

CASE STUDY PREFECTURE OF ATHENS

SURFACE TEMPERATURE MEASUREMENT OF A ROOF- BASED ON AN ASPHALT MEMBRANE WITH SILICEOUS GRANULES BEFORE AND AFTER THE APPLICATION OF COOL BARRIER ROOF BY ABOLIN CO.




ABOLIN Co.
www.abolincoolpaints.com





**PREFECTURE OF ATHENS DEPARTMENT OF TRANSPORTS AND COMMUNICATIONS
APPLICATION: USE OF COOLBARRIER BY ABOLIN FOR HORIZONTAL SURFACES - JULY 2008**



ASPHALT MEMBRANE WITH SILICEOUS AGGREGATES
1200 m²

PREFECTURE OF ATHENS DEPARTMENT OF TRANSPORTS

22-7-2008

METEOROLOGICAL DATA National Observatory of Athens

09:00

14:00

Temperature (C)	32	Temperature (C)	36
Relative humidity (%)	44%	Relative humidity (%)	34%
Wind speed (m/s)	3,3	Wind speed (m/s)	4,7
Wind direction	SSW	Wind direction	SSW
Solar radiation total (Watt/m2)	707	Solar radiation total (Watt/m2)	792
Solar radiation diffuse (Watt/m2)	139	Solar radiation diffuse (Watt/m2)	211



09:00 a.m



14:00 p.m



SURFACE TEMPERATURE MEASUREMENT

1. 22-7-2008 09:00

2. 22-7-2008 14:00

ASPHALT MEMBRANE WITH SILICEOUS AGGREGATES

09:00



14:00



BEFORE



- 1st Cool Clean special detergent
- 2nd Coolbarrier Grip siloxane based primer
- 3rd Coolbarrier Roof app. 10 mils
- 4th Coolbarrier Roof app. 10 mils



METEOROLOGICAL DATA National Observatory of Athens

09:00

14:00

Temperature (C)	31	Temperature (C)	33
Relative humidity (%)	34%	Relative humidity (%)	30%
Wind speed (m/s)	9,6	Wind speed (m/s)	9,4
Wind direction	NNE	Wind direction	NNE
Solar radiation total (Watt/m2)	720	Solar radiation total (Watt/m2)	858
Solar radiation diffuse (Watt/m2)	86	Solar radiation diffuse (Watt/m2)	86



14:00



09:00



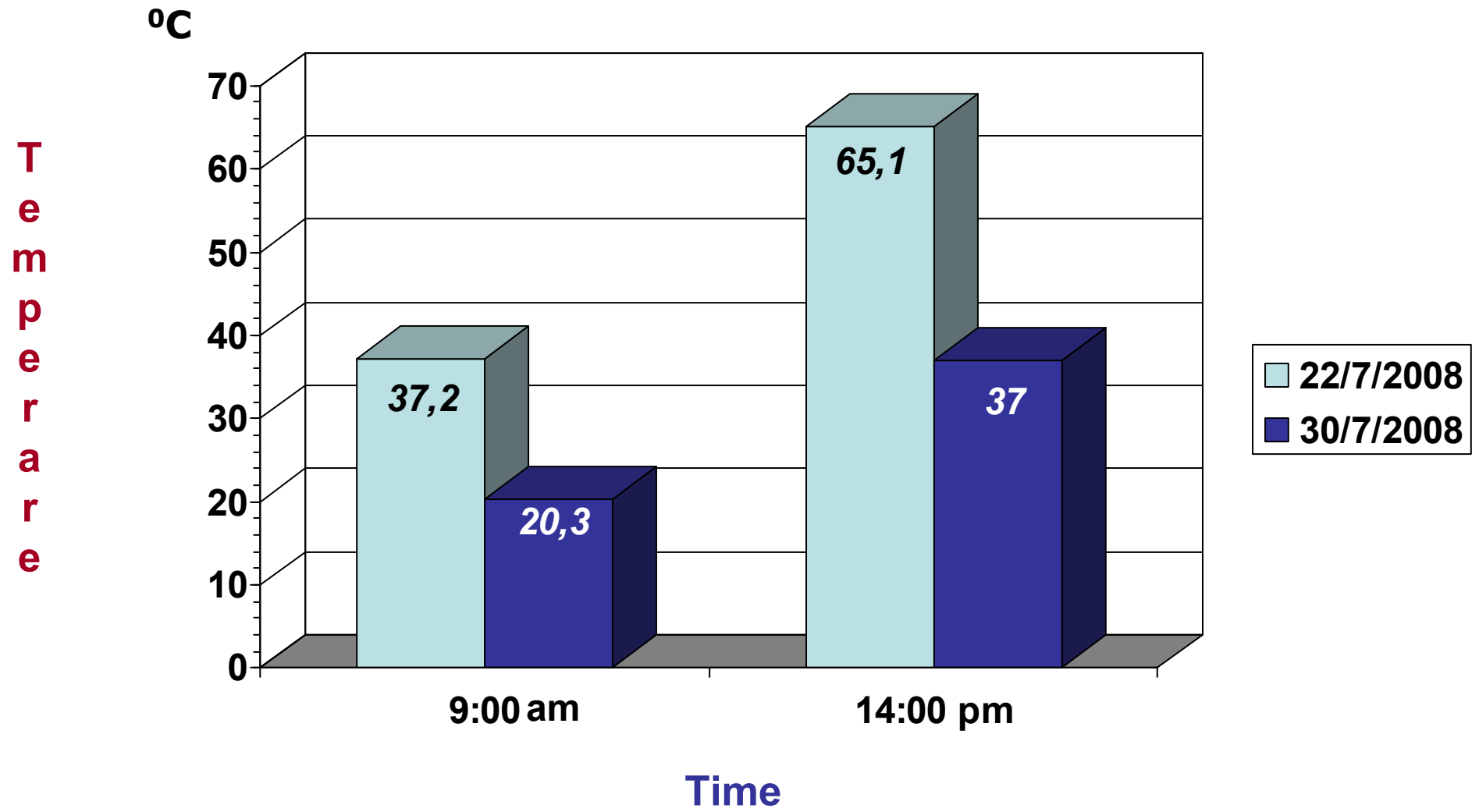
SURFACE TEMPERATURE MEASUREMENT

1. 30-7-2008 09:00

2. 30-7-2008 14:00



TEMPERATURE MEASUREMENTS WITH THE USE OF AN INFRARED LASER THERMOMETER BEFORE AND AFTER THE APPLICATION OF COOL BARRIER ROOF BY ABOLIN

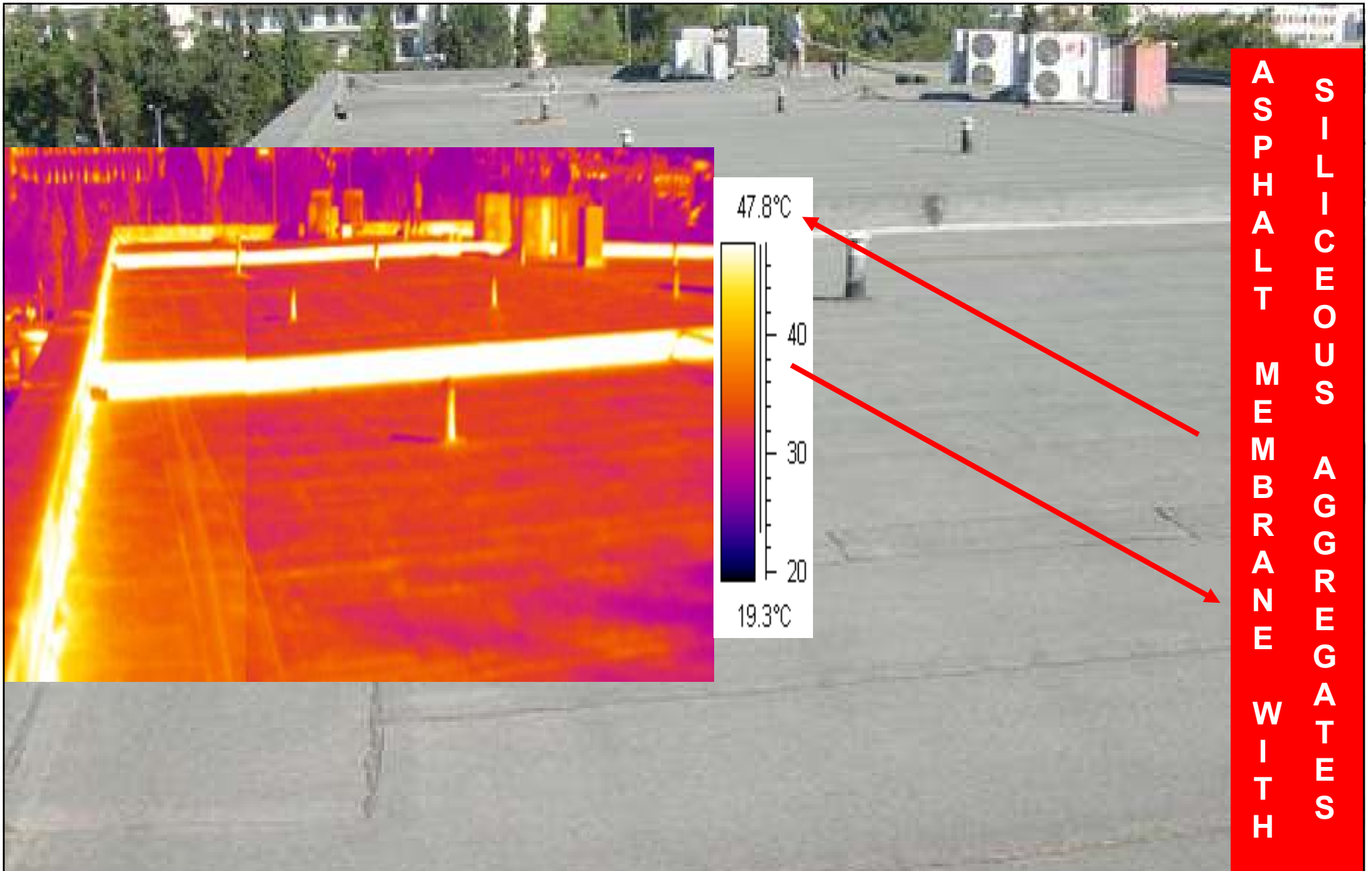




Temperature (C)	32
Relative humidity (%)	40%
Wind speed (m/s)	3
Wind direction	WSW
Solar radiation total (Watt/m2)	735
Solar radiation diffuse (Watt/m2)	84

Thermal depiction with the use of an Infrared Camera

Date 23-7-2008 09:00



ASPHALT SILICEOUS MEMBRANE WITH AGGREGATES

Thermal depiction with the use of an Infrared Camera

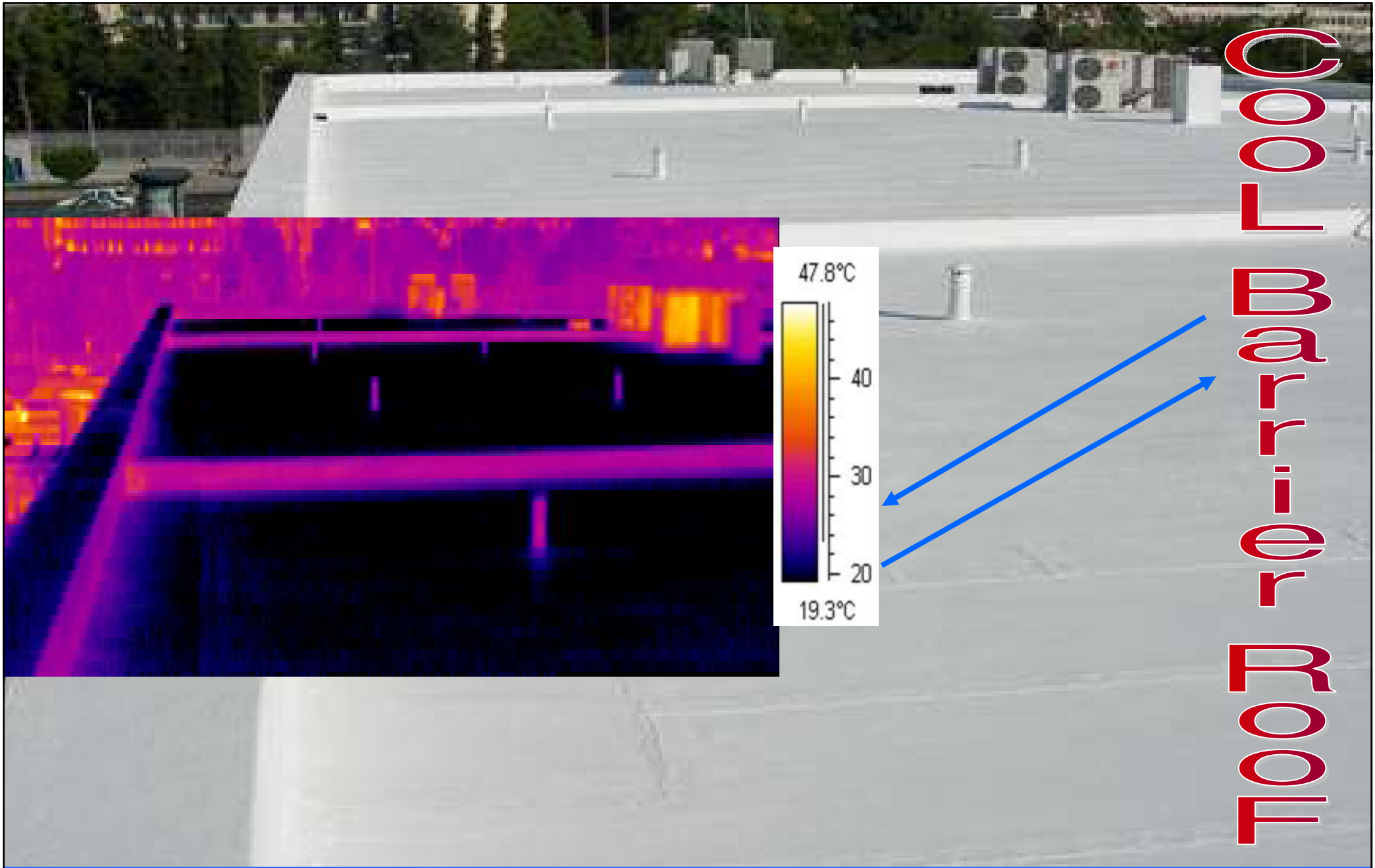
Date 23-7-2008 09:00

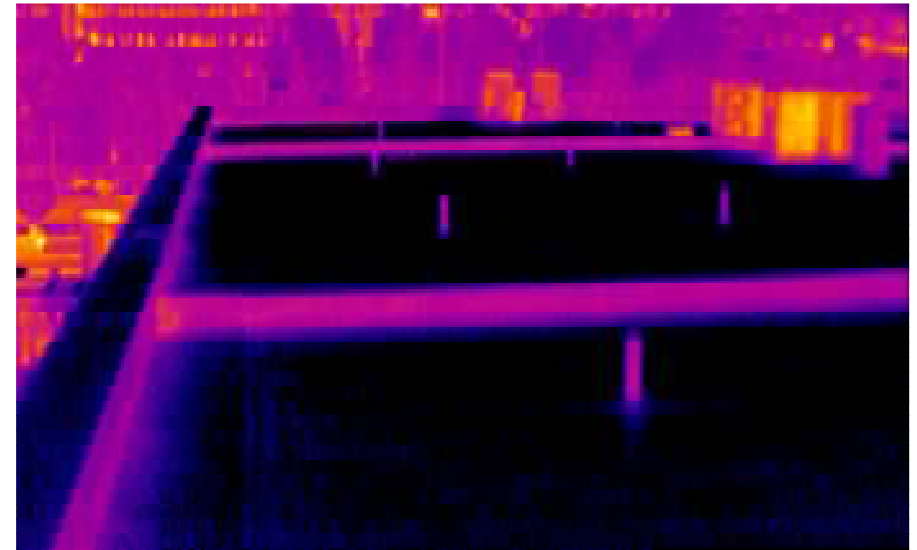
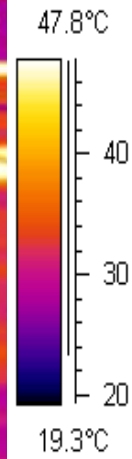
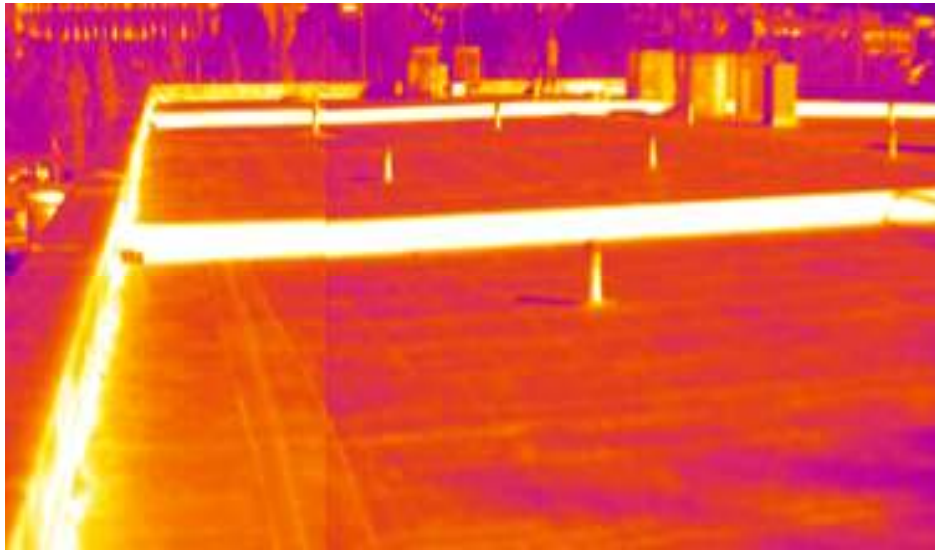
Temperature (C)	31
Relative humidity (%)	34%
Wind speed (m/s)	9,6
Wind direction	NNE
Solar radiation total (Watt/m2)	720
Solar radiation diffuse (Watt/m2)	86

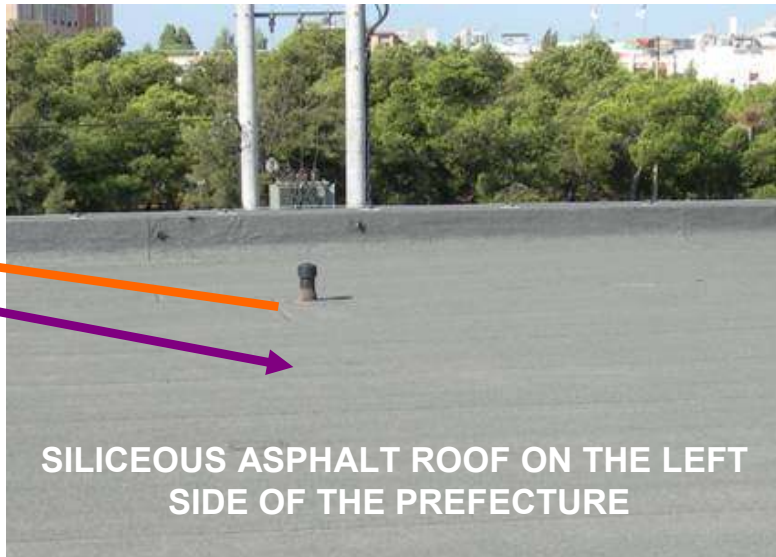
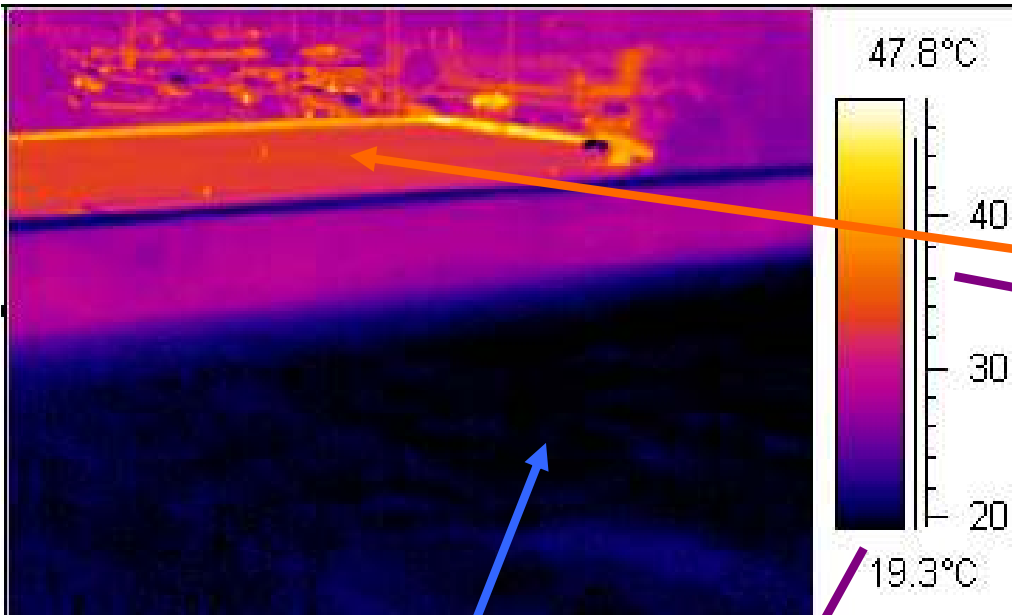


Thermal depiction with the use of an Infrared Camera

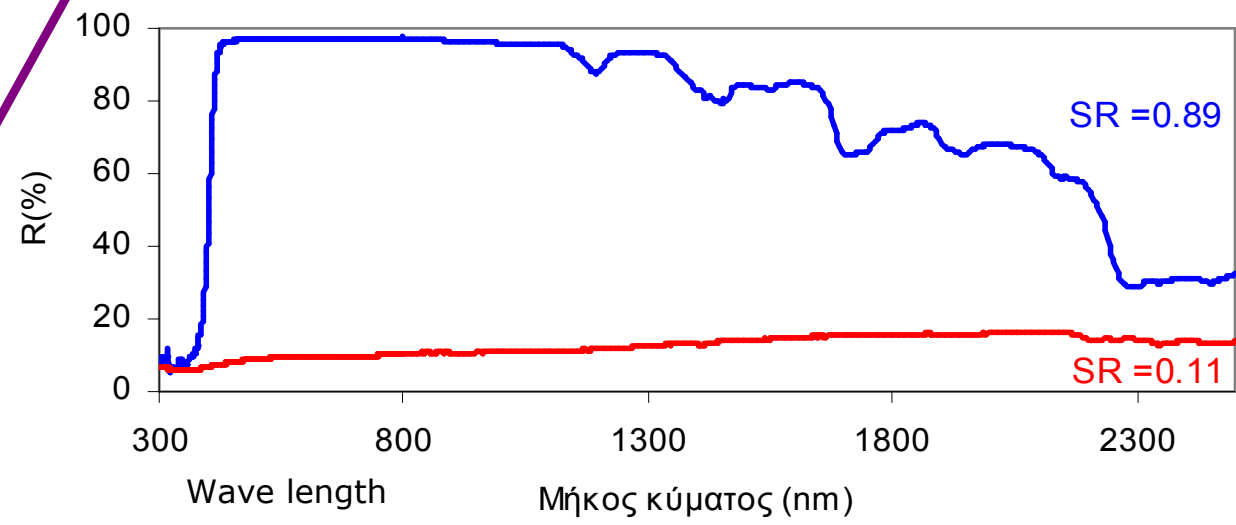
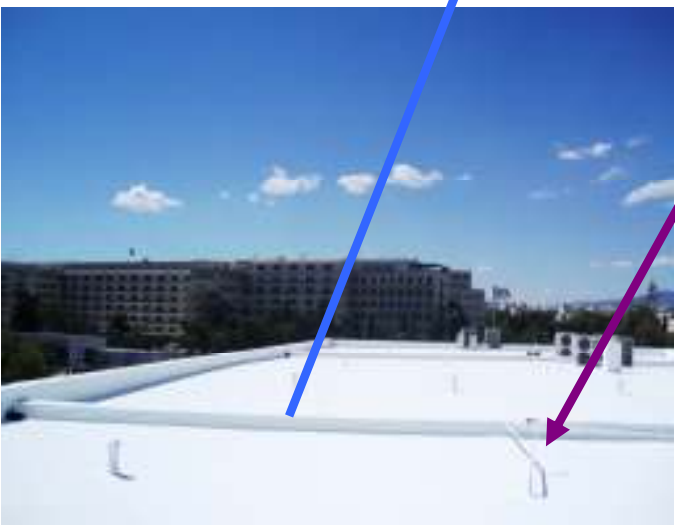
Date 30-7-2008 09:00







— Cool Barrier Roof — Asphalt Membrane



Thermal depiction corresponding to Solar Reflectance values (SR) CoolBarrier Roof vs Asphalt Membrane Roof

DECLARATIONS

The project was organised and funded by the Prefecture of the City of Athens and was conducted by the technical service department of the Prefecture, as a pilot test regarding the use of Cool Coatings in public works.

Director of Technical Services and Project Manager: Mr Th. Kardomateas -Mechanical Engineer
Works supervision Mr. Anastasakis- Mechanical Engineer

Temperature Measurements and Infrared dipiction were implemented under the support and the scientific supervision of the Group of Buildings and Environmental Studies, Physics Department -University of Athens.

Scientific Supervisor: Dr. Afrodití Synnefa –Building physicist

Meteorological data were taken from NOA –National Observatory of Athens

Abolin Co. had the honor to participate in this project as an Energy Star[®] Certified roof product manufacturer.



We can make the World Cooler



Abolin CoolBarrier Technology
www.abolincoolpaints.com

