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Akkreditiertes Prüflaboratorium nach DIN EN ISO 17025 - DAP-PL-01.004-00

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Test report

P 4730-2-e

Testing order:

Testing of plastic material

Epoxy Two-Component Resin (815)

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:

7 pages

The test results exclusively refer to the tested materials.

The publication of the test report in extracts, and references to tests for advertising purposes require our written agreement in each individual case.



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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 Two-Component Resin (815).

1.1 Testing programme

- a. Adhesive strength at 23 °C in accordance with EN ISO 4624
- b. 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 by the customer:

Table 1: *Receipt of samples*

No.	Material designation	Quantity [kg]
1	Epoxy Two-Component Resin (815), component A	2,5
2	Epoxy Two-Component Resin (815), component B	2,5

3 PREPARATION OF TEST SPECIMENS

3.1 Preparation of the mixtures

The mixing proportion 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 Two-Component Resin (815)	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 3: Coating of the substrates

	Consumption in [g/m ²] - Mean values -	
	1	2
Substrate	1 st layer Epoxy Two- Component Resin (815)	2 nd layer Epoxy Two- Component Resin (815)
Concrete slabs* 300 mm x 300 mm x 40 mm	220	180
Application tool	Roller	Roller
Waiting times	7 days	

* 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 Two-Component Resin (815)*. 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 Adhesive strength at 23 °C 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
Adhesive: 2-component polyurethane adhesive
Test speed: 100 N/s
Test temperature: 23 °C
Numer of measurements: 5

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

Table 4: Adhesive strength

Material	Adhesive strength [N/mm ²]	Area of failure
Epoxy Primer (824) Epoxy Two-Component Resin (815)	3,1	100 % cohesion failure in concrete

4.2 Water absorption at 23 °C 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 mm³
Conditioning: 24 h at 50 °C
Test medium: Demineralised water
Test temperature: 23 °C
Test procedure: Long-time immersion
Time period of immersion: 15 days
Re-drying: 24 h at 50 °C
Evaluation: Water absorption after 7 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 5 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 5: Water absorption

Material	Water absorption after 15 d immersion time [% by mass]	Mass difference after re-drying [% by mass]
Epoxy Two-Component Resin (815)	3,1	-0,42

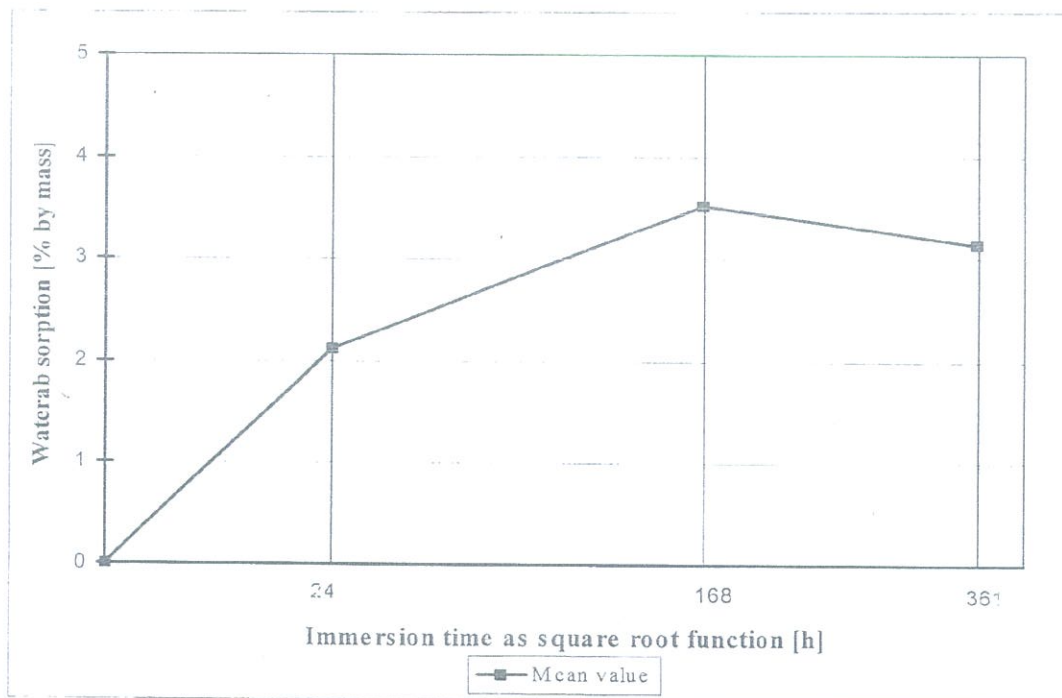


Figure 1: Water absorption as function of the immersion time (square root function)



5 SUMMARY

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

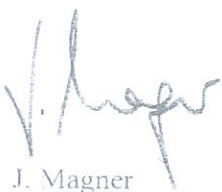
Epoxy Two-Component Resin (815)

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 on the testing laboratory


J. Magner



The person in charge


Dipl. Ing. (FH) N. Treichel