

# MUNICIPALITY OF ACHARNES

Acharnes, Athens, Greece

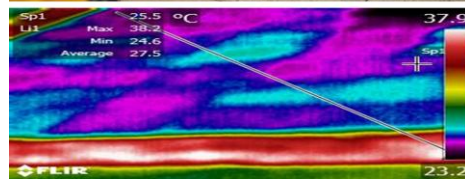
2015

Building of Municipality

Ceiling Tiles

## PROJECT DESCRIPTION / NEEDS

The continuously increasing urban temperature results to the well-known urban heat island phenomenon. Cool roofs are very promising mitigation technique as it can be easily applied to new and existing buildings. Cool roofs in the form of ceiling tiles are installed on the rooftop of the municipality building of Acharnes. Acharnes is an urban region in Attica characterized by typical Mediterranean climate with hot summer and dry winter.



## APPLICATION / UTILIZATION

A series of monitoring activities are performed for the building. Measurements of the outdoor meteorological conditions, the indoor thermal comfort of the case study building, the surface temperature of the roofs as well as thermal imaging are exploited for the analysis of the cool roofs performance. All measurements are performed during summer.

Main products / systems used:

Ceiling tiles

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## CUSTOMER BENEFITS

The main results by applying the cool roofs in this building:

- The total annual energy savings for cooling is 22.2 MWh which account for a reduction of 17%.
- The total annual energy savings for cooling and heating collectively is 20.1 MWh which account for a decrease of 8.9%.
- The peak power reduction for cooling is 10.4 kW which translates to 10.4%.
- The average peak surface temperature reduction is 1.51 K which accounts for 4.79%.

