any loose grains are being removed using a high suction vacuum cleaner. Then a finishing layer of **POLEPOX COAT 814** is applied for the creation of an acid proof, easy to clean, non-slip surface with consumption: 0,7-1 kg/m^2.

Colors: Following colorchart.

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Sports Flooring Systems & Building Materials

45 YEARS OF EXPERIENCE

The colors may vary slightly from the original due to digital representation.

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t / f : 0030 2310 829598, t : 0030 2310 683660

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has established and applies a Quality Management System which is in conformance with

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(Quality Management System)

PRODUCTION & SALES OF CHEMICAL BUILDING MATERIALS & SYSTEMS. INSTALLATION OF ATHLETIC & INDUSTRIAL WATERPROOFING FLOORS

FOR THE COMPANY
CHARALAMBOS GALATSANOS

This Certificate of Conformity Number **QMS 3817/14** first issued on the **29th July 2014** is valid until the **28th July 2017** and is subject to all applicable regulations within the accredited scope of EQA Hellas S.A. and under the condition of the issuing CB conducting required annual surveillance assessment visits.

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EQA HELLAS S.A.
30,KALAMA P. Str., 152 33 CHALANDRI, Tel: 210 6834012, Fax: 210 6850985
url: www.eqa.gr, e-mail: eqa@eqa.gr, info@eqa.gr

www.eqa.gr

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Polymer Institut
Forschungsinstitut für polymere Baustoffe Dr. R. Stenner GmbH

Quellenstraße 3
65439 Flörsheim-Wicker

Telefon +49 (0) 6145 - 5971 0
Telefax +49 (0) 6145 - 5971 9

www.polymer-institut.de
pi@polymer-institut.de

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Test report

P 4730-1-e

Testing order:	**Testing of plastic material** **Epoxy Plasticoat (814)**
Customer:	**Polat S. A.** **34, 25th Martiou Str., N. Efkarpia** **56429 Thessaloniki/Greece**
Persons in charge:	**J. Magner** **Dipl.-Ing. (FH) N. Treichel**
Date of the test report:	**2007-11-01**
This test report comprises:	**9 pages**

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1 SUBJECT

The Polymer Institut has been charged by the Polat S. A., Thessaloniki/Greece, to carry out plastic material tests of the material

Epoxy Plasticoat (814).

1.1 Testing programme

a. Compressive strength at 23 °C and at –20 °C in accordance with ASTM D 695-96
b. Flexural strength at 23 °C and at –20 °C in accordance with ASTM D 790-90
c. Tensile strength at 23 °C in accordance with ASTM D 638-90
d. Shore D hardness at 23 °C in accordance with ASTM D 2240-00
e. Adhesive strength at 23 °C in accordance with EN ISO 4624 in combination with Epoxy Primer (824)
f. Water absorption at 23 °C in accordance with ASTM D 570-98

2 RECEIPT OF SAMPLES

On 2006-12-06 the following materials have been submitted to the Polymer Institut from the customer:

table 1: Receipt of samples

No.	Material designation	Quantity [kg]
1	Epoxy Plasticoat (814), component A	4
2	Epoxy Plasticoat (814), component B	1
3	Epoxy Primer (824), cmponent A	2,5
4	Epoxy Primer (824), cmponent B	2,5

3 PREPARATION OF TEST SPECIMENS

3.1 Preparation of the mixtures

The mixing proportions of the materials used are to be taken from the following table.

table 2: Mixing proportions

Material	Mixing proportion in parts by mass	
	Component A	Component B
Epoxy Plasticoat (814)	80	20
Epoxy Primer (824)	50	50

The materials have been measured out in the above mixing proportion and mixed to homogeneity (about 3 min) using a laboratory propeller stirrer.

3.2 Coating of the substrates

The substrates have been coated at standard atmosphere DIN 50014-23/50-2 in accordance with specifications of the customer by an employee of the Polymer Institut.

Table 2: Coating of the substrates

	Consumption in [g/m²] - Mean values -	
	1	2
Substrate	*Primer* **Epoxy Primer (824)**	*Coating* **Epoxy Plasticoat (814)**
Concrete slabs* 300 mm x 300 mm x 40 mm	170	about 1500
Application tool	Roller	Smoothing trowel
Waiting times	1 day	

* concrete slabs in accordance with EN 1766 of the quality C (0,45), blast-cleaned

3.3 Preparation of the free specimens

The test specimens have been prepared as indicated in the respective standard using the mixed material *Epoxy Plasticoat (814)*. The dimensions of the used test specimens are given in the respective clause. Prior to testing, the test specimens have been stored at standard atmosphere DIN 50014-23/50-2.

4 TESTS

4.1 Compressive strength following ASTM D 695-96

The compressive strength has been determined retaining the following test conditions:

Test apparatus:	Universal testing machine UPM 1445, company Zwick, in accordance with ISO 5893
Test specimen:	Prism, 10 mm x 10 mm x 4 mm (12,7 mm x 12,7 mm x 25,4 mm)*
Test temperatures:	23 °C and –20 °C
Test speed:	2 mm/min (1,3 ± 0,3 mm/min)*
Number of specimens:	5 for each test temperature
Evaluation:	Compressive strength = Compressive stress at maximum force in MPa

* deviating from information in brackets in accordance with ASTM D 695-96

The result is to be taken from table 4 as mean value of 5 single values.

Table 4: Compressive strength

Material	Compressive strength at 23 °C [MPa]	Compressive strength at -20 °C [MPa]
Epoxy Plasticoat (814)	45,4	144,3

4.2 Flexural strength in accordance with ASTM D 790-90

The flexural strength has been determined retaining the following test conditions:

Test apparatus:	Universal testing machine UPM 1445, company Zwick, in accordance with ISO 5893
Test specimen:	Prism, 80 mm x 10 mm x 4 mm
Test temperature:	23 °C and –20 °C
Test speed:	2 mm/min
Type of loading:	Three-point-bending
Number of specimens:	5 for each test temperature
Evaluation:	Bending strength = Bending stress at maximum force in MPa

The result is to be taken from table 5 as mean value of 5 single values.

Table 5: Flexural strength

Material	Flexural strength at 23 °C [MPa]	Flexural strength at -20 °C [MPa]
Epoxy Plasticoat (814)	40,4	62,7

4.3 Tensile strength in accordance with ASTM D 638-90

The tensile strength has been determined retaining the following test conditions:

Test apparatus:	Universal testing machine UPM 1445, company Zwick, in accordance with ISO 5893
Test specimen:	Type 1
Test temperature:	23 °C
Test speed:	5 mm/min
Number of specimens:	5
Evaluation:	Tensile strength = Tensile stress at maximum force in MPa

The result is to be taken from table 6 as mean value of 5 single values.

Table 6: Tensile strength

Material	Tensile strength [MPa]
Epoxy Plasticoat (814)	21,2

4.4 Shore D hardness in accordance with ASTM D 2240-00

The Shore D hardness has been determined after 7 days at standard atmosphere DIN 50014-23/50-2 retaining the following test conditions:

Test apparatus:	Type 38210 of company Karl Frank GmbH
Test specimen:	Free specimen, Ø 60 mm, thickness 5 mm
Measuring time:	3 s
Test temperature:	23 °C
Number of measurements:	5

The result is to be taken from table 7 as mean value of 5 single values.

Table 7: Shore D hardness

Material	Shore D
Epoxy Plasticoat (814)	76

4.5 Adhesive strength following DIN EN ISO 4624

The adhesive strength of the coating system including as primer *Epoxy Primer (824)*, as indicated in table 3, has been determined retaining the following test conditions:

Test apparatus:	Company Freundl F20 D Easy M 2000
Test cylinder:	Steel cylinder Ø 50 mm, instead of Ø 20 mm
Adhesive:	2-component polyurethane adhesive
Test speed:	100 N/s
Test temperature:	23 °C
Number of measurements:	5

The result is to be taken from table 8 as mean value of 5 single values.

Table 8: Adhesive strength

Materials	Adhesive strength [N/mm²]	Area of failure
Epoxy Primer (824) Epoxy Plasticoat (814)	3,1	100 % cohesion failure in concrete

4.6 Water absorption in accordance with ASTM D 570-98

The water absorption has been determined using free specimens retaining the following test conditions:

Dimensions of specimens:	60 mm x 60 mm x 1 mm
Conditioning:	24 h at 50 °C
Test medium:	Demineralised water
Test temperature:	23 °C
Test procedure:	Long-time immersion
Time period of immersion:	22 days (maximum water absorption)
Re-drying:	24 h at 50 °C
Evaluation:	Water absorption after 22 d Mass difference after re-drying in % by mass Diagram water absorption as a function of time (square root function)

The result is to be taken from table 9 as mean value of 3 specimens. The diagram of the water absorption as a function of time (square root function) is given in figure 1.

Table 9: Water absorption

Material	Water absorption after 22 d immersion time [% by mass]	Mass difference after re-drying [% by mass]
Epoxy Plasticoat (814)	1,5	-0,16

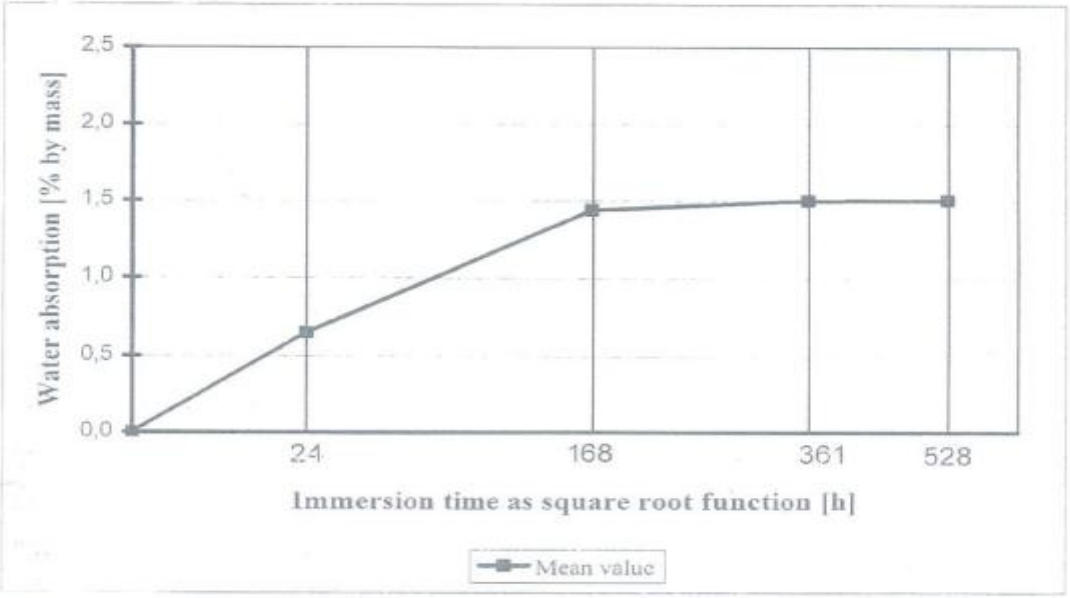

Figure 1: Water absorption as function of the immersion time (square root function)

Polymer Institut

5 SUMMARY

On behalf of the Polat s. A., Thessaloniki/Greece, plastic material tests of the material

Epoxy Plasticoat (814)

have been carried out at the Polymer Institut.

The results are to be taken from the preceding clause 4.

Flörsheim-Wicker, 2007-11-01

The head of the testing laboratory

J. Magner

Polymer Institut Forschungsinstitut für polymere Bausteffe Dr. R. Stanner GmbH D-65439 Flörsheim-Wicker

The person in charge

Dipl. Ing. (FH) N. Treichel