



Laboratori Ecobios s.r.l.

Via B. Cellini, 28 - 73033 Corsano (Le) - Tel. +39 0833 533080

www.leuc.it - labo@ecobios-solaria.it

THERMAL SOLAR REFLECTION OF COOL ROOFS PRODUCTS

1. A particular product is defined "**cool**" if, when exposed to direct sunlight, it presents the following **solar reflectance** values:

> 80 = excellent

70 ÷ 80 = good

50 ÷ 70 = sufficient

further than the following **thermal emissivity** percentages:

> 80 = excellent

70 ÷ 80 = good

60 ÷ 70 = sufficient

2. A "**cool roof product**" is a "cool" product that, applied on roofs, terraces and buildings coats of all over the world, presents the each of the following 3 properties:

a) it contributes to the **earth cooling**: as it reflects the solar radiation in correspondence of "**short**" wavelengths, which slip to GHG (climaterants) dispersing the heat into the sidereal space.

b) it entails **energy saving** for summer climatization;

c) it strengthens the **buildings resistance** to precocious ageing due to **thermal cracks** (anti-age effect).

3. A **cool roofing technology** is the application method of cool roofs products, which enables to add a new value to the buildings without any need to modify their construction techniques.

What is solar thermal protection?

Solar thermal protection of buildings consists in cladding the building by means of "cool" products, i. e. products capable to reflect solar radiation during day, while re-emitting the absorbed heat during night or whenever the solar radiation intensity decreases.

Ecobios claddings completely take down the thermal overload of buildings **until shade temperature** is reached, after about 3 hours from the solar radiation decrease and/or termination; it may be possible that, because of the compaction phenomenon of the milk and vinegar cladding, the roof surface temperature during the night is up to 1 °C lower than that of the surrounding air.