

CHARACTERIZATION, ANALYSIS AND ASSESSMENT OF COOL MATERIALS

Innovations and Benefits - ENEA carries out in-depth examinations for the development and characterization of cool materials (materials with high solar reflectance) for building and urban scale applications.

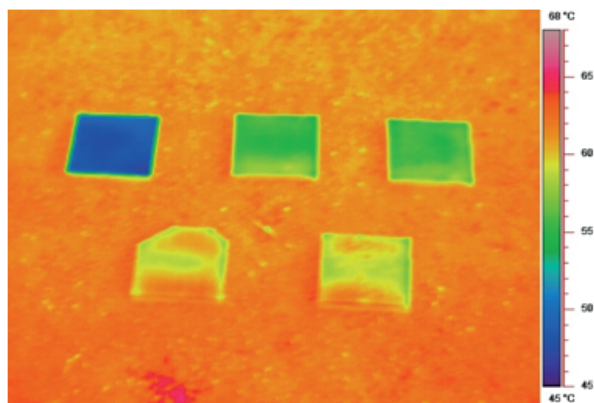
ENEA has experimental equipment for a complete characterization of the materials with advanced optical and thermal measurements: customized UV-Vis-NIR spectrophotometer with large diameter integrating sphere, UV-Vis-NIR commercial spectrophotometer, emissometer, MIR-FIR spectrometer with integrating sphere with gold coating, double and single sample hot plate.

The assessment of materials for building and urban scale applications is performed with advanced computing tools: TRNSYS, EnergyPlus coupled with Design Builder, EnviMet.

On-site monitoring is also carried out.

Use - Applications for the building envelope, urban areas, air conditioning machines exposed to solar radiation.

Applications and ongoing Activities - Research and consultancy activities with important industries of the sector (Italcementi, Covema); Participation in the European Cool Roof Council (a non-profit association that brings together major European industries and research institutions operating in the cool materials sector); collaborations with Milan Polytechnic, University of Modena and Reggio Emilia, University of Roma Tre.



Characteristics:

CUSTOM The service can be flexibly adapted to the specific needs of products under development or characterization