



ΚΑΠΕ CENTER for RENEWABLE ENERGY SOURCES
CRES

ENERGY MEASUREMENTS LABORATORY

Test Report

 KATIE CRES E M E E M L	TEST REPORT	Code Nr. : EMLF-015e
		Date of issue : 4/3/2009
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Center for Renewable Energy Sources
 19th Km Marathonos Av., 190 09 Pikermi,
 Attiki
 Telephone: 210-6603300
 Fax : 210-6603305

WARNING
*The test results relate only to the item(s) tested.
 This test report shall not be reproduced except in full without the approval of the Laboratory.*

CLIENT MARIS POLYMERS S.A. Industrial area of Inofita, 320 11 Inofita, Viotia, Greece	SERVICE ORDERED TO THE LABORATORY Spectral Reflectance measurements of a pigmented polyurethane based coating specimen
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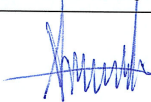
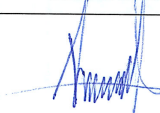
TEST ITEM DESCRIPTION 1 pigmented polyurethane based coating specimen	ITEM MANUFACTURER MARIS POLYMERS S.A.
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TEST ITEM IDENTIFICATION :
Mariseal 400

TEST ITEM DATE OF RECEIPT : 17/02/2009

ATTACHMENTS TO THIS REPORT : -

REMARKS : -

NAME	A. Androutsopoulos	A. Androutsopoulos
TITLE	Measurement responsible	Head of Laboratory
SIGNATURE		

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Measurement method

The measurements were carried out using the spectrophotometer UV/VIS/NIR type Lamda 19- Perkin Elmer with integrating sphere. The test specimen of pigmented polyurethane based coating Mariseal 400 (refer to Photo 1) has dimensions 4 x 4 cm and the aim of the measurements was the determination of the total spectral reflectance (%R) in the wavelength range from 400 to 2.000 nm on a 1 nm basis.

The measurement procedure is based on standard ASTM E 903-96.

The results of the measurements on a 50 nm basis are presented in the Table 1. In Figure 1, the spectral reflectance of the whole wavelength range measured is shown. The mean spectral reflectance of the specimen at the visual spectrum range of 400 and 750 nm is found to be: $R = 93.47\%$.

The total uncertainty of measurement in the reported reflectivity values is estimated to be $\pm 2\%$.

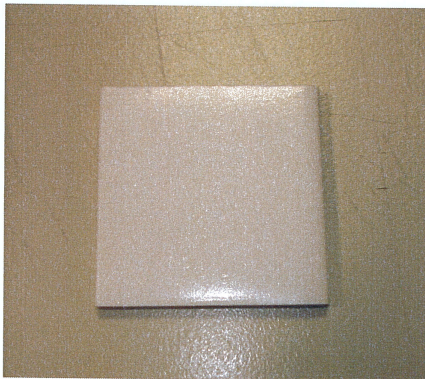


Photo 1. Measured specimen.

Table 1. Measurement results.

Wavelength (nm)	Spectral Reflectance (%)
	Mariseal 400
400	40.05
450	93.81
500	94.32
550	95.16
600	95.98
650	95.90
700	95.32
750	95.40
800	96.20
850	91.78
900	94.46
950	95.00
1000	94.28
1050	94.25
1100	94.05
1150	91.58
1200	86.83
1250	91.31
1300	91.80
1350	90.16
1400	84.62
1450	85.08
1500	83.07
1550	85.51
1600	85.23
1650	82.77
1700	66.43
1750	65.87
1800	71.08
1850	73.92
1900	69.21
1950	68.46
2000	68.12

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Figure 1. Spectral reflectance of specimen Marisael 400.

