Group of Buildings
&
Environmental Studies

University of Athens
Dept of Applied Physics
Faculty of Physics

Measurement Report

Conducted by the

National and Kapodistrian University of Athens
Physics Department

According to the contract, signed between the **National and Kapodistrian University of Athens** and **ISOMAT ABEE,** on 9/5/2011, measurements for the assessment of the:

- **solar reflectance (SR)** at the UV-VIS-NIR spectrum (300 to 2500nm),
- **infrared emittance** at the wide IR spectrum and

have been carried out by the laboratory of the Group Building Environmental Studies, of the Physics Department, of the National and Kapodistrian University of Athens (NKUA).

The laboratory of the Group Building Environmental Studies, of the Physics Department of NKUA hereby reports that on the 16/5/2011 the tested samples have been successfully measured to have the values of solar reflectance, infrared emittance and solar reflectance index that are shown in Tables below.

Product Code	SR
FLEXCOAT	89
ISOMAT ACRYL	88
ISOFLEX	90

Product Code	(e) (± 0,02)
FLEXCOAT	0.86
ISOMAT ACRYL	0.86
ISOFLEX	0.86

Product Code	SRI
FLEXCOAT	112
ISOMAT ACRYL	111
ISOFLEX	114

The measurements for the solar reflectance were conducted according to the ASTM Standard E903-96 (ASTM E 903 -Standard Test Method for Solar Absorptance, Reflectance, and Transmission of Materials Using Integrating Spheres) by using a UV/VIS/NIR (Varian, Carry 5000) fitted with a 150mm diameter, integrating sphere (Labsphere, DRA 2500). The reference standard reflectance material used for the measurement was a PTFE plate (Labsphere).
The measurements for the infrared emittance were conducted according to the ASTM Standard E408-71 (ASTM E408-71(1996) - Standard Test Method for Total Normal Emittance of Surfaces Using Inspection-Meter Techniques) by using the Emissometer Model AE (Devices & Services).
For the calculation of the solar reflectance and the solar reflectance index the ASTM Standard G159-91. Standard Tables for References Solar Spectral Irradiance at Air Mass 1.5: Direct Normal and Hemispherical

for a 37° Tilted Surface and ASTM E1980 - 01 Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.

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17/5/2011

Signed on:

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